Determinants of Bidders' Abnormal Returns in Chinese Domestic and Cross-Border M&As

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PhD THESIS

Determinants of Bidders' Abnormal Returns in Chinese Domestic and Cross-Border M&As

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Abstract

The main objective of this thesis is to provide a comprehensive understanding of Chinese domestic and cross-border mergers and acquisitions (M&As), including the merger motives of acquiring firms, stock performance, and key determinants of performance. The key issues and empirical findings are summarised below. Chapter 2 focuses on merger momentum and motives under various market valuation periods for domestic M&As. We demonstrate that there is a form of merger momentum at the market level. The primary motive of mergers and the source of merger momentum is synergy creation, as predicted by neoclassical theory. However, the effect of merger momentum may be less important when market valuation deviates from its neutral level. Our results suggest that in high-valuation markets, bidding firms' managers are more likely to be overconfident and to favour the market-timing strategy, but overly optimistic investors are not evident. In contrast, these managerial incentives are not indicated during low-valuation markets, but investors are found to be overly pessimistic towards any merger announcement. Chapter 3 provides new evidence on the role of investment banks in domestic M&As. Based on a modified reputational measurement, which accounts for the difference between the abilities of small and large bidders to select advisors, we find support for the "superior deal" hypothesis. The overall reputational effect of an investment bank is reflected by an increase in the stock price of the bidding firm in the short term with no long-term reversal. We further find that the deal duration is significantly greater for top-tier investment banks, which supports the "diligent advisor" hypothesis. Additionally, we find that the deal completion rates differ insignificantly between the two tiers of investment banks and that this difference can be explained by the trade-off between the "preventing poor deals" and "better deal completion skills" hypotheses. Overall, our results indicate that the short-term improvement associated with top-tier investment banks stems from their skills, diligence, and trustworthiness. Chapter 4 studies the wealth effects of acquirers that are engaged in cross-border M&As (CBMAs). Specifically, we examine both the short- and long-term abnormal returns of CBMAs that were undertaken after the RMB exchange rate reforms or during the financial crisis period, stratified according to whether the transaction was resource-related. We show that although resource-related CBMAs promote national interests, they are not value-destroying for shareholders. Indeed, such deals are especially welcomed by the market around the deal announcement if they are focussed. Furthermore, currency appreciation increases the relative wealth and decreases the cost of capital for acquirers, which allows them to gain significantly higher abnormal returns in both the short and long terms. Finally, the wealth destruction associated with higher managerial risk taking significantly outweighs the benefit of the lower cost of acquisition for acquirers during the financial crisis period, which leads to significant underperformance over the long term.

Material contained in the thesis has not previously been submitted for a degree in this or any other institution.

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Chapter 1: Introduction

The market for corporate control plays a vital role in the efficient allocation of resources in an economy. Since the late 19th century, numerous merger waves have brought about substantial industrial restructuring in various parts of world, particularly in Europe, North America and Japan, and have garnered enormous attention from policymakers and researchers across different disciplines. Over the past decade, the M&A global landscape has shifted considerably due to the rapid growth of Asian markets. In particular, China has not only enjoyed 10% GDP growth on average over the last ten years but has also had the highest M&A volume in the Asia Pacific region (excluding Japan) for ten years in a row. In 2014, M&As in China reached a record high annual volume of 3,656 deals for a total of US$307.4 billion, accounting for 46% of M&A volume in the Asia Pacific.[1] It is clear that a wave of M&A activities has emerged in China as Chinese industries consolidate domestically and expand globally. Hence, the main objective of this thesis is to provide a comprehensive understanding of Chinese domestic and cross-border M&As, including the merger motives of acquiring firms, stock performance, and key determinants of performance.

Last year, Chinese domestic deals accounted for 92% of the total M&A volume in China, the highest annual volume on record (US$281.5 billion via 3,222 deals). However, the upsurge in cross-border deal volume following the height of the global financial crisis in 2008 and 2009 did not continue. Indeed, cross-border deal volume dropped to its lowest level since 2004 because of its myriad interconnections with the ongoing global economic uncertainty and because China is adapting to its "new normal". Although the outbound activity failed to sustain its momentum, China continued to emerge as a force in the global M&A market with several landmark transactions, especially deals undertaken by state-owned enterprises (SOEs) in the traditional natural resources and energy sectors to meet China's increasing energy consumption needs.

[1] Source: Global M&A Review, Dealogit, 2014.

Moreover, Asia Pacific investment bank revenue reached its highest annual level since 2010. China International Capital Corp led the Chinese M&A rankings in 2014 with US$52.2 billion, followed by Bank of America Merrill Lynch and CITIC Securities.[2] The demand for good financial advisory services is growing at an increasingly rapid pace as the Chinese market becomes more sophisticated, deal structures become more complex, and firms are urged to adapt quickly to changes in takeover, accounting and corporate regulations.

Although empirical studies on M&As are numerous, studies that focus on Asian markets are quite sparse, especially those related to China. In addition, the evidence derived from past research based on developed markets may not be particularly apt when applied to the Chinese merger market. Deals that are undertaken in developed markets are primarily market driven and are subject to indirect government intervention via relevant policies, laws or regulations. Chinese M&As are less likely to be market driven and are often directly manipulated by the government, particularly with respect to firms with state-owned shares. In fact, a significant portion of Chinese deals are initiated to reform the management and operation of state-owned assets, or even to pursue political goals. Hence, one could argue that if deals are motivated by an intent to optimise industrial structure, to allocate resources more efficiently, and – with the "helping hand" of the government – to achieve economies of scale, then potential wealth can be created for acquiring firms' shareholders. Conversely, if deals are driven purely by political incentives, the wealth effect could be less likely for acquiring firms' shareholders. The decisive role that the Chinese government plays in corporate investment and financing decisions makes the Chinese market unique and interesting for empirical research.

In addition to the significant presence of SOEs and state-driven merger goals, another motive for us to study the Chinese market is the significant differences between the Chinese stock

[2] Source: Thomson One Banker.

market and mature stock markets. There are no price limits in most mature stock markets, whereas the Chinese government sets a daily maximum share price fluctuation of 10% to enable investors to adopt a cooler approach and a more rational view of stock. Given the overwhelming presence of individual investors in the Chinese stock market, investor sentiment could be a more predominant factor in stock prices.[3] Restricting daily price fluctuations may limit the effects of sentiment and thus exert a more substantial impact on acquiring firms' wealth creation or destruction around deal announcements than would otherwise be the case.

Other unique features of the Chinese economy, such as the lack of protection for minority shareholders, the absence of transparency coupled with inadequate financial disclosure mechanisms, the unique ownership structure of firms with state-owned shares (Zhou et al. (2012)) and the gradual reform of the split-share structure to convert non-tradable shares into tradable shares (Li et al. (2011)), provide additional reasons to analyse the Chinese merger market.

Motivated by the above-described trends and facts, and China's uniqueness, we aim in this thesis to fill the gap in the literature by investigating acquiring firms' stock performance in both domestic and cross-border acquisitions and by examining factors that may impact shareholder wealth. In Chapter 2, we analyse the characteristics of Chinese domestic M&As. In particular, we examine the effect of merger momentum on acquiring firms' returns in both the short and long terms to provide insight into different theories regarding when and why mergers take place. We also assess the effect of merger momentum on deals that are conducted during high market valuation periods compared with deals that are conducted

[3] Wang, Zhou and Wang (2014) document that the Chinese stock market is dominated by inexperienced individual investors, while institutional investors only constitute a small part. In 2012, 82% of the Shanghai stock exchange trading volume is initiated by retail investors as that of 2011. Because individual investors lack of information and stock picking skills, they are more likely to trade frequently and speculatively, and affected by sentiment.

during low market valuation periods to assess whether market-wide misvaluation (i.e., as investor sentiment becomes more positive or more negative) affects merger incentives. Moreover, we investigate how the effect of merger momentum differs between value (high BTMV) and growth (low BTMV) bidders to offer new insights on how investors evaluate mergers in China (i.e., whether investors are likely to over-react to bidders' past managerial performance). Given the complexity of the M&A process, highly skilled specialists, such as investment banks and auditing, consulting and law firms, are often needed to act as intermediaries and provide professional advice. Among them, the most important and active intermediary is the investment bank. In Chapter 3, we aim to provide new insights on the role of investment banks by examining the correlation between investment bank reputation and the quality of the merger advisory services, the deal completion rate and the duration of deal completion. Finally, Chinese cross-border transactions are occasionally driven by opportunistic motives, such as favourable exchange rates and valuations, but they more commonly have a strategic component, namely, the desire to acquire resources overseas. In Chapter 4, we examine the short- and long-term performance of CBMAs that were conducted after RMB exchange rate reforms or during the financial crisis period, stratified according to whether the CBMA was resource-related, to provide new evidence on potential factors that affect the performance of acquiring firms, thereby offering a more complete picture of CBMAs.

Although there is a small body of literature on the performance of Chinese acquiring firms post-transaction, no attention has been paid to variations in their performance over a merger cycle. In the spirit of Rosen (2006), in Chapter 2, we examine the interaction between recent market conditions and acquiring firms' returns over the short and long terms. The focus is on the effect of recent merger history in the overall market (i.e., merger momentum and merger waves). We employ three different measures to capture recent market conditions: the trailing 12-month average cumulative abnormal return (CAR), to capture merger momentum; the trailing 12-month number of mergers, to capture merger waves; and the trailing 12-month return on the Shanghai Stock Exchange Composite (SHComp) index, to capture stock market momentum. Rosen (2006) finds evidence of the impact of merger momentum in the US market; specifically, acquiring firms' stock prices tend to increase if recent mergers of other firms have been favourably received by the market (i.e., if it is a "hot" merger market) or if the overall stock market is good. However, there is a reversal of this trend in the long term. Specifically, acquiring firms' long-term returns are likely to be lower when either the merger market or the stock market is hot at the time when the merger is announced than they are otherwise. Rosen (2006) suggests that his findings are supported by the investor sentiment theory, which holds that investors, and possibly managers, are likely to be overly optimistic about any merger announced during hot merger or stock markets, which in turn gives rise to merger momentum. As the optimistic sentiment is replaced by the real performance of the merged firm over time, a reversal in stock prices is anticipated. Rosen (2006) also suggests that managerial motivations can operate in addition to investor sentiment, especially for mergers that occurred during the 1990's merger wave, during which both merger momentum and the merger wave are found to have had a negative effect on acquiring firms' returns.

By analysing a comprehensive sample of 822 successfully completed domestic acquisitions that were announced between 1 January 2002 and 31 December 2010, where bidders are listed firms on either the Shanghai or Shenzhen stock exchanges, we find that bidders experience significant positive short-term CARs and insignificant long-term buy-and-hold abnormal returns (BHARs). In addition, we observe a form of momentum in the Chinese merger market, whereby if the market has been reacting favourably to merger announcements, it tends to continue to do so. However, contrary to Rosen's suggestion that merger momentum is caused by investor sentiment, our results indicate that the primary source of merger momentum is synergy creation, as predicted by neoclassical theory. Nonetheless, room exists for hubris and market-timing incentives, particularly during high market valuation periods.

More specifically, our univariate analyses individually controls for various bidder and deal characteristics, including government involvement (on either side of the deal); the target's public status; the means of financing; bidder size; the ratio of deal value to bidder size; the bidder's growth opportunities and operating performance; and whether the bidder and target operate in the same industry. We find that in general, merger momentum and merger wave measures are positively related to acquiring firms' abnormal returns over both the short and long terms, except when the payment for the acquisition includes stock under the merger momentum measure over the long term.[4]

Moreover, when all of the above-listed bidder and deal characteristics that affect bidder returns are controlled simultaneously in the multivariate analyses, our results reconfirm the existence of merger momentum at the market level but not at the firm level. We find that hot merger markets, as measured by the trailing 12-month average CAR, are associated with larger short-term announcement effects and higher long-term abnormal returns for acquiring firms' shareholders. We also discover that over time, mergers conducted within a merger wave and during hot stock markets significantly outperform their counterparts. Overall, our results suggest that synergy creation is the primary motive of merger activity and the primary source of merger momentum, as predicted by neoclassical theory. Nevertheless, we observe that bidders who recently experienced stock price run-ups are more likely to be associated with worse post-announcement returns, which indicates that factors other than synergy creation may affect merger decisions, particularly during hot valuation markets, when more acquiring firms experience significant stock price run-ups and thereby become overvalued.

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[4] Deals that include stock payments are more frequent and experience significantly higher (lower) announcement (long-term) abnormal returns during hot merger markets than during cold merger markets. This indicates that there may be something unique about these deals. For instance, managers who perceive their stock prices as overvalued and expect to see a long-term reversal on stock prices may attempt to minimize this loss by timing the merger market and making stock acquisitions to capitalize on favourable market reactions to mergers.

Motivated by a rich stream of literature linking market valuation to merger activity, mode of financing and merger outcomes (Jovanovich and Rousseau (2002); Rhodes-Kopf and Viswananthan (2004)) and by the work of Antoniou, Guo, and Petmezas (2008), in which the merger momentum effect is found to be intensified in hot valuation markets due to overly optimistic investor sentiment, we classify the deals in our sample as being within a high or a low market valuation period using the methodology employed by Bouwman, Fuller and Nain (2009).[5] Surprisingly, contrary to the literature, we find that the number of acquisitions per month during high valuation periods is only slightly higher than the number of acquisitions per month during low valuation periods (6.32 vs. 6.00 deals per month). Additionally, deals that are conducted in high valuation periods generate insignificantly higher CAR but significantly higher BHAR than do those conducted when market valuation is low. Deals announced during hot-valuation markets are also associated with the following characteristics: higher merger momentum and market momentum; payment that includes stock rather than 100% cash; acquisitions initiated by glamour firms or by those with good recent operating performance; and by firms whose last deal was favoured by the market or by which have recently experienced high stock price run-ups. Thus, although our results do not suggest that high stock market valuation triggers merger waves, the fundamental differences between deals announced during hot and cold valuation markets imply that market valuation does have an impact on merger decisions. After controlling for all of these characteristics in the multivariate analyses, we determine that a merger wave is driven primarily by synergy creation, but that the effect of merger momentum may not be as important when market valuation deviates from its neutral level. Moreover, we find that managers are more prone to hubris and market-timing incentives, but investors are not overly optimistic about merger announcements during hot-valuation markets. By contrast, these

[5] First, the best line of fit is removed from the P/E of the month in question and of the past five years. A month is classified as being above (below) average if its detrended P/E is above (below) the preceding five years. Finally, the top (bottom) half of the above- (below-) average months are classified as high- (low-) valuation months.

incentives are not observed during cold valuation markets but investors are found to be overly pessimistic about any deal announced during this period. Although such sentiment places a downward pressure on bidder announcement returns, bidder stock prices revert significantly over time as sentiment is replaced by real firm performance.

In addition, we examine the effect of merger momentum on growth and value bidders, and find that this effect is more pronounced for growth bidders than for value bidders in the short term, whereas the opposite is true in the long term.[6] These results suggest that the lack of reliable information and the severe information asymmetry in China's financial markets makes deal evaluation more challenging for individual investors. Hence, individual investors tend to consider acquiring firms' past performance as a good indicator of future performance. However, such consideration often leads to less favourable investment decisions.

Chapter 2 contributes to the literature not only by confirming that the effect of merger momentum is robust outside of the US and UK markets but also by demonstrating that merger momentum in China is explained primarily by neoclassical theory rather than investor sentiment theory, which drives merger momentum in developed markets. Nevertheless, the results yield an early indication that investor sentiment exerts a non-predominant effect on the market's reaction to merger announcements, possibly as a result of government intervention in daily stock price fluctuations. Thus, as the government gradually reduces the extent of its intervention, the sentiment effect might be enhanced and other motives for M&As might become more significant; this would be an interesting topic to consider in the future. Additionally, as takeover activity continues to increase and financial markets continue to evolve, a surge in demand for the financial services provided by investment banks is inevitable. Nonetheless, to the best of our knowledge, no theoretical or empirical studies have been conducted in this area in China.

[6] We define value and growth bidders as those with BTMVs above the top tertile and below the bottom tertile of our sample, respectively.

In Chapter 3, we aim to fill this gap in the literature by examining the role of investment banks and assessing whether the reputational capital mechanism is effective for merger advisory services in China. The investment banking industry is highly competitive and hierarchical, and market share league tables are widely publicized by both the media and the investment banks themselves to define leadership positions in the markets. Thus, academics and practitioners have come to use investment bank rankings or reputation as a measure of expertise and trustworthiness, and acquirers select investment banks based primarily on the banks' perceived reputations. Nevertheless, until now, no clear correlation between investment banks' reputations and the wealth gained by their respective clients through acquisitions has been found in academic journals. Most of the evidence in this area has been drawn from the US market and has shown a negative or, at best, insignificant relationship between the reputation of the acquirer's investment bank and acquirer returns. Indeed, a positive relationship between investment bank reputation and bidder returns has been demonstrated only in the context of tender offers and public acquisitions, which casts doubt on the intuitive reputation-quality mechanism in merger advisory services.[7]

In Chapter 3, we analyse a sample of Chinese public, private, and subsidiary M&As that included acquirers listed on either the Shanghai or Shenzhen stock exchanges that were announced between 1 January 2002 and 31 August 2010. The main research questions we aim to address in this chapter are the following: Does the reputational capital mechanism hold in the Chinese domestic market for merger advisory services in the short run? If so, does investment bank reputation have a long-term effect on the outcomes of acquiring firms? Are top-tier investment banks simply "execution houses" that undertake deals as instructed by their clients? How does the involvement of top-tier investment banks affect the length of

[7] Regarding the effect of investment bank reputation on bidder returns in M&As overall, see Bowers and Miller (1990), Michel, Shaked and Lee (1991), Serves and Zenner (1996), and Rau (2000); for the effect of investment bank reputation on bidder returns in tender offers and public acquisitions, see Kale, Kini and Ryan (2003) and Golubov, Petmezas and Travlos (2012), respectively.

time to deal completion?

Following Fang (2005), we measure investment bank reputation using a binary classification. As Fang (2005) suggests, this type of classification not only captures the widely acknowledged two-tiered structure of the investment bank industry on Wall Street but also allows us to capture reputation in a manner that requires less precision than a continuous measurement does. More importantly, we modify the reputational measurement by taking into account the difference between large and small bidders' ability to employ top-tier investment banks. This distinction is critical because the majority of bidders in our sample are small in terms of market capitalization compared with bidders in developed markets; hence, measuring market shares based solely on the total value of the transaction would lead to reputation bias in favour of large bidders. To account for this difference between large and small bidders, we first download annual market share league tables from Thomson One Banker that show the top 25 investment banks according to the total transaction value of deals on which they advised for a sample of M&A transactions targeting Chinese firms. Then, to balance the reputational effect between large and small bidders, we re-rank these investment banks according to the total number of transactions they advised (we refer this step as accounting for the "equilibrium effect" between total value and total number of transactions). In this study, the top 10 investment banks in the league table are classified as top tier, and the others are classified as non-top tier. Additionally, we follow Golubov, Petmezas and Travlos (2012) and track M&As among the investment banks themselves to correctly assign reputation to each deal in the sample. In the event that multiple investment banks advised a given deal, the deal is classified as being advised by a top-tier investment bank if at least one of the advisors belongs to the top-10 group. We find that of the 246 M&As in our sample, 69 transactions are advised by top-tier investment banks, and 177 are advised by non-top-tier investment banks.

The most frequent top-tier investment banks in our sample are Morgan Stanley, JP Morgan, Goldman Sachs & Co, and China International Capital Co. In contrast to previous studies of the US market that find that investment bank reputation rankings are stable over time (Rau (2000) and Golubov, Petmezas and Travlos (2012)), we detect significant instability in the annual rankings across our sample period. For instance, more than 70% of the investment banks that appear in the annual top-10 investment bank rankings in any year during the sample period appear in the top 10 fewer than 4 times during the entire sample period. This result suggests that the use of annual investment bank rankings is more appropriate than the use of a single overall investment bank ranking across the entire sample period.

In addition, we find that bidders experience significantly positive announcement and long-term abnormal returns, confirming our findings in Chapter 2 that M&As in China are conducted predominately to extract synergistic gains. Furthermore, our results indicate that acquirers advised by top-tier investment banks perform significantly better than those advised by their non-top-tier counterparts in the short term, with no significant outperformance in the long term. These patterns generally stand after we individually control for acquirer size, relative size, target's listing status, method of payment, and the relatedness of target and bidding firms' main lines of operation. Moreover, our results remain robust when we control for all of the above-listed factors simultaneously in a multivariate framework, specifically, the overall effect of top-tier investment banks is a significant increase in the bidders' stock prices in the short term with no long-term reversal, which supports the "superior deal" hypothesis we proposed. These results confirm the existence of the reputation-quality mechanism of merger advisory services in China.

To further investigate the source of gains associated with top-tier investment banks, we evaluate the effect of investment bank reputation on the likelihood of acquisition completion, time to resolution and time to completion. Our results suggest that top-tier investment banks are associated with insignificantly higher completion rates and significantly longer resolution and completion durations. The effect of reputation on the likelihood of deal completion seems to result from a trade-off between two of our proposed hypotheses. One hypothesis posits that top-tier investment banks are trustworthy and consistently reject bad deals for their clients (i.e., the "preventing poor deals" hypothesis). The other hypothesis states that top-tier investment banks are more skilled at completing deals, particularly deals that are more challenging to complete (i.e., the "better deal completion skills" hypothesis). The effect of investment bank reputation on the duration of deal resolution and completion supports the "diligent advisor" hypothesis, which maintains that because top-tier investment banks have more reputational capital, they might take more time to carefully evaluate transaction terms and negotiate favourable terms for their clients. We conclude that the outperformance of top-tier investment banks stems from their skills, diligence, and trustworthiness.

Chapter 3 contributes to the literature by providing new evidence on the role of investment banks in China. Rather than focusing exclusively on short-term reputational effects, our analysis extends to the long term to provide a complete picture of the subject, which is crucial to understanding how the effect of investment bank reputation on merger outcomes changes over time. Our study is the first to employ a modified reputational measurement to account for the difference between small and large bidders' abilities to select advisors and clearly shows that the reputational capital mechanism is effective for merger advisory services in the Chinese market.

Chapters 2 and 3 both show that Chinese domestic M&As are value-enhancing for acquiring firms' shareholders, and Chapter 2 finds specifically that mergers are initiated primarily to achieve value maximization and economic efficiencies, which supports the neoclassical theory; however, the rationale and efficiency of firms transacting abroad have been somewhat ambiguous and have not attracted sufficient attention in prior literature.

Western media have often described Chinese buyers as "the buyers of first resort" because they possess the key characteristics of being cash-rich and interested in almost everything regardless of the lack of clearly defined goals or apparent synergy. Similarly, Morck, Yeung and Zhao (2008) suggest that a high savings rate, weak corporate governance, and distorted capital allocation are likely to result in wasteful overseas investments by Chinese firms. Moreover, announcements of CBMAs by Chinese firms are frequently subject to intense media scrutiny and often raise political concerns, especially if the transaction is high profile and targets resource-related sectors, due to the prominent role played by the Chinese government in acquisition decisions. This discussion gives rise to an interesting question for us to address, namely, whether acquisitions that promote national interests are detrimental to shareholder wealth. In addition, Erel, Liao and Weisbach (2012) show that both currency appreciation and macroeconomic performance can affect the valuation of bidder or target, which leads to a real increase in wealth and enhances the ability of acquirers to finance acquisitions. In a similar vein, we observe that the outburst of Chinese outbound merger activity in recent years has been fuelled by both the favourable exchange rates that occurred after the RMB exchange rate reform and by favourable valuations resulting from the global financial crisis. Therefore, we argue that currency appreciation and the financial crisis might lead to greater relative wealth or lower cost of acquisition for Chinese acquirers engage in CBMAs and might impact their returns.

In Chapter 4, we aim to examine the impact of resource-related industry sector preference (which is driven by national interests), changes in the exchange rate policy (which led to RMB appreciation of greater than 20%) and the global financial crisis (which lowered the cost of acquisition and caused attitudes to shift in favour of Chinese acquirers) on bidding firms' abnormal returns over the short and long runs. We employ a comprehensive sample of 111 successfully completed CBMAs announced between 01 January, 2002 and 31 January, 2011 that involved acquirers listed on all stock exchanges. We partition the sample according to whether the target industry belongs to the energy or material sector ("*Resource-Related Target*") or to any other sector ("*Non-Resource-Related Target*"). Then, the sample is divided further based on whether the transaction was announced before RMB appreciation ("*Before Currency Appreciation*") or after RMB appreciation ("*After Currency Appreciation*").[8] Finally, the sample is divided again according to whether the deal was announced before the global financial crisis ("*Before Financial Crisis*") or after the global financial crisis ("*After Financial Crisis*").[9]

We find that resource-related deals generate significant positive abnormal returns and insignificant abnormal returns for bidders' shareholders in the short and long terms, respectively. Additionally, bidders targeting resource-related firms significantly outperform their counterparts two years post-announcement. Furthermore, we find that acquirers that conducted deals after the exchange rate reform experienced significant gains and losses over the short and long terms, respectively, and that the gains are significantly higher but the losses are insignificantly different than the losses of deals undertaken before the reform. Moreover, we show that acquirers that initiated takeovers after the financial crisis experienced significant gains at the deal announcement and significantly outperformed acquirers that initiated takeovers before the crisis. However, the long-term stock performances of these two groups of acquirers are insignificantly different from each other.

More importantly, we employ multivariate regression analyses to control for any confounding effects in the univariate comparisons and to reveal the net effects of resource-related deals, currency appreciation and financial crisis on acquirer returns. Our results generally confirm the above-listed univariate findings by showing that although resource-related deals promote the national interest, they are not detrimental to shareholder wealth; indeed, such deals are especially value-enhancing in the short run if they are focussed.

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[8] We define the "*After Currency Appreciation*" period as the period beginning on 21 July 2005.

[9] We define the "*After Financial Crisis*" period as the period beginning on 15 September 2008, the date on which Lehman Brothers filed for Chapter 11 bankruptcy protection.

In addition, we observe that currency appreciation has a significant and positive impact on bidder announcement returns. The effect of currency appreciation likely reflects a more general valuation effect that can be attributed either to the misvaluation theory (Shleifer and Vishny (2003)) or to the wealth theory (Rhodes-Kropf and Viswanathan (2004)). To determine which theory drives the impact of currency appreciation, we extend the analysis to the long term and find support for the wealth theory because currency appreciation adds to firm value over the long term by increasing the relative wealth and lowering the cost of capital for acquiring firms.

Finally, we find that the financial crisis exerts an insignificant impact on acquirers' announcement returns but a significant negative impact on acquirers' long-term abnormal returns. This is interesting because one would suppose that the financial crisis caused a substantial slump in the stock prices of western firms and hence lowered the cost of acquisition for Chinese acquirers, which would have led to increased wealth gains for Chinese acquirers that conducted acquisitions after the crisis. However, our results indicate that another effect may be triggered by the financial crisis: managerial opportunism. We suggest that long-term underperformance occurs because managers may believe that completing an acquisition will become more difficult as the competition for targets heats up or that targets may be less willing to sell if other means of funding become available as the economy recovers. Therefore, it is likely that managers will conduct acquisitions without carefully investigating their respective targets and rush to buy. These managers may anticipate a decline in their stock prices in the short term but hope that their decisions will be value-enhancing over time. Indeed, our results show that such managerial opportunism cancels out the positive effect of lower cost of acquisition and significantly damages shareholders' wealth.

Chapter 4 not only fills the gap in the literature but also makes several important contributions. First, it demonstrates that the soaring domestic demand for energy and natural resources can be met without damaging shareholders' wealth. Second, this is the first empirical work that shows that currency appreciation has a significant positive effect on the wealth of acquiring firms because it increases acquirers' relative wealth and decreases their cost of capital. Third, Chapter 4 adds to the empirical literature on behavioural finance by demonstrating that the managerial opportunism of acquiring firms increased significantly during the recent financial crisis. Finally, Chapter 4 helps investors gain more insights into China's outbound activity and performance over the last decade and may alleviate the concerns of western firms regarding future investments from Chinese entities.

In general, the contribution of this thesis lies in the following aspects. First, it provides an overall picture on Chinese M&As, both domestic and cross-border, and offers new evidence on many topics that have been widely studied in the developed markets but unexplored in China. Our study employs the most recent and comprehensive datasets, and examines whether the outcomes from the developed markets can be carried over to China. More specifically, we find that the effect of merger momentum is robust outside the US and UK markets, with synergy creation being the primary source of merger momentum in China rather than the overly optimistic investor sentiment during hot markets found in other developed countries. Second, our results contribute to the behavioural corporate finance literature by providing evidence that the degree of irrationality for both Chinese managers and investors vary across different market valuation periods. However, unlike the empirical findings drawn from prior research based on developed markets, where overoptimism is widely observed among investors; we find that Chinese investors tend to be affected more by negative market sentiment than by positive market sentiment. Thus, our work contributes to the existing literature related to whether investors are prone to different market sentiments in different markets. Third, we find that managers undertaking domestic M&As are more likely to be affected by hubris or market-timing incentives during bullish periods, and those undertaking CBMAs are more likely to suffer from managerial opportunism during financial crisis period. Last but not least, our work contributes to the literature by providing new evidence on the role of investment banks and being the first study that justifies the effectiveness of reputational capital mechanism for merger advisory services in China.

The remainder of this thesis is organized as follows: Chapter 2 explores the effects of merger momentum, market valuation, and the motivations for Chinese domestic M&As. Chapter 3 empirically examines the role of investment banks and the effectiveness of the reputational capital mechanism in merger advisory services in China. Chapter 4 focuses on Chinese CBMAs by examining factors that potentially affect bidder gains. These factors include industry selection preference, RMB appreciation and the global financial crisis. Finally, Chapter 5 concludes by presenting the primary findings and proposing areas for future investigation.

Chapter 2: Merger Momentum, Motives and Market Valuation: Evidence from China

2.1 Introduction

Over the last decade, China has surprised the world with its "economic miracle": an average GDP growth rate of 10%. China became the second-largest economy in the world in 2010 with a GDP of US$5.88 trillion, and it is projected to become the largest economy in the world by 2025.[10] The market for corporate control is a vital part of any healthy, growing economy and thus it is no surprise that China's economic miracle has been mirrored by a dramatic increase in the amount of M&A activities in the market. During the first half of 2012, although the US remained locked in first place with total deals valued at US$455 billion, China took second place with US$80 billion in deals, nearly double that of the UK, which ranked third with US$41 billion.[11]

Although these numbers give us a good indication of the shift in the global balance of M&A power – a shift that has accelerated since the global financial crisis and is likely to become even more pronounced in the foreseeable future –almost the entire understanding of merger waves, merger momentum, stock market momentum and the impact of market-wide misvaluation on merger motives and outcomes is based on evidence from the US and UK, thus ignoring the second-most important market for corporate control in the world. In this chapter, we aim to fill this gap in the literature by empirically examining topics related to merger momentum in China.

Rosen (2006) employs three measures to capture recent broad market conditions: the trailing 12-month average CAR to capture merger momentum; the trailing 12-month number of mergers to capture the merger wave; and the trailing 12-month return on the market index to

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[10] Source: EY.com, M&A maturity: assessing country risks and opportunities - M&A maturity profile: China.

[11] Source: EY.com, Fresh blow to M&A as it enters triple dip recession – global value drops under US$1t for the first time since 2009.

capture stock market momentum. He finds evidence of merger momentum, meaning that the market's reaction to a merger is positively correlated with the market's reactions to other mergers in the recent past or with changes in the overall stock market. However, both correlations are reversed over the long term. He concludes that his results support the investor sentiment theory, which posits that merger momentum arises because certain investors, possibly managers, are overly optimistic when the merger or stock market is hot. Consequently, because the increase in merger announcement returns is due to factors unrelated to synergy gains, a reversal is expected in the long term as optimistic sentiment is replaced by reality. Moreover, Rosen (2006) finds that mergers conducted during the merger wave of the 1990s were value-destroying for the bidding firms' shareholders both at the announcement and over the long term, suggesting the operation of managerial motivations in addition to investor sentiment.

In the spirit of Rosen (2006), we examine the interaction between broad market conditions and bidders' short- and long-term performance by employing a comprehensive sample of 822 successfully completed domestic M&As in China that were announced between 1 January 2002 and 31 December 2010 and involved bidders listed on either the Shanghai or Shenzhen stock exchanges. In our univariate analysis, we control for various bidder- and deal-specific characteristics, including the government's involvement in the deal on either the bidder or target side; the target firm's listing status; the means of financing; bidder size; the ratio of deal value to bidder size; the bidder's growth opportunities and operating performance; and whether the bidder and target operate in the same industry. Generally speaking, both the merger momentum and merger wave measures indicate that acquisitions conducted in hot market conditions (either in a hot merger market or on-the-wave) are significantly more value-enhancing for bidding firms' shareholders in terms of both short- and long-term returns than acquisitions conducted in cold market conditions (either in a cold merger market or off-the-wave) are.[12] For instance, mergers announced during hot merger markets (on-the-wave) generate 2.14% (2.61%) more wealth for bidding firms' shareholders than those announced during cold markets (off-the-wave) at a 1% significance level. The outperformance is more pronounced over the long term. Bidders enjoy 28.35% (36.90%) higher post-announcement returns for mergers initiated during hot merger markets (on-the-wave) than those initiated during cold markets (off-the-wave) at a 1% significance level. In essence, our results imply that merger activities in China are driven by synergy creation, which supports the neoclassical theory of mergers.

Next, we perform the short-term multivariate analysis, which simultaneously controls for all of the various bidder- and deal-specific characteristics that are found to influence bidder returns. Our results support the existence of merger momentum; that is, the market's reaction to an acquisition is positively correlated with the market's reaction to other acquisitions in the recent past. A one-percentage-point increase in the trailing 12-month average CAR leads to a 0.78-percentage-point increase in the bidder's 5-day announcement returns. These results are consistent with prior studies. For example, Rosen (2006) documents that in the US, a 0.38-percentage-point increase in the trailing 12-month average CAR is associated with a one-percentage-point increase in the bidder's 5-day announcement returns, and Antoniou, Guo and Petmezas (2008) find that in the UK, a 0.20-percentage-point increase in the trailing 12-month average CAR is associated with a one-percentage-point increase in the bidder's 5-day announcement returns. These results suggest not only that the effect of merger momentum is robust outside the US and UK but also that merger momentum might exert a more substantial impact on bidding firms' announcement returns in China than it does in the US and UK.

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[12] An acquisition is categorized as being announced during a "*hot merger market*" if its trailing 12-month average CAR is more than the median and is categorized as being announced during a "*cold merger market*" otherwise. Similarly, an acquisition is made "*on-the-wave*" if its trailing 12-month number of mergers is more than the median and "*off-the-wave*" otherwise.

However, we do not find that market reaction to an acquisition is significantly affected by the number of acquisitions that were conducted in the market during the previous year (i.e., the merger wave measure). Note that because the merger wave measure captures both the initial (2002 – 2005) and growth (2006 – 2010) phases of the merger cycle and because the growth phase occurred on a much larger scale than the initial phase did, the merger wave measure might essentially proxy for the growth phase. Hence, our results may simply imply that those two phases similarly affect bidder announcement returns.

Additionally, we find that the results obtained from the long-term multivariate analysis confirm that the more favourable initial market reaction to acquisitions announced during a hot merger market holds over a longer time horizon. Indeed, the coefficient of the merger momentum measure is much larger in the long-run regression than in the short-run regression: a one-percentage-point increase in the trailing 12-month average CAR leads to 8.74- and 9.06-percentage-point increases in the bidder's post-announcement and total window returns, respectively.

The long-term multivariate analysis also shows that acquisitions initiated on-the-wave significantly outperform their counterparts and that the aggregate stock price is significantly positively correlated with bidder returns over the long term. Hence, the results of our multivariate regression reinforce the results of the univariate analyses. The consistency in our results suggests that merger waves may be caused by changes in the business environment and that both of these phenomena may lead to increased overall stock prices and more profitable merger opportunities, which in turn implies that merger activity in China is motivated by synergy gains, as predicted by the neoclassical theory of mergers.

However, the neoclassical theory fails to explain certain distinct patterns in our sample, especially patterns that occur during "hot" markets, such as sharp increases in stock payments during bullish periods and the reversal in bidder announcement returns in the long term when acquisitions financed in part by stock are conducted during hot merger markets. Hence, further examination is performed.

Golbe and White (1988), among others, observe a positive correlation between market valuation and aggregate merger activity. Shleifer and Vishny (2003) propose a market misvaluation theory under which (rational) managers time the market to use their overvalued equity to purchase undervalued (or less overvalued) target firms; as a result, overvaluation in the aggregate or in certain industries can lead to wave-like clustering in time. By contrast, Rosen (2006) argues that managers may be imbued with the same optimistic beliefs as investors during bullish periods, which leads to merger waves. Croci, Petmezas and Vagenas-Nanos (2010) further suggest that overconfident bidders are likely to hide their overpayment and conduct poor-quality deals during bull markets, which also leads to merger waves. All of the above theories suggest that when market valuation deviates from its neutral level, the intensity and motives for merger activity might change.

We therefore split our sample into high- and low-valuation market subsamples according to the approach used by Bouwman, Fuller and Nain (2009). We define the top (bottom) quarter of the monthly detrended P/E ratio of the SHComp index as a hot (cold) valuation market. Our results suggest that irrespective of stock market valuation, merger activity is driven primarily by synergy gains; however, there is room for hubris and market-timing incentives in high-valuation markets characterized by optimistic investor sentiment. Conversely, these incentives are not evident when investors are overly pessimistic about acquisitions that take place during low-market valuation periods. Such pessimistic investor sentiment exerts downward pressure on bidder announcement returns but reverts significantly over the long term when pessimistic sentiment is replaced by good firm performance.

In addition to market valuation, information asymmetry influences firm performance. Zhou, et al. (2012) state that Chinese financial markets are characterized by a lack of reliable information, a high degree of information asymmetry and an overwhelming number of individual investors. We argue that in this type of environment, investors are likely to over-react to bidders' past managerial performance and to consider past performance as a good indicator of future performance, at least with respect to M&As. We categorize bidders into "growth" and "value" groups, which is a popular grouping method and has gained prominence in several recent behavioural theories of stock market over-reaction and under-reaction following major corporate events.[13]

We find that the positive effect of merger momentum is more pronounced for growth bidders than for value bidders in the short term, whereas the opposite is true over the long term as anticipation is replaced by reality. Our results are in line with the afore-mentioned proposition and suggest that Chinese investors fail to understand that high firm valuation does not necessarily equal superior firm performance. Nevertheless, we find that both growth and value bidders generate significant gains for their shareholders during hot market conditions over the long term, which reinforces the neoclassical theory of mergers.

To sum up, our work differs from existing research in several aspects. First, because the majority of takeovers in China involve the purchase of only a portion of the target firm's ownership, analysing the effect of merger momentum on major transfers would be inconclusive and would underestimate the primary driver of takeovers. Hence, we include both partial and full acquisitions to estimate the merger momentum effect in the market and conduct sensitivity tests based on each type of acquisition. Second, we study and compare the effect of merger momentum under different market valuations using a comprehensive set of Chinese domestic merger data. By doing so, we shed light on the various investor sentiments that exist during periods when the market valuation deviates from its neutral level and on the impact of different types of sentiment on merger motives and outcomes. Third,

[13] Bidders with top-tertile BTMV are categorized as value bidders, and bidders with bottom-tertile BTMV are categorized as growth bidders.

we compare the effects of merger momentum on bidder announcement returns for growth and value bidders to offer insights into how investors react to merger announcements in China, where information uncertainty is known to be particularly high.

This chapter makes several important contributions. First, China is renowned for its recent growth and newfound economic might. Although China is gaining recognition as an emerging M&A giant, its current M&A market remains far below its full potential. Therefore, given the importance of M&A activity in a growing economy, it is essential to examine corporate control activity to determine how China can better position itself to become the leading economy in the world in the next several decades. Second, China's unique corporate ownership structure sets it apart from most developed economies. Specifically, China's government remains an overwhelming presence in many corporate acquisitions, either through direct control or in conjunction with other legal entities. In addition, SOEs in certain industry sectors, such as finance, utilities, and telecommunication, are closely bound to economic plans established by the government. China's ownership structure has been found to have significant impact on corporate takeovers. For example, Cheung, Rau and Stouraitis (2009) and Zhou et al. (2012) find that overall, SOEs outperform privately owned enterprises (POEs). Therefore, the unique composition of the Chinese M&A market is another interesting factor that distinguishes it from other developed markets and is worth investigating. Third, most studies on merger momentum are based on US and UK markets, despite the possibility that merger momentum is a universal phenomenon and despite the ongoing evolution of China's corporate control market. Examination of merger momentum outside developed economies is worthwhile both to determine whether this phenomenon is sensitive to the choice of market and to remedy the paucity of research on merger momentum in areas outside developed economies. Finally, understanding merger waves in China will contribute to the foundation for a new area of research: understanding how merger waves in one economy affect merger activity in other economies. As the world's economies become increasingly integrated, international influences on merger activity will become more significant (Makaew (2010)).

The remainder of this chapter is structured as follows. Section 2.2 reviews the literature and develops testing hypotheses. Section 2.3 describes the data and methodology, and reports the summary statistics. Section 2.4 presents and discusses the univariate results and the multivariate regression results. Finally, Section 2.5 concludes the chapter and outlines future research ideas.

2.2 Literature Review

This sections first reviews the literature on various factors that cause mergers to cluster, beginning with neoclassical theory and following with behavioural explanations (agency conflict, hubris and market misvaluation). Given that merger clusters within a merger wave represent a high proportion of the overall activity, an understanding of the factors that give rise to merger clustering would help us better comprehend the main drivers of merger activity. In addition, we review the literature on merger momentum and the effect of market valuation on merger momentum.

2.2.1 Merger Waves

Previous research establishes that M&A activity tends to cluster in time and within industries, causing so-called merger waves. Becketti (1986) undertakes an examination of the relation between aggregate merger activity and macroeconomic conditions and finds that although there is a weak correlation between merger activity and aggregate production, merger activity is strongly positively correlated with capital utilization and negatively correlated with increases in interest rates. In addition to macroeconomic factors, Mitchell and Mulherin (1996) suggest that industry-level economic and technological shocks and deregulation can lead to merger clustering. Building on the research of Mitchell and Mulherin (1996), Mulherin and Boone (2000) find that industry-level merger clusters in the 1990s experienced positive reactions from the market, indicating that merger activity is driven by economic rationales. Although most studies focus on the US market, Powell and Yawson (2005) investigate the UK market and find that increased merger activity is caused by foreign competition and industry returns rather than by industry growth. Regardless of the various explanations for merger activity across different countries, there are two general strands of literature: neoclassical and behavioural.

2.2.2 Neoclassical Theory, Evidence and Synergy Creation

Neoclassical theory proposes that mergers waves follow technological, economic or regulatory shocks. Because these shocks lead to disturbances in asset valuation, rational managers undertake mergers in response to shocks to reallocate assets efficiently and to maximize shareholders' wealth. Because managers compete for best combination of assets, mergers cluster in time.

Nelson (1959) documents merger movements in American industry from 1895 to 1920 and finds that mergers cluster in times of economic growth and transportation-system development. Moreover, he emphasizes that there is a close relationship between mergers and capital market conditions. Similarly, Shleifer and Vishny (1992) find an outburst of merger activity during economic booms and attribute this outburst to increases in acquirers' cash flows and decreases in acquirers' financial constraints during bullish periods.

Matsusaka (1993) examines the conglomerate merger wave in the 1960s and finds that although the market reacts positively to diversifying acquisitions overall, the market reaction becomes negative if the target's managers are fired, which suggests that investors are skeptical about the acquiring firm's management skills when the acquisition is diversifying in nature. For focussed acquisitions, the announcement return is zero if target management is retained and negative otherwise, indicating that managerial discipline may have been another factor in public acquisitions.

On the contrary, Shleifer and Vishny (1990) consider the mergers of the 1960s to be largely inefficient and find that the merger wave of the 1980s aimed to deconglomerate large corporations because of the failure of the 1960s wave. The 1980s merger wave is associated with a large proportion of LBOs and hostile takeovers, and numerous studies provide evidence of enhanced profitability and efficiency gains during the 1980s wave (Jarrell, Brickley and Netter (1988) and Jensen (1993)).

Harford (2005) studies waves during the 1980s and 1990s and contends that merger clusters are caused by external shocks, such as economic, regulatory and technological changes. Mergers that occur on-the-wave create more value than do those that occur off-the-wave, which supports the neoclassical theory of merger waves. Moreover, in addition to neoclassical theory, Harford (2005) argues that a sufficient level of market liquidity is necessary for merger activity. Rhodes-Kropf, Robinson and Viswanathan (2005) also support the importance of neoclassical theory in explaining merger activity by finding that only approximately 15% of merger activity is driven by misvaluation.

Jensen and Ruback (1983) suggest reallocation of assets only happens when value creation is available either through synergies or by replacing managers with low-skill or suffer from excessive agency problems. Synergies can be created not only from economic merger rationales, such as economies of scale (in the form of revenue enhancement), or economies of scope (in the form of cost reduction), or the efficient combination of different technologies, but also from financial rationales.

Lewellen (1971) suggests that synergies can be generated from “pure” financial combinations in the absence of any opportunities in operating efficiencies. For example, less volatile cash flows, higher debt capacity and increased ability to deduct interest from taxable income can be achieved if the cash flows of the acquiring firm and target firm are imperfectly aligned. The weaker the correlation is between two firms, the greater the merger-created synergies are.

Similarly, Erickson and Wang (2007), among others (Kaplan (1989); Schipper and Smith (1991)), suggest that a profitable corporation subject to corporate income tax has an incentive to acquire a target with a net operating loss that can be carried forward to take advantage of the tax benefits. In this case, synergies can be created by combining the acquirer's profits with the target's tax attributes, and the government provides all of the synergies in the form of tax reduction.

According to the pecking order theory postulated by Myers and Majluf (1984), the cost of financing increases with information asymmetries between well-informed managers and less-informed investors. Managers use their informational advantage to issue equity, and because investors are aware of managerial incentives, investors discount the price of equity accordingly. In essence, this type of discounting is a potential underinvestment problem. Therefore, financial slack is valuable to firms because it allows managers to avoid the choice between issuing undervalued equities and forgoing positive net present value investment opportunities.

Considering the underinvestment problem described by Myer and Majluf (1984) and the free cash flow problem described by Jensen (1986), Smith and Kim (1994) find that synergies can be created by combining a low-slack company with a high-free-cash-flow company (i.e., a company with low growth opportunities) or by combining a high-slack company with a low-free-cash-flow company (i.e., a company with high growth opportunities).

A frequently used proxy for growth opportunity is Tobin's Q (market-to-book), which places greater emphasis on the market for corporate control of assets. A firm's investment rate is positively correlated with its Tobin's Q. Jovanovic and Rousseau (2002) extend the Q-theory of investment and propose a "Q-theory of mergers". They find that a firm becomes more acquisitive as its Tobin's Q increases; the rate of change is even higher than that for direct investment. Generally, firms with high Tobin's Qs purchase those with low Tobin's Qs. Therefore, Jovanovic and Rousseau (2002) suggest that mergers help channel capital from poor management or projects to better management or projects and that the merger waves in the US during the 1900s, 1920s, 1980s and 1990s were responses to profitable reallocation opportunities.

Conversely, Rhodes-Kropf and Robinson (2008) find that mergers unite firms with similar Tobin's Q ratios. Those authors attribute this phenomenon to increased friction in the search for unlike firms.

2.2.3 Behavioural Explanations

Although much research on the causes and effects of mergers is based on the neoclassical school of thought, surprisingly few empirical findings support the prediction that merger activity is value-enhancing. Hence, questions have arisen regarding the two underlying assumptions of neoclassical theory, namely, "managers maximize shareholder wealth" and "capital markets are efficient". Relaxing these assumptions can lead us to behavioural explanations (agency theory, hubris, herding and misvaluation), which not only help explain why mergers underperform but also provide more a realistic view of merger motives.

2.2.3.1 Agency Theory

Jensen and Meckling (1976) suggest that although the separation of ownership and control between investors (who have no direct role in the management of the firm) and management has many benefits, it is nearly impossible to ensure at no cost that management will make optimal decisions to maximize investors' welfare. A later work by Jensen (1986) finds that the agency conflict between managers and investors over optimal firm size and cash payments to shareholders is more severe in firms characterized by high free cash flows and few growth opportunities and that the managers of such firms tend to undertake low-benefit or value-destroying deals, typically diversification programs, to fulfil their own personal interests.[14]

By contrast, Stulz (1988) offers different insights on management ownership to Jensen and Meckling (1976) at the lower end of management ownership. He finds that higher management ownership benefits shareholders by providing more effective opposition to tender offers and higher premium offered if a tender offer is made. He emphasizes that the shareholders' wealth creation in this case is caused by manager's self-interest to gain private benefits from control rather than better alignment of interests with shareholders. However, at the higher end of management ownership, a further increase in management ownership leads to management entrenchment and decreases shareholders' wealth or effectively precludes a takeover.

Moreover, Gorton, Kahl and Rosen (2009) find that during industry shocks in which mergers are anticipated to create potential synergies, self-interested managers have incentives to keep their firms independent by engaging in defensive acquisitions because they may be subject to losing private benefits, play a subordinated role or lose their jobs if their firms are acquired. Hence, managers who have the same motive race to increase firm size to ensure they are too large to be eaten and results in defensive merger waves. Nevertheless, other managers who

[14] Jensen and Meckling (1976) note that the agency conflict associated with the "separation of ownership and control" often stems from managers' tendency to appropriate perquisites out of the firm's resources for their own consumption, managers' low incentive to create value if their own ownership stake is low, managers' avoidance of personal costs, etc.

care about firm value are also motivated to increase firm size to be better positioned as attractive targets and obtain higher takeover premium. As a result, they may display waves of profitable acquisitions.

2.2.3.2 Hubris Hypothesis

Roll's (1986) hubris hypothesis proposes that overconfident managers are likely to believe in their own ability to create value and extract potential synergies from a proposed acquisition. Overconfident managers believe that they possess superior abilities to identify hidden synergies and choose better targets. Managers suffering from hubris are thus likely to overestimate future returns or the capitalized value of their future leadership and, hence, to overpay for the target in question, thereby destroying shareholder wealth. Roll (1986) is the first person to suggest that a decision maker's psychological bias can drive merger activity; he also emphasizes the importance of this bias, given that most CEOs engage in few takeovers whereas repeated failures must occur before people will update beliefs about themselves.

Malmendier and Tate (2008) find that because overconfident managers (as proxied by CEOs' personal over-investment in their respective companies and by their portrayals in the press) tend to overestimate their abilities, they are more acquisitive and undertake unfavourable, value-destroying mergers. Value destruction is most severe if managers have access to internal financing and the merger is diversifying in nature.

Moreover, Andrikopoulos (2009) finds that the long-term underperformance of equity issuers in the UK, regardless the reason for the issue (to finance takeover, expansion or new projects, etc.), can be mainly attributed to some managers being overconfident about the profitability of their expansion plans or prone to empire-building. This is because he discovers that the underperformance is most pronounced for firms expanding aggressively in the early period after issue.

It is worth to note that unlike agency theory, which posits that managers suffer from moral hazard or opportunism and the desire to increase their personal undiversified risk or to broaden the scope of their authority at the expense of shareholder wealth, the hubris hypothesis maintains that overconfident managers engage in good-faith but value-decreasing mismanagement, that is, managers do not deliberately jeopardize shareholder wealth through merger activities. Another difference between managers suffering from hubris and self-interested managers is the type of takeovers that they are likely to conduct. Self-interested managers have a greater tendency to engage in larger and more public acquisitions because their primary goal is to maximize their personal utility, whereas overconfident managers are likely to consider public acquisitions more thoroughly. However, because overconfident managers make takeover decisions based on personal beliefs or estimations, such managers tend to be more affected by overall market sentiment.

2.2.3.3 Managerial Herding

Herding refers to the phenomenon whereby a decision maker follows the behaviour of previous decision makers and ignores his/ her private information. Persons and Warther (1997) propose that managers rely on information embedded in the actions of early movers and continue to imitate them until the experience is sufficiently poor, which implies that late movers perform worse than early movers.

Martynova and Renneboog (2005) suggest that merger waves can be explained by the hubris theory combined with herding behaviour. That is, merger waves are caused by managers who imitate the previous behaviour of successful pioneering firms. Because managers' primary intent is to strike a successful deal by imitating successful early movers, later-moving managers are likely to suffer from hubris and thus to operate on an irrational basis, for example, by ignoring their private information regarding the value of a deal. As a result, the trend of "efficient mergers followed by inefficient mergers" is often observed during a merger wave.

Bouwman, Fuller and Nain (2009) contend that mergers initiated during high stock market valuation periods experience higher announcement returns but suffer from worse long-term performance than do mergers that are initiated during low stock market valuation periods. Furthermore, those authors divide the high-valuation-period sample into early and late movers and find that late movers drive long-term underperformance. Hence, they conclude that managerial herding causes the overall underperformance of acquirers during high-valuation periods and that herding behaviour predominates among late movers.

Duchin and Schmidt (2013) compare on-the-wave mergers with off-the-wave mergers and find that on-the-wave mergers perform worse over the long term. They suggest that underperformance is due to the higher cost of external monitoring, which allows agency-driven managers to "get away" from bad decisions. In addition, in managerial herding, career concerns may cause managers to follow their peers and initiate deals that destroy shareholder value.

2.2.3.4 Market Inefficiencies and Persistent Market Mispricing

Contrary to the hubris hypothesis, under which financial markets are rational but managers are not, Shleifer and Vishny (2003) argue that merger waves result from stock market overvaluation because rational managers respond to less-than-rational markets. Hence, mergers are a form of arbitrage for rational managers, who attempt to benefit from incorrect valuation. More specifically, managers time the market and use overvalued equity to acquire undervalued or less overvalued targets. Shleifer and Vishny (2003) further assume that target managers are rational but have relatively short time horizons and are self-interested; hence, target managers accept the overvalued equity and sell it. This theory is related to the neoclassical theory but helps rationalise certain stock market evidence that neoclassical theory fails to explain.

Rhodes-Kropf and Viswanathan (2004) also find that merger activity is driven by stock market misvaluation. They suggest that both bidders and targets are misvalued and that misvaluation comprises two components, a firm-specific (not shared) component and a market-wide (shared) component. Because rational managers of target firms cannot determine whether misvaluation is a market effect, sector effect, or firm effect, target managers will accept an offer if they calculate positive synergies based on their own private information. However, when market-wide overvaluation is high, target managers tend to overestimate potential synergies because they mistakenly attribute a larger proportion of misvaluation to their own firms. Hence, misvaluation can drive merger waves, even when both bidder and target managers are rational.

Rhodes-Kropf, Robinson and Viswanathan (2005) find evidence that supports the prior literature. They separate MTBV into three components; two that track misvaluation at the firm and sector levels and one that tracks long-run growth opportunities. They find that acquirers with high firm-specific misvaluation use stock to buy targets with relatively low firm-specific misvaluation, especially when misvaluation at the sector level is positive. Moreover, cash targets are more undervalued than stock targets are, whereas stock acquirers are more undervalued than cash acquirers. The authors further suggest that merger activity is positively correlated with short-run deviations from long-run valuation trends, especially when stock is used as means of payment. Finally, they show that surprisingly, low long-run value-to-book firms buy high long-run value-to-book targets. This result could be explained by managers from low-value firms aiming to acquire managerial talent to create value and avoid further managerial entrenchment.

2.2.4 Merger Momentum and Market Valuation

Although researchers have focussed extensively on why and when mergers occur, less attention has been paid to the causes of variation in merger quality over a merger cycle.

Rosen (2006) defines merger momentum as a correlation between the market's reaction to a merger announcement and the recent merger history of the overall market. A hot merger market is one in which the response to other recent mergers has been favourable. Rosen (2006) notes that hot merger markets are related to but not necessarily the same as merger waves, although both measure recent merger market conditions. Waves are measured by either the number or value of mergers, whereas the hotness of a merger market is measured by the market's reaction to recent merger announcements. Moreover, market reaction contains more valuable information for research purposes because it accounts for more than just the synergies created in a merger. Specifically, market reaction also captures the ability of managers to pass on some of the benefits of synergies to their shareholders, whether the market anticipated the merger and whether investors react rationally to merger announcements. Therefore, merger momentum better reflects factors that commonly influence the synergies available from different mergers. Rosen (2006) finds evidence of merger momentum, that is, the market reaction to mergers is positively correlated with the response to other recent mergers and with changes in the overall stock market. However, both correlations become negative over the long term. The author concludes that his results are consistent with investor sentiment theory; specifically, merger momentum arises because certain investors, possibly managers, are overly optimistic during hot merger markets. Therefore, a boost in announcement returns is caused by investor sentiment, which is irrelevant to synergy gains, and long-term reversal occurs as investor sentiment dissipates and the merger's performance becomes known. Moreover, Rosen (2006) finds that managerial motivation may operate in addition to investor sentiment, especially during the merger wave of the 1990s.

Similarly, Antonious, Guo and Petmezas (2008) examine the merger momentum effect in the UK and find support for the investor sentiment theory. They also discover that market valuation influences merger outcomes and stimulates announcement returns but ultimately results in significant long-term reversal. In other words, they suggest that the effect of merger momentum is stronger during hot stock market valuation periods than other periods, highlighting the critical role that investor sentiment plays in explaining merger outcomes. Finally, the authors find that when stock market valuation is high, mergers within waves are likely to be correlated with each other and co-move in the same direction.

2.2.5 Hypotheses Development

It is well established that mergers come in waves – a clear clustering of aggregate activity occurs in the time series. Although numerous studies have focussed on documenting merger waves, less attention has been paid to the issue of why merger waves occur. To fill this gap in the literature, we aim to compare the quality of mergers in a merger cycle and under hot and cold market valuation to shed light on different theories of why and when mergers occur. There are three main theories that are in line with the notion of merger momentum, although each provides different predictions regarding bidders' returns.

Neoclassical Theory:

Neoclassical theory maintains that rational merger waves are the result of an economic disturbance that leads to industry reorganization. This type of merger wave was first documented by Coase (1937), who argues that technological change leads to aggregate merger activity. Neoclassical theory assumes that managers act to maximize shareholder value; the concept is that the occurrence of an economic, technological, or regulatory shock in an industry causes managers both inside and outside of the industry to respond by reallocating assets through mergers and partial-firm acquisitions. Merger activities cluster in time as managers react simultaneously to compete for the best combination of assets

(Mitchell and Mulherin (1996); Andrade, Mitchell and Stafford (2001); Jovanovic and Rousseau (2002)). According to this theory, merger momentum may result from shocks that increase the synergies that may be obtained from a particular type of merger. Mergers that are announced following these shocks should perform better on average than other mergers in both the short and long runs, and merger momentum reflects the positive autocorrelation in announcement returns.

Hypothesis I – Mergers announced following a groups of mergers that are driven by economic, technological or regulatory shocks that lead to changes in macroeconomic conditions that in turn increase the available synergies should perform better on average than other mergers in both the short and long runs.

Managerial Motivations and the Hubris Hypothesis:

Due to the lack of intensity of efficient merger activities, other theories are also used to explain merger waves. For example, if managerial motivations drive merger decisions, then mergers during waves are likely to perform worse than other mergers. Jensen (1986) and Morck, Shleifer and Vishny (1990) suggest that managers can use mergers for private benefits; Goel and Thakor (2010) argue that when CEO compensation increases with firm size based on market value, CEOs are more likely to be envious, and CEO envy can result in merger waves even if the initial trigger for the wave is idiosyncratic; and Gorton, Kahl and Rosen (2005) find that defensive waves can result from economic shocks because managers are willing to acquire other firms to avoid being acquired themselves, even if the acquisition is not value-enhancing for shareholders. Therefore, mergers during such managerial-motivation-initiated waves are less likely to generate wealth gains than those occurring off-the-wave.

The hubris hypothesis (Roll (1986)) assumes that overconfident managers misevaluate the target’s intrinsic value; even if positive synergies may be attained from the deal, overconfident managers may simply overpay for these synergies. If merger momentum results from a group of managers suffering from hubris, and these managers have sufficient external resources to finance mergers, then managers will conduct acquisitions even if they anticipate an initial decline in stock prices because they believe that their decisions will be proven correct in the long term.

Since shareholders do not have complete corporate control, they cannot prevent managers from making such acquisitions. Hence, when mergers are driven either by managerial motivations or by hubris, rational shareholders are assumed to immediately discount the stock price. In addition, given that these acquisitions are value destroying in nature, there is no reason that the post-acquisition returns should be reversed in the long term. These types of mergers are likely to occur more frequently during high-valuation periods simply because boom markets provide more external resources and takeover opportunities, which can intensify managerial motivations and hubris.

Hypothesis II – Mergers announced following a group of mergers that are driven by managerial motivations or hubris should perform worse on average than other mergers in both the short and long runs.

Investor Sentiment Hypothesis:

Rosen (2006) provides evidence that investor sentiment (i.e., the reaction of investors to factors other than the synergies created by the merger) is an important driver of merger activity and results in favourable initial market reactions to merger announcements during hot merger markets. He argues that if investors, and possibly managers, are excessively optimistic about mergers announced during a particular time period, managers may react rationally or irrationally to meet this demand by making acquisitions. However, because these transactions are not conducted based on fundamentals but instead cater to short-term demand, any increase in bidder stock prices in the short term should reverse over the long term as optimism is eventually replaced by reality. Antoniou, Guo and Petmezas (2008) further find that during high-valuation periods (as measured by detrended market-wide P/E), there is a stronger merger momentum effect because investors, and possibly managers, are more easily affected by optimistic market sentiment. They also find that high market valuation affects the quality of mergers and stimulates short-term returns but ultimately leads to more significant long-term underperformance as the track records of mergers become known.

Hypothesis III – Mergers announced following a group of mergers that are driven by over-optimistic beliefs in the market should perform better and worse on average than other mergers in the short and long runs, respectively.

Hypothesis IV – The effect of merger momentum is more pronounced (i.e., more positive in the short term and more negative in the long term) during high-valuation markets because investor optimism tends to be higher during these periods.

2.3 Data and Methodology

2.3.1 Sample Selection and Characteristics

We collect a sample of successfully completed Chinese domestic M&As that were announced between 1 January 2002 and 31 December 2010 from Thomson One Banker. The original sample contains 2,040 deals. We require that bidders are listed firms (on either Shanghai or Shenzhen stock exchanges) with return data available from one year prior to three years after merger announcements and that the deals' transaction values are reported, which leaves us with 1,235 deals. We then follow Fuller, Netter and Stegemoller (2002) and exclude acquisitions involving financial firms because those authors suggest that financial firms face a relatively more stringent regulatory environment and experience a unique return behaviour compared with firms operating in other industries. We next drop duplicate acquisitions and acquisitions that are not targeted at public, private or subsidiary firms, which leaves us with a sample of 915 deals. Finally, we follow Rosen (2006) and exclude any bidding firms with negative book values of equity, ratios of book-to-market values of equity greater than 10, or returns on assets below -100% or above 200%. Ultimately, we are left with a total of 822 domestic M&As.

We collect a number of informational items regarding each firm and deal from Thomson One Banker, including name, public status, DataStream code, primary industry as measured by the four-digit Standard Industrial Classification code, government ownership in the acquirer or target, announcement date, method of payment and transaction value. Other information, including each acquirer's share price, market value, market-to-book value, return on assets and return on common equity, as well as the price-to-earnings ratio and price index for the Shanghai Stock Exchange Composite Index, are obtained from Thomson DataStream.

Table 2.1 reports the time-distribution of our sample data. Two distinctive phases of a merger cycle can be observed. The first phase is the initial phase, which began in 2002 and ended in 2005. During the initial phase, both the number and total value of transactions experienced a sharp increase followed by a sharp decrease. This phase is quite volatile and the majority of deals are small in terms of transaction value. The second phase is the growth phase, which began in 2006 as the merger market regained its momentum. Merger activity increased rapidly as the stock market became bullish, and both the total number and value of transactions roughly doubled from 2006 to 2007. Within one year, the percentage of deals financed with 100% stock nearly quintupled. From 2007 to 2008, the total value of transactions doubled again, and for the first time, stock-only deals outnumbered cash-only deals.

[Insert Table 2.1]

Compared with the initial phase, the surge in merger activity during the growth phase was driven more significantly by deals' large transaction values and the bidders were significantly larger, indicating that the growth phase of the merger wave occurred on a much larger scale. In terms of the method of payment, cash offers were more predominant than stock offers overall, but there is an increasing trend for stock offers. It is also clear that as the market cools down, the percentage of cash offers increases, and as the market heats up, the percentage of stock offers increases. Stock offers reached a maximum of 18.37% in 2008, just before the spread of the global financial crisis.

2.3.2 Classification of High- and Low-Valuation Markets

We aim to examine whether the impact of merger momentum on bidder outcomes fundamentally differs between mergers announced in high-valuation markets and mergers announced in low-valuation markets.

We follow the approach of Bouwman, Fuller and Nain (2009) and first detrend the market (Shanghai Stock Exchange Composite Index) P/E by removing the best straight line of fit from the P/E for the month in question and for the five preceding years. We use this approach because the P/E ratio of the market has trended upward over time and thus the use of the actual P/E ratio in a particular month leads to the classification of all months in the recent years of our sample as high-valuation periods and the classification of all earlier periods as low-valuation periods. Second, we categorize each month as above (below) average if the detrended market P/E of that month was above (below) the past-five-year average. Third, we classify the top half of the above-average months as high market valuation periods and the bottom half of the below-average months as low market valuation periods. The remaining months are classified as neutral market valuation periods. Based on this specification, we refer to mergers that were announced during months of high-, neutral- and low-valuation markets as high-, neutral- and low-market mergers, respectively. Overall, half of our sample period is classified as a neutral-valuation market, and the other half comprises high- and low-valuation markets.

Our sample comprises 158 high market valuation mergers (6.32 per month on average), 484 neutral market valuation mergers (9.13 per month on average), and 198 cold market valuation mergers (6.00 per month on average). In addition to the fact that most acquisitions were initiated during neutral market valuation periods, this composition differs from those found in previous studies. Specifically, in the US and UK markets, significantly more deals are announced per month during hot market valuation periods, whereas in our sample, the number of deals announced per month during hot market valuation periods is only slightly greater than the number announced per month during cold market valuation periods. Therefore, we do not find that misvaluation drives aggregate patterns in merger activities.

One possible explanation for the difference between our sample and the US and UK markets could be that government intervention and the binary structure of the Chinese economy (i.e., the coexistence and development of both SOE and private firms) makes timing the market for overvaluation and using overvalued stock as means of payment more difficult or less important for many deal makers. Regarding SOE firms, most of their state- and legal-person owned shares are not released to and non-tradable in secondary stock markets, and SOEs may benefit from preferential loans, favourable tax treatment, government sponsorship and bailout policies (Cheung, Rau and Stouraitis (2009)). In addition, the deal timing for SOEs could be driven by political will. Thus, SOE firms could be less prone to market overvaluation.

We argue that privately owned (i.e., non-SOE) firms are more prone to market overvaluation than SOE firms. Nevertheless, it is difficult for privately owned firms to access to free cash on the market to provide financing, and official approval is required for investment projects above a certain size (Haggard and Huang (2008)). Hence, even if private firms want to time the market for overvaluation, this practice is generally not easy to execute. Indeed, we find that acquisitions without government involvement are more frequent than those with government involvement in high-valuation markets, whereas the reverse is true in cold-valuation markets. Therefore, we argue that acquirers' ability to time the market in China may be influenced by certain unique factors that are not present in most market-oriented economies. This argument merits further investigation.

2.3.3 Methodology

2.3.3.1 Short-Term Event Study Methodology

To measure short-term market announcement returns, we follow Brown and Warner's (1985) standard event study methodology and calculate CARs for a five-day window (-2, +2) surrounding the announcement date obtained from Thomson One Banker. The two-day lag is chosen to capture any potential leaks prior to a merger announcement and the two-day lead is chosen to fully capture the share price reaction of acquirers.

We calculate the daily normal returns of the acquirer and the market as follows:

$$r_i = \ln(\frac{P_{i,t}}{P_{i,t-1}})$$

where r_i is the daily normal return of firm i. $P_{i,t}$ and $P_{i,t-1}$ refer to the daily price index for firm i at day t and day t-1, respectively.

$$r_m = \ln(\frac{P_{m,t}}{P_{m,t-1}})$$

where r_m is the daily normal return of Shanghai Stock Exchange Composite (SHComp) index. $P_{m,t}$ and $P_{m,t-1}$ refer to the daily price index for the SHComp index at day t and day t-1, respectively.

We note that various methodological approaches are available for the estimation of short-term abnormal return (AR), including the capital asset pricing model (CAPM) recommended by Sharpe (1964) and Lintner (1965), the holding period abnormal return (HPAR) advocated by Lyon, Barber and Tsai (1999) and the market model suggested by Brown and Warner (1985). Given the limitations associated with models such as CAPM (Roll (1977)), we intend to employ the market model to calculate AR. However, because many of the firms in our sample are frequent acquirers; thus, there is a high probability that if market parameters are estimated based on an acquirer's stock price in the year prior to the merger announcement, previous merger attempts by the acquirer would be included in the estimation period, which would lead to less meaningful beta estimations. Hence, we follow Fuller, Netter and Stegemoller (2002) and choose the modified market adjusted model over the market model. In the modified market adjusted model, AR is defined as anything earned above the market return each day; the expected return of a stock is assumed to be that earned by the market (Seiler (2004)). In addition, Brown and Warner (1980) compare the market model with the modified market adjusted model and find that a firm's beta does not significantly improve the estimation in short-window event studies. Therefore, in our study, the AR on any firm i is determined by the difference between its return and the return of the SHComp index:

$$\mathrm{AR}_{i,t} = r_{i,t} - r_{m,t}$$

Consequently, the focus of the modified market adjusted model is to examine whether the return on a given stock during the event window is significantly different from that of the market during the same period (Ma (2004)). Given that the market plays an important role in potential firm misvaluation, we believe that the modified market adjusted model is particularly appropriate for estimating ARs in this study.

Finally, we summate ARs to give the five-day cumulative AR (CAR (-2, +2)) surrounding the announcement date:

$$\mathrm{CAR}_i = \sum_{t=-2}^{t=+2} \mathrm{AR}_{i,t}$$

T-statistics are used to test whether the null hypothesis holds, that is, whether the mean CAR is equal to zero for a sample of n firms. The conventional formula to compute t-statistics is as follows:

$$t_{\mathrm{CAR}_i} = \frac{\sum_{i=1}^{i=n} \frac{\mathrm{CAR}_i}{n}}{\left(\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR}_i}{n}\right) / \sqrt{n}\right)}$$

where $\sum_{i=1}^{i=n} \frac{\mathrm{CAR}_i}{n}$ refers to the sample mean and $\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR}_i}{n}\right)$ refers to the cross-sectional sample standard deviation for the sample of n firms. To assess the strength of the evidence against the null hypothesis, we convert t-statistics into probabilities (i.e., p-values), which are presented in the results section. The larger the p-value, the weaker the evidence that the mean CAR is different from zero; and vice versa.

2.3.3.2 Long-Term Methodology

To measure the long-term returns of acquirers, many authors advocate the use of the BHAR approach because of its accurate measurement of abnormal returns experienced by an investor (Lyon, Barber and Tsai (1999); Loughran and Ritter (2000) and Buchheim et al. (2001)), but Fama (1998), among others, suggest a calendar-time portfolio approach.[15] The debate essentially centres on the trade-off between type I and type II errors. The BHAR approach gives hypothesis tests significant power but may reject too many nulls (type I errors). In contrast, the portfolio approach, in which individual events are aggregated into calendar-time portfolios, discards valuable information (such as it averages over months of "hot" and "cold" event activity) and reduces the power of hypothesis tests (type II errors). In addition, Mitchell and Stafford (2000) suggest that there should be at least 10 firms in each month's portfolio to avoid sample bias problems. Because our sample suffers from small sizes of some monthly portfolios that hinder the use of the portfolio approach, we follow Rosen's (2006) paper and employ the BHAR approach

We measure the returns over two periods: one that starts three days after a deal announcement and ends three years after the deal announcement (post-announcement returns) and one that starts two days prior to the deal announcement and ends three years after the deal announcement (total window returns). Total window returns aim to capture the total stock market impact of the deal, including the effect of the announcement that is excluded from post-announcement returns. The BHAR is defined as the value of holding a long position in the acquiring firm's stock and a short position in a benchmark index over the same period:

$$\mathrm{BHAR} = \prod_{t=1}^{T}\left[1 + R_{i,t}\right] - \prod_{t=1}^{T}\left[1 + R_{m,t}\right]$$

[15] Fama (1998) argues that the BHAR approach suffers from compounding expected returns and associated problems from the short-run analysis.

where $R_{i,t}$ refers to the returns of acquiring firm i at time t and $R_{m,t}$ refers to the returns of the SHComp Index at time t. T refers to the holding period.

Regarding the computation of t-statistics, we note that the BHAR approach is associated with a potential positive-skewness problem, whereby it can produce statistically significant results even when there is none due to the short-run movement effect. Barber and Lyon (1997) suggest that the bootstrapped t-statistic helps correct for instances in which the methodological approach over-rejects the data and hence incorrectly rejects a true null hypothesis. Therefore, we implement the skewness-adjusted bootstrapped t-statistics procedure used by Lyon, Barber and Tsai (1999) to compute the statistical significance of BHAR. The skewness-adjusted t-statistic is given by the formula below:

$$t_{sa} = \sqrt{n}\left(S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma}\right)$$

where $\hat{\gamma}$ is the skewness, S is the standard deviation, and n is the number of observations:

$$S = \frac{\overline{BHAR}_t}{\sigma(BHAR_t)}$$

$$\hat{\gamma} = \frac{\sum_{i=1}^{n}(BHAR_{it} - \overline{BHAR}_t)^3}{n\sigma(BHAR_t)^3}$$

2.3.4 Empirical Model

Our empirical model aims to test how recent merger activity and changes in the overall stock market affect bidders' merger outcomes in both the short and long terms.[16] To offer a more complete examination of merger momentum in China, we also test how merger momentum affects bidder returns during hot- and cold-valuation markets to provide insight into why mergers occur in conditions of market-wide misvaluation. Moreover, we investigate how the

[16] This model was first advocated by Rosen (2006) for the US market and by Antoniou, Guo and Petmezas (2008) for the UK market.

effect of merger momentum differs between high-BTMV and low-BTMV bidders to shed light on how investors evaluate mergers in China.

To assess bidder performance in both the short and long runs more precisely, we control for various acquirer and deal characteristics that are found to affect bidder returns. In addition, to account for repeat acquirers, the standard errors are clustered at the acquiring firm level and are adjusted for heteroskedasticity. Combining all variables, the multivariate framework for the acquirer's CAR or BHAR is shown below:

$$\begin{aligned}\text{CAR or BHAR} = {} & \alpha + \beta_1 \times \text{Trailing 12} - \text{month average CAR} + \beta_2 \times \text{Trailing 12} \\ & - \text{month no. of mergers} + \beta_3 \times \text{Trailing 12} \\ & - \text{month return on SHComp index} + \beta_4 \\ & \times \text{CAR on bidder}' \text{s last announcement} + \beta_5 \times \text{First merger dummy} \\ & + \beta_6 \times \text{Number of mergers by firm in the last 3 years} + \beta_7 \\ & \times \text{Trailing 12} - \text{month BHAR on bidder}' \text{s stock} \\ & + \beta_8 \times \text{Government involvement dummy} + \beta_9 \times \text{Private target dummy} \\ & + \beta_{10} \times \text{Subsidiary dummy} + \beta_{11} \times \text{Payment incl. stock dummy} + \beta_{12} \\ & \times \text{Ln (MV)} + \beta_{13} \times \text{Relative size} + \beta_{14} \times \text{BTMV} + \beta_{15} \times \text{ROA} + \beta_{16} \\ & \times \text{Diversifying dummy} + \sum \gamma_i \times \text{Year dummy} + \varepsilon_i\end{aligned}$$

The dependent variable in our model is either CAR (cumulative announcement return) or BHAR (buy-and-hold abnormal return), which is the market reaction to a merger announcement in the short and long terms, respectively. The measurements for short- and long-term market reactions to merger announcements are described in Section 2.3.3.1 and 2.3.3.2, respectively.

Table 2.2 presents the correlation coefficients of each pair of variables used in the multivariate analysis. Our results show that high correlations exist between merger momentum and merger wave measures, *"first merger dummy"* and *"number of mergers by firm in the last 3 years"* variable, and private and subsidiary dummies, indicating these variable pairs are likely to create multicollinearity problems. To check for the severity of multicollinearity, the variance inflation factor (VIF) is computed following all of the regressions. We find that the VIF values for our main variables of interests ("t*railing 12-month average CAR"* and *"trailing 12-month no. of mergers"*) are under 2 in all of the regressions. The highest VIF values are for private and subsidiary dummies in all of the regressions, which are around 5. However, given that these two dummies are control variables and represent a categorical variable with three categories where the reference category (public) is small, multicollinearity can be safely ignored.[17]

[Insert Table 2.2]

Our main results are the five-day CAR around the merger announcement date (5-day CAR), the post-announcement BHAR for the period starting three days after a deal announcement and ending three years after the deal announcement (Post-announcement Returns), and the total window BHAR for the period starting two days prior to the deal announcement and ending three years after the deal announcement (Total Window Returns). Total Window Returns capture the entire stock market impact of the deal, including the effect of the announcement that is excluded from Post-announcement Returns. Rosen (2006) suggests that the 5-day CAR for the bidding firm around the first public mention of the deal (i.e., when the deal is first discussed or proposed) would give us the market's immediate reaction to the deal. Market reaction contains any new information, including synergies created by the deal, the split of synergies between bidder and target, and investor sentiment at deal

[17] The results of multicollinearity checks are available upon request. Regarding to situations where multicollinearity can be safely ignored, see source: statisticalhorizons.com – When Can You Safely Ignore Multicollinearity, Sept 10th 2012.

announcement.

The main variables of interest in this study are the merger activity variables and stock market momentum variable. Two measures are used to proxy for merger activity, one that captures merger momentum and one that captures recent merger waves of the overall market.

The merger momentum measure captures the hotness of merger markets and is calculated as the average 5-day CAR for all sample mergers that occurred in the 12 months prior to the third day before a merger announcement ("*trailing 12-month average CAR"*). A hot merger market is one in which recent mergers have generated favourable announcement returns. Merger momentum can reflect common factors that affect the synergies created in different mergers. For example, when most mergers following an economic or regulatory shock simultaneously experience positive announcement returns, there is a possibility that the shock created common synergies (Andrade, Mitchell and Strafford (2001)). Rosen (2006) finds that bidder announcement returns are likely to be higher if the merger is announced following other mergers that have been perceived favourably by the market. However, there is a reversal in bidder returns in the long term. His results suggest that investor sentiment plays an important role in the market's reaction to a merger announcement and that managerial motivations may operate in addition to investor sentiment, especially during the merger wave of the 1990s. Similarly, Helwege and Liang (1996) show that market reaction to a corporate announcement can be affected by investor sentiment regarding initial public offerings.

In the univariate analysis, we use the trailing 12-month average CAR to proxy for the hotness of the merger market. A deal is categorized as announced during a "*hot merger market*" if its trailing 12-month average CAR is more than the median and is categorized as announced during a "*cold merger market*" otherwise.

Shughart and Tollison (1984) show that there is autocorrelation in merger activity, that is, the number of mergers in one year helps predict the number of mergers in the next year. Because mergers usually come in waves, factors contributing to the autocorrelation of the number of mergers might also affect bidder announcement returns. Therefore we capture the recent overall merger conditions using the merger wave measure, which is calculated as the total number of deals made in the 12 months prior to an announcement ("*trailing 12-month no. of mergers*"). A deal is made during a merger wave if merger activity during the past 12 months is high. In the univariate analysis, we categorize a deal as made "*on-the-wave*" if its trailing 12-month number of mergers is more than the median and "*off-the-wave*" otherwise.

Figure 2.1 present two measures of recent overall merger activity. One is the trailing 12-month number of deals, which captures the merger wave, and the other is the trailing 12-month average 5-day CAR, which captures merger momentum.

[Insert Figure 2.1]

This figure shows that these two measures are positively correlated. There is one obvious local peak during the growth phase indicated by the wave measure, which suggests that the periods around 2009 are hotter than the rest of the sample periods. There is also a smaller local peak during the initial phase, but it is negligible compared with the local peak that occurred in the growth phase. Hence, the wave measure is likely to miss the local peak during the initial phase. In contrast, no distinct trend is observed for the merger momentum measure; rather, it picks up multiple peaks during both phases. Therefore, hot merger markets are related to but not necessarily the same as merger waves; the two measures indicate different aspects of merger markets.

Table 2.3 presents bidder and target industry distribution stratified by the two measures of recent overall merger activity.

[Insert Table 2.3]

Bidders in the high-technology and materials sectors are more interested in conducting mergers on-the-wave than off-the-wave, whereas the opposite is true for bidders in the energy, health and industrial sectors. In addition to bidders in the high-technology and materials sectors, bidders in the real estate sector are more active when the response to recent mergers has been positive (i.e., during hot merger markets), whereas health- and industrial-related bidders are the least concerned about the hotness of the merger market.

The most targeted industries during merger waves are the high-technology, materials and retail sectors, whereas the most targeted industries off-the-wave are energy, health, industrial and real estate. Firms in the energy, materials and high-technology sectors are the top targets during hot merger markets, whereas firms in the health, industrial and real estate sectors are the top targets during cold merger markets.[18]

Again, we observe a high degree of similarity between our measures of recent merger activity when the merger activity across various industry sectors is displayed, but the measures are not necessarily the same. Combining both measures, we find that the high-technology and materials sectors are the most influenced by overall merger market conditions, whereas the health and industrial sectors are the most resilient to merger market conditions. Note also that real estate bidders are more strategic about their investment timing than high-technology and materials bidders are; one explanation for this result may be that the intensity of merger activities within the real-estate sector causes bidders to consider their decisions more carefully. Moreover, our results suggest that bidders are most strategic about the timing of acquisitions if their targets belong to the energy sector. Specifically, energy-

[18] A report called "The great buy-out: M&A in China" by Economists Intelligence Unit (i.e., The great buy-out: M&A in China, Economists Intelligence Unit, 2006) indicates that the hottest sectors for domestic M&As are industrial, energy and power, materials, high technology and real estate, which is similar to our findings. It further posits that these deals tend to cluster around SOE purchases of their own subsidiaries or each other.

related firms are the most often targeted firms when the merger market is hot and are the least targeted firms during merger waves, which suggests that bidders intend to capitalize on merger momentum during hot merger markets and on low target valuation during off-the-wave periods.

As is true generally, mergers occur more frequently when stock markets are booming, and numerous studies based on either neoclassical or behavioural schools of thoughts offer explanations for the associated merger outcomes. Under neoclassical theory, mergers initiated during bullish periods should perform better on average than those initiated during other periods. However, if bullish periods result in more firms with overvalued equity, these firms are likely to use their overvalued equity to purchase undervalued or less overvalued assets, and thereby earn lower announcement returns with no long-run drift (Dong et al. (2006)). Overoptimistic sentiment during hot market valuation periods can also increase bidder announcement returns temporarily, but there is a reversal of this trend over the long term (Croci, Petmezas and Vagenas-Nanos (2010)). Therefore, we measure the overall condition of the stock market (i.e., as a source of market momentum) as the change in the SHComp value-weighted index for the period beginning one year prior to the merger announcement and ending three days prior to the merger announcement ("*Trailing 12-month return on SHComp index*").

Furthermore, we control for bidder-specific merger momentum using three variables: "*CAR on bidder's last announcement*", "*First merger dummy*" and "*Number of mergers by firm in the last 3 years*". "*CAR on bidder's last announcement*" is used as a proxy for the bidder's acquisition quality and is measured as the 5-day announcement return on the bidder's last deal if the last deal was announced within the previous three years. "*First merger dummy*" is a binary variable that equals one if the current deal is the firm's first merger announcement in the last three years. Finally, "*Number of mergers by firm in the last 3 years*" is used to capture how acquisitive the firm is and is measured as the number of deals conducted by the bidder within the previous three years. Earlier literature demonstrates that overconfident managers acquire more frequently than rational managers do because overconfident managers are more likely to underestimate the risks and overestimate the potential synergies associated with the proposed acquisitions. Hence, overconfident managers experience declines in their announcement returns as they continue to acquire more targets ((Doukas and Petmezas (2007); Billett and Qian (2008)). Croci, Petmezas and Vagenas-Nanos (2010) find that deals conducted by overconfident acquirers (as proxied by firms that conducted five or more acquisitions within three years) are most value destroying when the deals are announced during cold-valuation markets. Even during hot valuation markets, when overconfident managers can take advantage of positive investor sentiment, investors react negatively to deals announced by overconfident managers.

In addition to bidder-specific merger momentum, we control for bidder-specific stock momentum, which is measured as the bidder's market-adjusted BHAR relative the benchmark SHComp value-weighted index starting one year and ending three days before the deal announcement ("*trailing 12-month BHAR on bidder's stock*"). Faccio and Masulis (2005) posit that a run-up of the bidder's stock price can affect how a merger is financed. Morck, Shleifer and Vishny (1990) examine the incentives behind managerial decisions by analysing the relationship between acquirers' past performance and their returns on current acquisitions and suggest that poor performance drives managers to try a change in approach. Alternatively, Rosen (2006) find that an acquirer's idiosyncratic return is weakly negatively related to its announcement return. His results support a particular version of Roll's hubris hypothesis, which predicts that the worst acquisitions are made by well-performing firms because the managers of well-performing firms are most likely to be affected by hubris.

Finally, we control for the following well-documented and relevant measures of deal and bidder characteristics, all of which are known to affect both short- and long-term abnormal returns: "*Government involvement*", a binary variable that equals one if either the acquirer or the target has any state-ownership and equals zero otherwise; "*Private target*", a binary variable that equals one if target is a private firm and equals zero otherwise; "*Subsidiary target*", a binary variable that equals one if the target is a subsidiary firm and equals zero otherwise; "*Payment incl. stock*", a binary variable that equals one if the deal is financed at least in part by stock and equals zero otherwise; "*Diversifying deal*", a binary variable that equals one if the target is in a different industry than the bidder (as measured using the first two digits of the four digit Primary SIC code) and equals zero otherwise; "*Ln(MV)*", which is measured as the bidder's market value of equity one month prior to the deal announcement; "*Relative Size*", which is measured as the ratio of the deal value to the bidder's market value of equity one month prior to the deal announcement; "*BTMV*", which is measured as the bidder's book value to market value of equity one month prior to the deal announcement; and "*ROA*", which is measured as the bidder's return on assets one year prior to the deal announcement.

2.3.5 Sensitivity Tests

To ensure the reliability of our results, several sensitivity tests are performed. To conserve space, all sensitivity tests are available upon request.

First, to check the robustness of the results, the short-run event window is shortened from 5 days to 3 days around the announcement date; and the long-run event window is shortened from 36 months to 24 months after the announcement month. We find that the results are largely in line with our main findings, although certain coefficients lose their significance at conventional levels.

Second, to control for outliers, we winsorize the returns and continuous independent variables at the 1st and 99th, 2nd and 98th, and 5th and 95th percentiles. Our results are robust to the changes in percentiles.

Third, to ensure that our results are not based on one particular definition of market valuation, we measure market valuation based on the SHComp value-weighted index. In addition, we change the length of the historical data used for the P/E by changing the de-trending approach to 3 years. Our results remain unchanged.

Fourth, we further split our sample into partial and full acquisitions and find that merger momentum effect persists in both acquisition types.

Fifth, to ensure that our results are not based on one particular corporate performance measure, we use ROA to measure the acquirer's operating efficiency. The higher the ROA, the more efficient management is in utilizing its asset base (Mishkin (2006)). We find that in the short term, the effect of merger momentum is more positive and significant for high-ROA acquirers than for low-ROA acquirers. Moreover, a significant long-term reversal is found for high-ROA acquirers but not for low-ROA acquirers. These results yield the same implication as the BTMV results, namely, that Chinese investors tend to evaluate the acquiring firm's future operating performance based on the firm's past performance, which is often misleading and can destroy investors' returns over the long term.

Finally, we consider the endogeneity issue that might arise from certain observed and unobserved (omitted) variables that increase both the number of mergers and the market reaction to merger announcements. To check for endogeneity, the Durbin-Wu-Hausman test is employed. In a statistical model, if the right-hand-side endogenous variables are correlated with the error term, if there is reverse causality between the dependent and independent variables, or if the model contains any omitted variables, the OLS parameters are rendered biased and/or inconsistent. Hence, confidence intervals and hypothesis testing will be misleading (Greene (2003)). After performing the Durbin-Wu-Hausman test, we obtain a Durbin score of 1.5879 with a p-value equal to 0.2076 (insignificantly different from zero). Therefore, we cannot reject the null hypothesis of the Durbin-Wu-Hausman test, and we conclude that our results do not indicate the presence of endogeneity.[19]

2.3.6 Summary Statistics

Table 2.4 presents descriptive statistics, including the mean, median, and number of observations of bidder and deal characteristics for the overall sample and for the hot and cold market valuation subsamples. Statistical tests for differences between the means of each characteristic in high and low market valuation periods are also presented.

[Insert Table 2.4]

We find that the mean (median) of the trailing 12-month average CAR is 0.012 (0.012), indicating that Chinese bidders enjoy positive returns around merger announcements throughout the sample. Deals announced during hot-valuation markets have a significantly higher trailing 12-month average CAR (0.006) than those announced during cold-valuation markets, suggesting that deals announced during hot market valuation periods are also announced in hotter merger markets than those announced during cold market valuation periods.

On average, 101 deals were completed in the year prior to the deal announcements made throughout the sample. The mean trailing 12-month number of mergers during hot-valuation markets is insignificantly higher than that for cold-valuations markets, which implies that merger waves are less likely to be the result of stock market overvaluation in China, which is opposite to the findings of Shleifer and Vishny (2003) for the US market.

[19] The instrumental variable used is the total number of deals made for the period starting two years and ending one year prior to the deal announcement. This instrumental variable helps to predict the trailing 12-month number of mergers, but its correlation with bidder CARs is less clear.

Market momentum, as proxied by the change in the SHComp value-weighted index starting one year and ending three days prior to a merger announcement, has a mean (median) of 19.05% (-4.21%). This finding suggests that the majority of deals are conducted following stock market downturns, whereas a minority are initiated following huge upswings in the market. In addition, we observe that deals announced during hot-valuation markets are associated with positive changes in the stock market (mean=100.29%), whereas the opposite is true for deals announced during cold-valuation markets (mean=-18.82%). The difference between the trailing 12-month returns on the SHComp index for deals announced during hot and cold valuation markets is 119.10% at a 1% significance level.

In terms of bidder-specific merger momentum, we find that the CAR on a bidder's last announcement differs significantly between deals announced during hot and cold market valuation periods. Bidders that announce deals during bullish periods are likely to have experienced announcement gains from their most recent deal. For bidder-specific stock momentum, our results show that the majority of bidders are associated with negative stock price run-ups one year prior to the current deal announcement, whereas the minority are associated with large and positive stock price run-ups. These results also suggest that in China, the majority of merger activity is not driven by past good firm performance. Moreover, bidders that engage in M&As during hot-valuation markets experience significantly higher stock price run-ups than those that engage in M&As during cold-valuation markets (35.74%, p-value=0.000). It is also worth noting that during high-valuation periods, the mean run-up is 27.93% but the median run-up is negative, whereas the mean and median run-ups are both negative during cold-valuation periods, which implies that managers in firms that have recently experienced extreme increases in their stock prices are more likely to conduct deals in hot valuation markets, possibility because these managers are driven by hubris, or by the incentive to use their overvalued stock to finance deals and to allow the high market valuation to serve as a cover for their overvalued share price.

Public acquisitions represent 4.99% of our sample. The majority of transactions are private (26.16%) and subsidiary (68.86%) acquisitions. Private acquisitions occur significantly more frequently in hot valuation markets than in cold valuation markets.

Regarding methods of payment, there are significantly fewer deals financed entirely with cash during hot-valuation periods than during cold valuation periods. Conversely, significantly more deals are financed at least in part with stock in hot-valuation periods than in cold-valuation periods. This is consistent with the view that when managers believe their stock is overvalued (undervalued) relative to its intrinsic value, payment in stock (cash) is preferred. In the same vein, our results suggest that Chinese bidders tend to favour stock financing in hot valuation markets to take advantage of the mispricing effect.

The mean (median) bidder size as measured by its natural logarithm is 8.126 (7.948), which is equivalent to US$3381.247 million (US$2829.909 million). Bidders engaged in acquisitions during hot-valuation markets are significantly larger in market value terms than those in cold-valuation markets.

The mean and median BTMV for the bidders in our sample are 0.371 and 0.319, respectively. We observe that bidders that announce deals during hot-valuation markets possess significantly lower BTMV values than those that announce deals during cold-valuation markets, implying that deals are more likely to be initiated by glamour firms during hot stock markets.

Mean (median) bidder ROA is 5.538% (4.835%). Bidders that engage in acquisitions during hot market valuation periods have significantly higher ROA one year prior to the acquisition announcement compared with those that engage in acquisitions during cold market valuation periods, suggesting that bidders with better operating performance are more likely to engage in acquisitions when market valuation is high.

Finally, 39.1% of the acquisitions in our sample have government involvement (i.e., either the bidder or the target has some state-ownership). In addition, 25.91% of the bidders are experienced, and 53.04% of the deals are diversifying.

In sum, our results indicate that merger waves in China are not likely to be driven primarily by stock market misvaluation. Most bidders announce deals following negative stock price run-ups during the previous year and following stock market downturns. Deals announced during hot-valuation markets are likely to be associated with more positive merger momentum and market momentum; financed at least in part with stock; initiated by glamour firms with better operating performance one year prior to the deal; and undertaken by bidders whose last deal was favoured by the market and whose stock has recently experienced large price run-ups. Therefore, although we do not find evidence to support the notion that stock market booms gives rise to merger waves, the fundamental differences between deals announced during hot- and cold-valuation markets imply that market misvaluation does have an effect on managerial decisions; specifically, managers are more likely to time the market to absorb their overvalued equity, and managers in firms that have recently performed well (i.e., managers that may be affected by hubris) are more likely to conduct deals during bullish periods. These findings can be explained in part by the theory proposed in Section 2.3.2., which suggests that government intervention in China makes timing the market to take advantage of overvaluation and financing deals with overvalued stock more difficult for non-SOE firms and less important for SOE firms.

2.4 Empirical Results

This section presents the short- and long-run univariate comparison analyses for acquirer returns under hot and cold merger market portfolios and under on-the-wave and off-the-wave period portfolios. In addition, we present the short- and long-term multivariate regression analyses of acquirer returns for the overall sample, the hot and cold market valuation subsamples, and the high- and low-BTMV bidder subsamples.

2.4.1 Univariate Analyses

This section presents the short- and long-run univariate comparison analyses for acquirer abnormal returns by bidder- and deal-specific characteristics under hot and cold merger market portfolios and under on-the-wave and off-the-wave period portfolios.

2.4.1.1 Short-Term Analysis – Merger Momentum

Table 2.5 presents the 5-day CAR univariate comparison analysis for deals announced during hot merger markets and those announced during cold merger market for the entire sample and for subsamples based on various bidder and deal characteristics. The trailing 12-month average CAR is used as a proxy for the hotness of the merger market. A deal is categorized as announced during a "*hot merger market*" (i.e., with a high trailing 12-month average CAR) if its trailing 12-month average CAR is greater than the median and as during a "*cold merger market*" (i.e., with a low trailing 12-month average CAR) otherwise.

[Insert Table 2.5]

The overall 5-day CAR for bidders in our sample is 1.61% and is statistically significant at the 1% significance level. These results are driven primarily by the positive returns achieved by acquisitions initiated in hot merger markets and targeted at private firms. Deals initiated during hot merger markets enjoy positive and significant abnormal returns of 2.68% around the announcement date, which is 2.14% higher than the abnormal returns obtained by deals initiated during cold merger markets, at a 1% significance level. The results of our univariate comparison suggest that there is a form of merger momentum, that is, the market reaction to an acquisition is positively related to the market response to other acquisitions in the recent past.

Acquisitions with and without government involvement generate significantly positive announcement returns of 2.05% and 1.32%, respectively. In addition, we find that regardless of government involvement, deals announced in hot merger markets are significantly more value-enhancing for shareholders than are those announced in cold merger markets, which suggests that the effect of merger momentum holds after controlling for state-ownership in either the bidder or the target in an acquisition.

Private acquisitions account for 95% of our sample. Bidders experience significantly positive announcement returns of 1.60% if the target is privately owned, whereas bidders that acquire public firms experience insignificantly positive returns. Our results are consistent with those of previous studies, which show that bidders acquiring privately held firms enjoy significant gains around the announcement date (Travlos (1987); Chang (1998); Draper and Paudyal (2006); Fuller, Netter and Stegemoller (2002)). In addition, when we divide private acquisitions based on different methods of payment, we find that acquisitions financed entirely with stock experience the most significant gains (8.11%, p-value=0.00), whereas acquisitions targeted at public companies that are financed entirely with stock experience the lowest announcement returns (-0.11%, p-value=0.99).[20] These findings are in line with the hypotheses regarding limited competition (i.e., underpayment), monitoring (i.e., there will be more blockholders in the newly combined firm) and information (i.e.,

[20] To save space, the test results are not shown here but are available upon request.

signalling that the bidding firm's stock is valuable), all of which predict an increase in the bidder's stock price when privately owned firms are acquired using equity. Moreover, bidders conducting private acquisitions in hot merger markets generate significantly higher abnormal returns of 2.43% than those conducting private acquisitions in cold merger markets, whereas the difference is insignificant for bidders conducting public acquisitions. We note that the results regarding public acquisitions might be limited due to the small sample size.

An examination of the performance of deals financed at least in part with stock shows that bidders earn significantly positive announcement returns of 8.49%. Moreover, deals announced during hot and cold merger markets generate significant returns of 9.53% and 5.86%, respectively. Bidders using non-stock payment methods generate significant abnormal returns of 0.55% overall and 1.06% during hot merger markets, which is considerably less than the returns generated by deals whose payment includes stock. By contrast, Mitchell, Pulvino and Stafford (2004) find that bidders experience a price pressure effect on their stock prices if the acquisition is paid with equity, due to merger arbitrage short selling (the arbitrage hypothesis); and Myers and Majluf (1984) find that stock transactions lead to negative announcement returns because such transactions signal the market that the bidders' stocks are overvalued (the information content hypothesis). We suggest that the higher announcement returns experienced by bidders in our sample for deals that were financed at least in part by stock are likely because those acquisitions targeted privately owned firms (which is consistent with the limited information, monitoring and information hypotheses). Furthermore, our results show that the mean bidder return for deals financed at least in part with stock during hot merger markets is insignificantly higher than the mean return for deals financed at least in part with stock during cold merger markets, whereas the difference is positive and significant for cash-only deals. Hence, although we cannot reach any meaningful conclusion about the effect of merger momentum on deals financed at least in part by stock, there is a form of merger momentum for cash-only deals. We note that the insignificant effect of merger momentum on deals that were financed at least in part by stock may be due to the small sample size.

Moeller, Schlingemann and Stulz (2004) document a size effect on bidders' announcement returns whereby small firms achieve higher synergy returns, both in percentage and dollar terms, than large firms do. They suggest this effect is due to managerial overconfidence in large firms rather than to overvaluation because managers in large firms tend to complete more acquisitions and to pay more for their acquisitions. Our results show that although deals conducted by small firms achieve higher abnormal returns than deals conducted by large firms, the difference is not significant (1.55% vs. 1.34%). Interestingly, we also observe that large bidders experience significantly positive announcement returns if they initiate acquisitions during cold merger markets, whereas insignificant returns are obtained by small bidders in these conditions. Large bidders are most active during hot merger markets, whereas the reverse is true for small bidders. Hence, our results might suggest that large bidders that conduct mergers during cold merger markets are less likely to be affected by hubris than those that conduct mergers during hot merger markets. Moreover, we find the effect of merger momentum is relatively pronounced for small bidders but insignificant for large bidders.

Regarding the effect of relative size on bidder announcement returns, Asquith, Bruner and Mullins (1983) find that the relative size of the target to the bidding firm has a positive effect on bidders' abnormal returns. Similarly, Loderer and Martin (1990) contend that bidder returns are significantly higher when the deal value is greater than one-third of the bidding firm's market value. Fuller, Netter and Stegemoller (2002) find a positive relationship between bidder returns and the relative size of the target in private and subsidiary acquisitions but find a negative relationship between them in public acquisitions. Our results indicate that bidder abnormal returns are significant and positive for high relative-size transactions (4.23%, p-value=0.00) but insignificant for low relative-size transactions. The mean difference (4.03%) is statistically significant at a 1% level.[21] Consistent with the prior literature, we suggest that the positive correlation between relative size and bidder abnormal returns is likely due to the predominance of private acquisitions in our sample. Moreover, high relative-size transactions conducted during hot merger markets yield the highest announcement returns, 6.16%, which are 4.19% higher than the announcement returns for high relative-size transactions conducted during cold merger markets. These results imply that the merger momentum effect is most significant for transactions with a high target-to-bidder size.

Glamour firms are firms with high growth prospects and value firms are firms with low growth prospects. Rau and Vermaelen (1998) find that glamour bidders experience significantly superior announcement returns but lower long-term returns compared with value bidders, regardless of the means of payment. This finding supports the extrapolation hypothesis, which argues that the market over-reacts to bidders' past performance at merger announcements but that over time, the market corrects its previous over-extrapolation of past performance as it assesses bidders' post-merger performance. By contrast, Sudarsanam and Mahate (2003) find that value bidders gain more than glamour bidders at deal announcements. They suggest that their findings are more in line with the method of payment hypothesis, which maintains that glamour firms tend to use overvalued stock as means of payment more often than value firms do, than with the extrapolation hypothesis. Similarly, Dong et al. (2006) demonstrate a negative correlation between firm valuation and announcement returns, and attribute this correlation to highly valued bidders communicating to the market that their valuations are not warranted by fundamentals by using overvalued equity to acquire less overvalued assets (i.e., the overvaluation hypothesis). Our results indicate that both high- and low-BTMV firms generate significant returns in the short run for their shareholders (1.20% and 2.20%). We further find that low-BTMV (glamour/ growth) bidders consistently earn more abnormal returns than high-BTMV (value) bidders,

[21] To conserve space, the test results are not provided in this paper but are available upon request.

regardless of the merger market conditions. High-BTMV bidders tend to conduct more acquisitions in cold merger markets, whereas low-BTMV bidders are more acquisitive in hot merger markets. In addition, value bidders favour cash as means of payment, whereas stock payment is preferred by glamour bidders.[22] Therefore, our results are in line with the extrapolation hypothesis but also suggest that it is profitable for glamour bidders to exploit and convert their overvalued equity into real assets, especially during hot merger markets. Furthermore, our findings indicate that after controlling for bidder BTMV, the merger momentum effect remains significantly positive.

In terms of bidders' financial performance, Morck, Shleifer and Vishny (1990) claim that firms with better prior performance make better acquisitions. In the same vein, we find that high-ROA bidders (2.23%, p-value=0.00) are associated with higher abnormal returns around the acquisition announcement date than low-ROA bidders are (1.41%, p-value=0.01), albeit this difference is insignificant. However, the correlation is reversed during hot merger market, with high- and low-ROA bidders gaining abnormal returns of 2.26% and 4.15%, respectively. Additionally, high-ROA bidders are more acquisitive during hot merger markets, whereas low-ROA bidders are more acquisitive during cold merger markets. We note that firms with high past growth in returns are likely to be highly valued, similar to firms with low BTMVs. Putting these results together, we observe that low-ROA bidders engage in fewer acquisitions in hot merger markets but generate the most value for their shareholders. In addition, the effect of merger momentum is most significant for transactions conducted by low-ROA bidders.

The existing literature suggests that investors respond negatively to diversifying acquisitions (Campa and Kedia (2002); Doukas and Kan (2004); Villalonga (2004)). A common

[22] Value bidders undertook 22 (69) acquisitions with pure stock (cash) payments, whereas glamour bidders undertook 39 (53) acquisitions with pure stock (cash) payments. More detailed results are available upon request.

explanation for the diversification discount is that managers conducting diversifying acquisitions have the tendency to overinvest, possibly due to overconfidence (Hadlock, Ryngaert and Thomas (2001)). We do not find evidence to support the adverse effect of diversification on bidder abnormal returns. Indeed, our results show that diversifying deals (1.81%, p-value=0.00) are slightly more value-enhancing than focussed deals (1.38%, p-value=0.00) and that bidders gain the most around merger announcements if they acquire a firm in a different industry during hot merger markets. Despite the high abnormal returns, we find that diversifying deals are less frequent during hot merger markets, whereas focussed deals are more frequent during hot merger markets. After controlling for deal relatedness, we find that merger momentum has a more significant impact on diversifying deals than on focusesd deals.

In sum, our results suggest that overall, the merger momentum effect is robust to firm and deal characteristics, albeit it is more pronounced for acquisitions with small bidders, high target-to-bidder size and low-ROA bidders and for diversifying acquisitions. To determine whether the effect of merger momentum on bidding firms' performance is persistent over time, we perform a comparison analysis for bidder BHAR three years post-merger announcement (see Table 2.7).

2.4.1.2 Short-Term Analysis – Merger Wave

Table 2.6 presents the 5-day CAR univariate comparison analysis for deals announced on-the-wave and those announced off-the-wave for the entire sample and for subsamples according to various bidder and deal characteristics. The trailing 12-month number of mergers is used to capture the merger wave. A deal is categorized as being announced "*on-the-wave*" (i.e., high trailing 12-month no. of mergers) if its trailing 12-month number of mergers is more than the median and as "*off-the-wave*" (i.e., low trailing 12-month no. of mergers) otherwise.

[Insert Table 2.5]

Our results indicate that acquisitions announced on-the-wave significantly outperform those announced off-the-wave. This outperformance is robust to various firm and deal characteristics but is more pronounced for acquisitions with small size bidders, high target-to-bidder size, low-ROA bidders and all-cash financing. Rosen (2006) suggests that if the neoclassical theory of mergers holds (i.e., managers act in the interests of shareholders and only make acquisitions to create synergies for shareholders), then mergers concentrated around common shocks should positively affect the potential synergies attained through all mergers. In other words, mergers conducted during waves should perform better, on average, than those conducted during other times. Moreover, under neoclassical theory, the number of mergers (merger wave measure) and market reaction to merger announcements (merger momentum measure) should be highly correlated. The results of our univariate analyses of merger momentum and the merger wave largely coincide with one another, which provides an early indication that mergers in China are driven by synergy creations. Additionally, if mergers are truly conducted to exploit synergies, they should add value to the firm over the long term; hence, we examine the effect of the merger wave on bidder BHAR three years post-merger announcement by performing a univariate comparison analysis (see Table 2.8).

2.4.1.3 Long-Term Analysis – Merger Momentum

Table 2.7 presents the post-announcement returns univariate comparison analysis for deals announced during hot merger markets and those announced during cold merger markets for the entire sample and for subsamples according to various bidder and deal characteristics. The post-announcement return is measured as the bidder's BHAR over the period starting three days after a deal announcement and ending three years after the deal announcement. The trailing 12-month average CAR is used as a proxy for the hotness of the merger market. A deal is categorized as being announced during a "*hot merger market*" (i.e., high trailing

12-month average CAR) if its trailing 12-month average CAR is more than the median and as being announced during a "*cold merger market*" (i.e., low trailing 12-month average CAR) otherwise.

[Insert Table 2.7]

The overall bidder post-announcement return in our sample is -2.16% and is statistically insignificant, primarily due to the poor post-acquisition returns for deals initiated during cold merger markets. Similarly, Black et al. (2013) document that Chinese bidders experience insignificant returns three years post-merger announcement. Moreover, we find that deals announced during hot merger markets earn significantly positive post-announcement returns of 12.12% and significantly outperform deals announced during cold merger markets by 28.35% at a 1% significance level. Rosen (2006) proposes that if the initial market reaction to mergers is driven by investor sentiment, then the long-term performance should be no better than it would have been without the merger, and he finds evidence to support this proposition. However, our results suggest that mergers announced during hot merger markets are undertaken to exploit synergies and continue to be value enhancing for bidding firms' shareholders over the long run, which supports the neoclassical theory of mergers.

Acquisitions with and without government involvement both fail to generate any significant abnormal returns three years post-deal announcement, which is attributable to their underperformance during cold merger markets over the long term. However, deals announced during hot merger markets continue to create value over the long term, regardless of government involvement (7.09% for deals with government involvement and 15.27% for deals without government involvement). Hence, our results indicate that the effect of merger momentum holds after controlling for state-ownership in acquisitions.

Acquisitions targeting privately owned firms during hot merger markets attain higher returns over the long run, 12.15% and significant at a 1% significance level, than do deals targeting publicly listed firms during hot merger markets, which attain insignificant returns. During cold merger markets, both public and private acquisitions are value-destroying and result in losses of -28.08% and -15.34%, respectively, for bidding firms' shareholders. Nonetheless, acquisitions announced in hot merger markets significantly outperform those announced in cold merger markets, regardless of the target's listing status.

Black et al. (2012) find that Chinese bidders that use equity to finance their deals enjoy significant positive gains of 58.03% over the three years following the merger announcement and conclude that the Chinese market is not driven by market-timing. Similarly, we find that bidders that finance their deals at least partially with stock experience returns of 31.39% three years after deal announcement and significantly outperform bidders that finance deals without stock (-7.29%, p-value=0.01). Although deals financed at least in part by stock achieve significantly higher returns than all-cash deals do in both hot and cold merger markets, we find that the effect of merger momentum is reversed over the long term for deals financed at least in part by stock. The highest post-announcement return is obtained for deals financed at least in part by stock during cold merger markets. This implies there might some market-timing incentives to include stock as payment for deals conducted during hot merger markets but not for those conducted during cold merger markets. Hence, we posit that although neoclassical explanations are important, market-timing may explain a nontrivial fraction of merger activities in China, especially those merger activities conducted during hot merger markets with stock financing.

Regarding bidder size, we find that although large firms enjoy positive announcement returns, they significantly underperform three years post-merger announcement (-12.23%, p-value=0.00). In contrast, small bidders continue to generate marginally significant gains over the long term (10.92%, p-value=0.07). Deals conducted by small bidders enjoy the highest post-announcement gains in hot merger markets, whereas deals undertaken by large bidders suffer the greatest losses in cold merger markets. After controlling for the bidder size effect, our results suggest that the positive correlation between merger momentum and bidder abnormal returns persists over the long term.

In terms of relative size effect, we find that acquisitions associated with high relative size generate significant post-announcement returns (9.94%, p-value=0.03), whereas those associated with low relative size are associated with significant value destruction over the long run (-8.52%, p-value=0.03). The outperformance of acquisitions associated with high relative size is attributed primarily to the high positive long-run returns generated in hot merger markets, and the underperformance of acquisitions associated with low relative size is driven mainly by the significant losses incurred in cold merger markets. Furthermore, our results suggest that the effect of merger momentum is robust over the long term regardless of the relative size of an acquisition.

The three year post-announcement return reveals that high-BTMV bidders gain significantly in hot merger markets (17.14%, p-value=0.01) but lose significantly in cold merger markets (-21.12%, p-value=0.01). For deals conducted by low-BTMV bidders, the long-term return is only significantly positive in hot merger market (10.32%, p-value=0.01). Mergers announced in cold merger markets consistently underperform those announced in hot merger markets, irrespective of the bidding firm's valuation. Moreover, we observe that the effect of merger momentum becomes more pronounced for value bidders over the long term, which deserves further examination.

Over the long term, bidders with high ROA generate insignificant abnormal returns and significantly outperform bidders with low ROA, which experience losses of -12.04% and are significant at a 5% level. Deals initiated by low-ROA bidders in hot merger markets create the most significant abnormal returns three years post-merger announcement (10.09%, p=0.04) but also underperform the most in cold merger markets, accruing losses of -29.02%

over the same time period. Furthermore, we observe that after controlling for the ROA effect, merger momentum has a more pronounced impact on bidder post-announcement returns for deals initiated by low-ROA bidders.

Finally, we observe that regardless of the type of takeover and whether the deal is diversified or focussed, deals announced during hot merger markets earn positive post-announcement returns and significantly outperform those announced during cold merger markets, which demonstrate negative post-announcement returns. The results imply that the effect of merger momentum holds robustly over time. Our results also show that diversifying acquisitions conducted during hot merger markets experience the highest abnormal returns over the long term, whereas focussed acquisitions conducted during cold merger markets are the most value-destroying.

In sum, the overall trend for post-announcement returns is that deals announced during hot merger markets are value enhancing for bidding firms' shareholders, whereas the opposite is true for deals announced during cold merger markets (except for the payment-includes-stock subsample). The differences in the means between bidder returns three years post-merger announcement in hot and cold merger markets is significantly positive across various bidder and deal characteristics, except for the payment-includes-stock subsample. Our results show that the effect of merger momentum on bidding firms' performance is rather persistent over time, which implies that the neoclassical theory plays an important role in explaining merger activities in China.

2.4.1.4 Long-Term Analysis – Merger Wave

Table 2.8 presents the post-announcement returns univariate comparison analysis for deals announced on-the-wave and those announced off-the-wave for the entire sample and for subsamples according to various bidder and deal characteristics. The post-announcement return is measured as the bidder's BHAR over the period starting three days to a deal announcement and ending three years after the deal announcement. The trailing 12-month number of mergers is used to capture the merger wave. A deal is categorized as announced "*on-the-wave*" (i.e., high trailing 12-month no. of mergers) if its trailing 12-month number of mergers is more than the median and "*off-the-wave*" (i.e., low trailing 12-month no. of mergers) otherwise.

[Insert Table 2.8]

Our results indicate that acquisitions announced on-the-wave significantly outperform those announced off-the-wave over 3-year period post-deal announcement date. This outperformance is robust to various firm and deal characteristics, except for insignificant underperformance obtained for the payment-includes-stock subsample. The results based on the merger wave are almost completely in line with the results based on merger momentum. Again, the merger wave results suggest that merger during waves perform better on average than do those conducted off-the-wave, in both the short and long terms, which implies that merger waves are driven by neoclassical explanations (i.e., to maximize synergy gains and to improve efficiency).

2.4.2 Multivariate Regression Analyses

This section presents the short- and long-run multivariate regression analysis results for the overall sample, for hot and cold market valuation subsamples and for high- and low-BTMV bidder subsamples.

2.4.2.1 Short- and Long-Term Multivariate Regression Analyses – Overall Sample

The results from the univariate analysis of the overall sample suggest that both the trailing

12-month average CAR (i.e., the proxy for merger momentum) and the trailing 12-month number of mergers (i.e., the proxy for the merger wave) have positive and significant effects on bidder announcement returns and long-term returns, which supports the neoclassical hypothesis. However, univariate analyses can be misleading because they do not account for any confounding effects that influence bidder returns. Therefore, we employ multivariate analyses to control for various bidder- and deal-characteristics and reveal the net effect of merger momentum and the merger wave. The results are presented in Table 2.9.

[Insert Table 2.9]

The overall sample regression indicates that there is a form of merger momentum at the market level but not at the firm level. We find that the market-level merger momentum variable, which is the trailing 12-month average CAR, has a positive coefficient and is statistically significant at a 1% level. A one-percentage-point increase in the trailing 12-month average CAR leads to a 0.76-percentage-point increase in bidder 5-day announcement returns. We note that the merger momentum effect is well documented in existing studies. For example, Rosen (2006) documents that in the US, a 0.38-percentage-point increase in merger momentum is associated with a one-percentage-point increase in bidder 5-day announcement returns, and Antonious, Guo and Petmezas (2008) find that in the UK, a 0.20-percentage-point increase in merger momentum is associated with one-percentage-point increase in bidder 5-day announcement returns. These results provide an early indication that the merger momentum effect does not exist only in developed merger markets; indeed, this phenomenon might play a more significant role in developing merger markets.

Although the merger wave measure, which is the trailing 12-month number of mergers, is found to exert a positive and significant effect on bidder announcement returns in the univariate analysis, the coefficient of the merger wave measure is insignificant in the multivariate regression. Both Rosen (2006) and Antonious, Guo and Petmezas (2008) find an insignificant impact of the merger wave measure on bidder CARs and suggest that the reason might be that the merger wave measure captures two waves, one of which is on a much larger scale than the other. Similarly, we observe two phases (i.e., the initial (2002 – 2005) and growth (2006 – 2010) phases) over our sample period and note that the growth phase dominates in terms of the number of mergers. Hence, we suggest that the wave measure essentially proxies for the growth phase, which shows bidder announcement returns differ insignificantly between two phases.

Furthermore, our results suggest that both market-level and firm-level stock momentum have insignificant effects on bidder performance over the short term.

Consistent with the univariate analysis, we find that payment-includes-stock deals are associated with a 4.52% improvement in CAR, ceteris paribus. Because the majority of deals target privately owned firms, we suggest that the CAR improvement might be attributable to three factors. First, bidding firms face less competition when purchasing private targets, and this limited competition is likely to result in higher underpayment, which translates into higher returns for the bidding firms' shareholders (Chang (1998)). Second, we suggest that the small number of owners of a private target firm are likely to become blockholders in the newly combined entity if the deal is financed with stock. The monitoring of managerial performance is likely to be enhanced by the addition of blockholders, which will result in higher firm value (Draper and Paudyal (2006)). Third, given that the owners of a private target firm acquired in a stock purchase will possess a large amount of shares in the newly combined entity, they have more incentive to cautiously assess the value of the bidding firm before accepting the offer. Therefore, the willingness to accept a stock offer conveys a positive message to the market regarding the value of the bidding firm and leads to a positive market reaction around the merger announcement (Draper and Paudyal (2006)).

We further find that the bidder's size has a negative and significant influence on announcement returns. Consistent with the prior literature, this correlation might be due to any one of the following theories: managerial incentives are better aligned with shareholder incentives in small firms because managers have more ownership in smaller firms than in larger ones; small firms tend to pay lower acquisition premiums than large firms; small firms lack analyst coverage, which may lead to profitable opportunities for investors if the small firm's stock price deviates temporarily from its real value; higher returns result from the higher risk associated with smaller firms; and managers of larger firms are more likely to suffer from hubris (Chang (1998); Moeller, Schlingemann and Stulz (2004)).

In accordance with many existing studies in which larger acquisitions are found to have a higher effect on bidder abnormal returns than smaller acquisitions do (Jensen and Ruback (1983); Jarrell and Poulsen (1989); Loderer and Martin (1997)), we also observe that the ratio of deal-to-bidder size exerts a significant and positive effect on bidder announcement returns.

Furthermore, we include ROA as an accounting measure of performance because ROA may capture bidder performance that is not reflected by stock market returns. We find that bidder ROA one year prior to the merger announcement has a significant and positive impact on bidder announcement returns, implying that deals announced by firms with better prior operating-performance-to-capital-invested ratios are perceived more favourably by the market.

Because it may take several years for a bidder to fully absorb a target, we extend our study to the long term by using a three-year window to allow for complete integration. We measure a bidder's long-term performance as its BHAR over the period starting three days after the deal announcement and ending three years after the deal announcement (i.e., post-announcement returns). Additionally, we calculate a bidder's BHAR for the period starting two days prior to the deal announcement and ending three years after the deal announcement (i.e., total window returns). The later measure allows us to capture the entire stock market reaction to the deal, including the effect of the announcement that is excluded from the post-announcement measure. Moreover, we include bidder announcement returns (i.e., bidder CAR) as an additional control variable in the post-announcement returns.

Consistent with the results of our univariate analysis, we find that the coefficient of the trailing 12-month average CAR (the measure of merger momentum on the market level) has a significant and positive effect on both the post-announcement period and total window returns. The coefficient is much larger than that of the short-run regression; a one-percentage-point increase in the trailing 12-month average CAR leads to a 8.74-percentage-point increase in bidder BHAR three years post-announcement. The effect on the total window return is even higher, with a 9.06-percentage-point increase. Hence, our results suggest that firms that initiate mergers during hot merger markets experience an upward drift in their stock prices over both the short and long terms and significantly outperform firms that initiate mergers during cold merger markets.

Similarly, we find that the trailing 12-month number of mergers (the merger wave measure) has a positive and significant effect on both post-announcement and total window returns. This suggests that mergers announced on-the-wave perform significantly better over the long term than those announced off-the-wave, which is consistent with the results of our univariate analysis. Furthermore, despite the coefficient on the bidder CAR variable having a sign of reversal, both the merger momentum and merger wave measures hold even after controlling for CAR reversal.

Moreover, our results indicate that the effect of stock market momentum becomes significantly positive over the long term. This implies that there is a positive correlation between aggregate stock market prices and potential merger synergies for bidding firms, meaning that on average, mergers announced during hot stock markets perform better for bidding firm shareholders than mergers announced during cold stock markets.

Overall, our findings suggest that merger waves may be caused by changes in the business environment that lead to increases in overall stock prices and to more profitable merger opportunities, which supports the neoclassical theory of mergers and is in line with our first hypothesis.

Additionally, we find that the firm-level stock momentum variable, which is measured as the bidder's market-adjusted BHAR relative to the benchmark SHComp value-weighted index for the period starting one year before and ending three days before the deal announcement, exerts a negative and significant impact on both post-announcement and total window returns. This finding is consistent with that of Rosen (2006), who also finds a negative coefficient on the bidding firm's stock. He suggests two explanations for this negative correlation: first, managers who recently experienced success in generating more returns for their respective firms are more likely to suffer from hubris (Roll (1986)), and second, firms are more likely to issue stock to finance acquisitions if they have experienced a recent run-up in their stock prices or if they believe that their stock is overvalued (Myers and Majluf (1984); Travols (1987)). After excluding all acquisitions involving stock payments, we rerun the BHAR regressions and find that the coefficient on bidder run-up is less negative but remains significant (-0.079, p-value=0.047 for the post-announcement returns regression; -0.076, p-value=0.063 for the total window returns regression).[23] Therefore, we suggest that managerial hubris explains a large portion of the negative coefficient on the bidder run-up variable but that the market-timing factor cannot be completely ignored.

Other control variables with significant coefficients in the regressions for bidder long-term returns have signs that reinforce the results of the short-term regression analysis. More specifically, payment-includes-stock acquisitions, relative size of deal-to-bidder's market

[23] To conserve space, the regression results are not presented herein but are available upon request.

value of equity and bidder ROA continue to have a positive correlation with bidder returns over the long term, whereas bidder size continues to have a negative impact on bidder returns over the long term. Hence, our results suggest that the factors affecting merger momentum and merger wave continue to exist after controlling for various bidder and deal characteristics.

In sum, the results of the multivariate analysis confirm those of the univariate analysis and reinforce the positive effect of merger momentum on bidder announcement returns, post-announcement returns and total window returns, which is consistent with the neoclassical theory of mergers and with the predictions outlined in our first hypothesis, which suggests that mergers are driven primarily by synergy creation.

2.4.2.2 Short- and Long-Term Multivariate Regression Analyses – High and Low Market Valuation Subsamples

A growing number of studies show that merger outcomes in hot market valuation periods differ from those in cold market valuation periods. We divide the sample into hot- and cold-valuation periods and find that both results support our main findings for the overall sample, that is, the primary driver of merger waves is the creation of synergies, which supports the neoclassical theory of mergers and our first hypothesis. Additionally, the results for hot-valuation markets suggest that there is room for other motives, such as hubris and market timing, especially for deals announced when market valuation is high. Conversely, the results for cold valuation markets suggest that bidding firms' managers are not influenced by hubris or market-timing incentives and that investors are overly pessimistic when market valuation is low.

The following section presents the short- and long-run multivariate analyses for acquirer performance by controlling for various bidder- and deal-specific characteristics in the hot and cold market valuation subsamples.

Table 2.10 presents the hot market valuation subsample regression results. We find that the coefficient on merger momentum is not statistically significant during hot market valuation periods in either the short or long term, which suggests that merger momentum may be less important when market valuation deviates away from its neutral level. These results reject our proposed hypothesis IV, which posits that the merger momentum effect should be more pronounced during high valuation markets because as investor sentiment is higher during these periods.

[Insert Table 2.10]

In contrast, the coefficient on the number of mergers variable is significantly positive in all regressions for short- and long-term bidder performance. This indicates that the market perceives that mergers occurring on-the-wave are better than mergers occurring off-the-wave and thus leads us to reject our second hypothesis, which contends that managerial motivations and/or hubris are the main driving forces behind merger waves, especially during hot-valuation markets, when external resources become more accessible.

Nevertheless, the possibility that managers suffer from hubris or time the market to take advantage of market misvaluation during high market valuation periods, when investor sentiment is optimistic, cannot be completely ruled out. This is because our results show a more negative and pronounced impact of bidder run-up on bidder long-term returns in hot valuation periods than in neutral valuation periods. Moreover, by re-running the BHAR regressions for high market valuation periods without payment-includes-stock deals, we find that the coefficient on bidder run-up is less negative but remains significant in both regressions, which may be attributed to managerial hubris or to managers timing the market to make acquisitions, with hubris being the more predominant factor.[24]

In line with the multivariate regression results for the overall sample, we find payment-includes-stock deals are associated with even higher bidder return gains for both the short and long terms compared with the overall sample. The associated increases in CAR, post-announcement returns and total window returns are 7.03%, 35.79% and 40.25%, respectively, ceteris paribus. As discussed in earlier sections, we suggest that these improvements are driven largely by the gains achieved by private acquisitions financed at least in part with stock. Moreover, high market valuation periods provide more takeover opportunities, which can allow bidders to more easily time the market to finance takeovers with overvalued equity to lock in real assets, which in turn reduces the losses that may occur as overvalued equity reverts downward to its intrinsic level over time.

Our results also indicate that the coefficient of bidder size for bidder announcement and long-term returns becomes more negative and remains significant during high-valuation periods. These results may occur because larger firms are more likely to be overvalued during hot-valuation markets, which leads to high costs for managerial discretion and facilitates poor acquisition decisions by managers (Moeller, Schlingemann and Stulz (2004)).

Moreover, the financial strength of the bidding firm, as measured by its BTMV one month prior to the merger announcement, is associated with higher long-term returns. Similarly, Loughran and Vijh (1997) find that growth firms experience negative long-term abnormal returns whereas value firms experience positive abnormal returns after the completion of major corporate events.[25] Rau and Vermaelen (1998) find that glamour bidders outperform

[24] To conserve space, the regression results for the neutral-valuation markets are not presented herein but are available upon request. We find the coefficient for bidder run-up in the post-announcement returns regression and the total window returns regression for the neutral-valuation periods are -0.1022 (p-value=0.072) and -0.0969 (p-value=0.094), respectively.

[25] The terms “growth firms” and “glamour firms” are used interchangeably in this study.

value bidders, irrespective of the means of payment for the acquisition, in the short term. However, a reversal is found for bidders' long-term performance, suggesting that the market fails to understand that past managerial performance is not necessarily a good indicator of future performance.

Consistent with the overall sample, we find that bidder ROA is significantly positively related to bidder returns over the long term for acquisitions announced during hot market valuation periods. This result suggests that deals announced by firms with superior prior financial performance continue to perform better irrespective of stock market valuation.

In sum, our multivariate analysis results for high market valuation periods reinforce our earlier findings for the overall sample, which suggest that the neoclassical explanations for mergers are the primary drivers of merger waves in China. Additionally, the results suggests that managerial hubris and market-timing are more pronounced during high-valuation markets and may help explain a nontrivial fraction of merger activity in China, but they are not sufficiently pronounced to cause merger waves.

Table 2.11 presents the cold market valuation subsample regression results. Our results indicate that the effect of merger momentum on bidder announcement returns is not significant during cold market valuation periods, which suggests that when the stock market is depressed, investors are unconfident and sceptical about any deals that occur. Investors are likely to respond negatively and may cause substantial departures from the fundamental value of mergers, especially when recent past deals have experienced positive reactions. We argue that this might be due to investors' concerns about managers' incentives to capture gains from recent market reactions and thereby hide their poor decisions. However, our results also show that merger momentum is associated with better bidder performance over the long term. The significant reversion to the fundamental value of the merger as merger performance becomes known over the long term confirms the existence of overly pessimistic investor sentiment during cold valuation periods. Moreover, this reversion implies that acquisitions during cold valuation periods are driven primarily by synergy creation.

[Insert Table 2.11]

Additionally, we observe that although the merger momentum measure is associated with better bidder performance over the long term, the merger wave measure is associated with better bidder performance in the short term. This finding indicates that the market responds favourably to acquisitions announced on-the-wave and that the difference between a hot merger market (as measured by recent announcement returns) and a merger wave (as measured by the number of mergers) is especially significant in cold market valuation periods.

Market-wide momentum has a positive and marginally significant impact on bidder announcement returns in cold valuation markets. Moreover, there is a marginally significant positive relationship between the first-merger dummy and bidder total window returns. As in earlier sections, we show that acquisitions involving firms with government ownership are more frequent during cold market valuation periods. We also find that the government involvement dummy is significantly positively correlated with both post-announcement and total window returns, suggesting that acquisitions with government involvement during cold market valuation periods are especially value enhancing for bidding firms' shareholders over the long term. This might be because managers in state-related firms are more cautious about investment decisions in weak market conditions, when there are more restraints on access to external financing.

Consistent with the overall sample regression results, the effect of bidder size and ROA persist under different market valuation periods. There is also an indication that the effects of bidder size and bidder ROA on bidder short- and long-term returns are more pronounced when market valuation is low, suggesting that if a bidder- or deal-specific characteristic has previously been known for its persistent effect on merger outcomes, its effect is likely to be intensified by pessimistic investor sentiment during cold-valuation markets.

Interestingly, we find that payment-includes-stock acquisitions are not associated with superior bidder performance in either the short or long terms during cold valuation markets, which indicates that stock payments are viewed least favourably when market valuation is low. This might be attributable to the fact that bidder stock prices are closer to their intrinsic value or may be undervalued when the overall market valuation is low, which prevents bidders from gaining from underpayment using overvalued stock.

Moreover, our results indicate that the negative effect of bidder-specific stock momentum is positive but insignificant on bidder long-term returns. These results imply that managers are least likely to be overconfident or to time the market during cold-valuation periods.

In sum, we find that bidders engaged in mergers during low market valuation periods aim to create wealth and to benefit shareholders, which supports the neoclassical theory of mergers. Bidders seem to be unaffected by hubris or market-timing incentives when market valuation is low. We also provide evidence for the bounded rationality of investors and overly pessimistic investor sentiment during cold market valuation periods.

2.4.2.3 Short- and Long-Term Multivariate Regression Analyses – High and Low BTMV Bidder Subsamples

In addition to market valuation, information asymmetry is also known to affect firm performance. Zhou, et al. (2012) state that Chinese financial markets are characterized by a lack of reliable information, a high degree of information asymmetry and an overwhelming number of individual investors. We argue that in this type of environment, investors are more likely to consider bidders' past managerial performance to be a good indicator of future performance. We divide the sample into high-BTMV (i.e., value) and low-BTMV (i.e., growth) bidder subsamples and expect that the effect of merger momentum will be more pronounced for growth bidders than for value bidders in the short term but that the opposite trend will be found over the long term as anticipation is replaced by reality.

Table 2.12 presents the high-BTMV bidder subsample regression results. Our results show that the coefficient on the merger momentum variable is positive but insignificant in the short run, indicating that merger momentum may have a less significant impact for value bidders than for growth bidders. However, over the long term, we find that value bidders are associated with significantly higher returns if their deals are announced in a hot merger market than if their deals are announced in a cold merger market, which is in complete contrast to the insignificant difference between hot and cold merger markets for growth bidders.

[Insert Table 2.12]

Table 2.13 presents the low-BTMV bidder subsample regression results. We find that the coefficient on the merger momentum variable is positive and statistically significant at a 1% level for low-BTMV bidders. A one-percentage-point increase in the trailing 12-month average CAR leads to a 1.66-percentage-point increase in bidder 5-day announcement returns, which is much higher than that for the overall sample (0.76-percentage-point increase). However, acquisitions conducted by growth bidders in hot merger markets do not generate significantly higher long-term returns than they would if they were conducted in cold merger markets.

[Insert Table 2.13]

The merger wave measure has a marginally negative effect on bidder announcement returns for growth bidders, which may be because highly valued bidders are more likely to be affected by hubris or a herding mentality during a wave. However, we find that over the long term, the merger wave measure exerts a positive and significant effect on bidder returns. Additionally, stock market momentum has a significant and positive effect on bidder returns three years post-merger announcement for both growth and value bidders, indicating a positive correlation between aggregate stock market prices and the potential synergies that are available to bidding firms.

In a nutshell, our results suggest that if the recent market conditions are hot, either as measured by the merger momentum or merger wave measure or by stock market momentum, growth and value bidders are more likely to generate better returns on average over the long term, which supports the neoclassical theory of mergers. Moreover, we find that growth bidders are more prone to merger momentum in the short term, implying that Chinese investors tend to base their merger evaluations on – and over-react to – the bidding firm's managerial track record. However, the outperformance of value firms over the long term suggests that investors fail to understand that past managerial performance is not necessarily a good indicator of future performance and that high firm valuation does not necessarily equal better firm performance; hence, our results are in line with the extrapolation hypothesis as proposed Rau and Vermaelen (1998), and suggest such evaluation approaches may lead to value-destroying decisions for investors and should thus be discouraged.

2.5 Conclusion

This study focuses on the correlation between broad Chinese market conditions (as measured by merger momentum, merger waves and stock market momentum) and bidder returns in the short and long terms. We employ a sample of 822 successfully completed domestic M&As in China announced between 1 January 2002 and 31 December 2010 involving acquirers that are listed firms on either the Shanghai or Shenzhen stock exchanges.

In our univariate analyses, we find that both the trailing 12-month average CAR (i.e., the proxy for merger momentum) and the trailing 12-month number of mergers (i.e., the proxy for merger waves) have a positive and significant effects on bidder announcement returns and long-term returns. The results are robust after controlling for various bidder- and deal-specific characteristics. In other words, when the market has reacted favourably to recent merger announcements, it tends to continue to do so, suggesting that there is a form of momentum in the merger market. Moreover, mergers that occur on-the-wave create more wealth than do those that occur off-the-wave, which supports the neoclassical theory of merger waves.

Because the univariate analyses do not account for any confounding effects that may affect bidder returns, we employ a multivariate analysis to simultaneously control for all bidder- and deal-specific characteristics found to influence bidder returns. Again, we find support for the existence of merger momentum, that is, the market reaction to an acquisition is positively correlated with the market reaction to other acquisitions in the recent past. More specifically, we find that a one-percentage-point increase in the trailing 12-month average CAR leads to a 0.76-percentage-point increase in bidder 5-day announcement returns.

Extending the multivariate analysis to the long term, our results show that the more favourable initial market reactions to acquisitions announced during hot merger market are associated with better bidder performance over the long term. The correlation between merger momentum and bidder returns is much more pronounced over time; a one-percentage-point increase in the trailing 12-month average CAR leads to an 8.74-percentage-point increase in bidder BHAR three years post-deal announcement date. The effect on the total window return is even higher, with a 9.06 percentage point increase. We also find that mergers announced on-the-wave significantly outperform those announced off-the-wave over the long term. Moreover, mergers announced during hot stock markets perform better on average for bidding firm shareholders than do mergers announced during cold stock markets.

Overall, our multivariate regression results reinforce those of the univariate analyses, suggesting that merger waves may be caused by changes in the business environment that lead to increases in overall stock prices and to more profitable merger opportunities, which supports the neoclassical theory of mergers and is in line with our first hypothesis.

Other studies propose that market-wide misvaluation appears to affect merger activities, motives and outcomes (Jovanovic and Rousseau (2002); Rhodes-Kropf and Viswananthan (2004)). Additionally, Antoniou, Guo and Petmezas (2008) find that the over-optimistic investor sentiment during high market valuation periods influences the effect of merger momentum. Therefore, we split our sample into high and low valuation market subsamples and find that merger momentum may be less important when market valuation deviates from its neutral level. In addition, although merger activity is driven primarily by synergy gains, irrespective of stock market valuation, the tendency for managers to be driven by hubris and market-timing incentives is more pronounced during high valuation periods, and these incentives can help explain a nontrivial fraction of merger activity in China during these periods. However, these incentives are not found during cold market valuation periods, but there is evidence of the bounded rationality of investors and overly pessimistic investor sentiment during these periods.

Moreover, given the high level of information asymmetry and the lack of reliable information in Chinese financial market, we argue that investors tend to consider a firm's past performance to be a good indicator of future performance and fail to understand that high firm valuation is not equivalent to superior firm performance. In line with this proposition, by splitting the sample into growth and value bidders, we find that the positive effect of merger momentum is more pronounced for growth bidders than for value bidders in the short term, whereas the opposite is true over the long term, as anticipation is replaced by reality. Nevertheless, both growth and value bidders generate significant gains for their shareholders during hot market conditions over the long term, reinforcing the neoclassical theory of mergers.

In sum, the acquisitions conducted during our period of study prove to be profitable for bidding firms' shareholders. Our findings suggest that there is a form of momentum in mergers and that the source of merger momentum is primarily attributable to neoclassical explanations. Moreover, our results give an early indication that Chinese investors tend to be affected more by the negative market sentiment than by positive market sentiment. We suggest that future research address the question of what makes investors become susceptible to different market sentiments because the answer to this question could help us better understand how investors process new information and make decisions.

Table 2.1 Sample Descriptive Statistics by Year

This table presents the time-distribution of a sample of domestic Chinese public, private and subsidiary M&As announced between 1 January 2002 and 31 December 2010 drawn from Thomson One Banker, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. Column (2) reports the number of deals per year as donated by "*N*". Column (3) reports the total transaction value per year. Column (4) to (7) report the yearly mean and median market value of acquirers and the yearly mean and median transaction value of acquisitions. Column (8) to (10) reports the percentage of acquisitions by methods of payment. Transaction values are reported in millions of dollars and at the exchange rate of December 2010. Cash and stock offers are those financed with either 100% cash or 100% stock. Mixed offers are all deals financed with neither pure cash nor pure stock, and include payment methods classified as "other" and "unknown" by Thomson One Banker.

Year (1)	N (2)	Total transaction value (US$mil) (3)	Mean market equity (US$mil) (4)	Median market equity (US$mil) (5)	Mean transaction value (US$mil) (6)	Median transaction value (US$mil) (7)	Cash offer (8)	Stock offer (9)	Mixed offer (10)
2002	32	482.97	810.62	361.36	15.09	9.81	12.50%	3.13%	84.38%
2003	64	1579.64	883.72	339.03	24.68	7.27	18.75%	0.00%	81.25%
2004	74	1721.84	539.39	274.46	23.27	5.16	31.08%	1.35%	67.57%
2005	57	637.29	481.55	168.77	11.18	5.26	36.84%	0.00%	63.16%
2006	60	3836.34	1016.80	232.04	63.94	8.17	21.67%	3.33%	75.00%
2007	112	7512.09	990.22	458.78	67.07	9.10	16.07%	15.18%	68.75%
2008	147	14706.29	1183.76	489.73	100.04	13.30	17.69%	18.37%	63.95%
2009	142	15184.95	1063.09	450.24	106.94	14.18	16.90%	17.61%	65.49%
2010	134	21071.33	1269.78	604.98	157.25	23.32	23.88%	11.94%	64.18%
Overall	822	66732.73	915.44	375.49	63.27	10.62	21.71%	7.88%	70.41%

Figure 2.1 The Trailing 12-month Number of Mergers and the Trailing 12-month Average CAR

This figure presents the trailing 12-month number of mergers and the trailing 12-month average CAR for a sample of domestic Chinese public, private and subsidiary M&As announced between 1 January 2002 and 31 December 2010 drawn from Thomson One Banker, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The average CAR is the trialing 12-month average 5-day cumulative abnormal returns, and the number of deals is the total number of mergers announced in the prior 12 months. A merger is included as the date of its announcement.

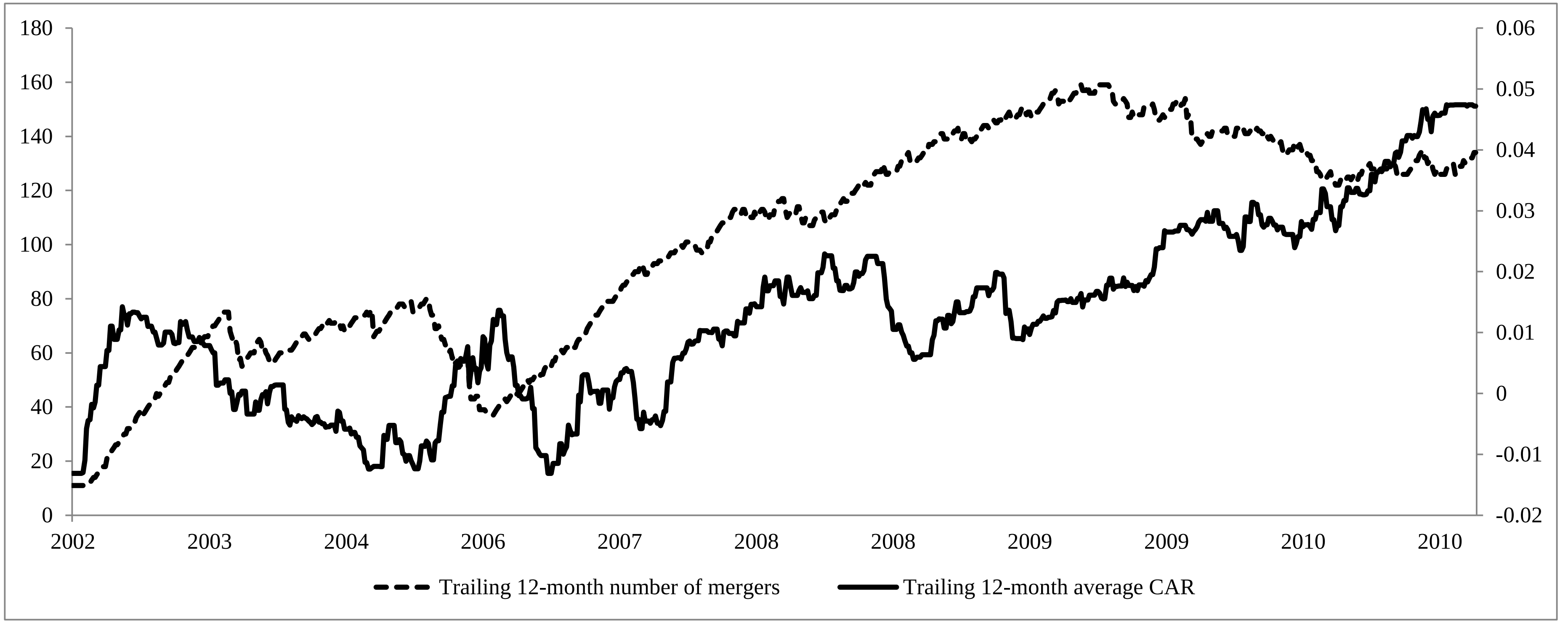

Table 2.2 Correlation Matrix

This table presents pairwise correlations of all variables used in the multivariate analysis. The sample contains 882 domestic Chinese public, private and subsidiary M&As announced between 1 January 2002 and 31 December 2010 drawn from Thomson One Banker, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "*CAR on bidder's last announcement*" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "*Trailing 12-month BHAR on bidder's stock*" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "*Diversifying*" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise.

	Trailing 12-month average CAR	Trailing 12-month no. of mergers/ 1000	Trailing 12-month return on SHComp index	CAR on bidder's last announce- ment	First merger dummy	Number of mergers by firm in the last 3 years	Trailing 12-month BHAR on bidder's stock	Government involvement	Private target	Subsidiary	Payment incl. stock	Ln(MV)	Relative size	BTMV	ROA
Trailing 12-month average CAR															
Trailing 12-month no. of mergers/1000	0.5343														
Trailing 12-month return on SHComp index	-0.1550	-0.0934													
CAR on bidder's last announcement	0.0585	0.0600	0.0651												
First merger dummy	-0.0534	-0.1001	0.0100	-0.0476											

	Trailing 12-month average CAR	Trailing 12-month no. of mergers/ 1000	Trailing 12-month return on SHComp index	CAR on bidder's last announce-ment	First merger dummy	Number of mergers by firm in the last 3 years	Trailing 12-month BHAR on bidder's stock	Government involvement	Private target	Subsidiary	Payment incl. stock	Ln(MV)	Relative size	BTMV	ROA
Number of mergers by firm in the last 3 years	-0.0063	0.0665	0.0141	0.0300	-0.8773										
Trailing 12-month BHAR on bidder's stock	0.1990	0.2634	0.0398	0.1012	-0.0302	-0.0123									
Government involvement	0.0304	-0.1067	-0.1079	0.0128	0.0676	-0.0400	-0.0090								
Private target	-0.0089	-0.0209	-0.0095	-0.0499	0.0802	-0.1008	0.0252	-0.0693							
Subsidiary	0.0147	0.0393	0.0400	0.0409	-0.0969	0.0840	-0.0482	0.0011	-0.8109						
Payment incl. stock	0.1635	0.2366	0.0868	-0.0016	0.1324	-0.1070	0.0923	0.0964	-0.0735	0.0505					
Ln(MV)	0.2484	0.0956	0.1552	0.0454	-0.1053	0.1779	0.2952	0.1798	0.0942	-0.1812	0.0017				
Relative size	0.1044	0.1803	-0.0080	-0.0067	0.1157	-0.1064	0.0271	0.0698	-0.0871	0.0655	0.1597	-0.1740			
BTMV	-0.1737	-0.0666	-0.1979	-0.0741	-0.0546	0.0963	-0.2623	0.0583	-0.1110	0.0093	-0.0426	-0.2234	0.0463		
ROA	0.1193	0.1316	0.1241	0.0853	-0.0679	0.0860	0.3574	0.0034	0.0378	-0.0613	0.0126	0.3272	-0.0825	-0.1212	
Diversifying	-0.0101	-0.0236	-0.0063	-0.0196	-0.0037	-0.0642	0.0356	-0.1642	0.0019	0.0008	0.0109	-0.2020	0.0413	-0.0230	-0.0878

Table 2.3 Sample Descriptive Statistics by Industry Sector

This table presents both bidder and target industry distributions stratified by hot and cold merger markets, and by on-the-wave and off-the wave. The sample contains 882 domestic Chinese public, private and subsidiary M&As announced between 1 January 2002 and 31 December 2010 drawn from Thomson One Banker, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. A deal is categorized as announced during the "*Hot merger market*" if its trailing 12-month average CAR is more than the median and "*Cold merger market*" otherwise; and categorized as announced "*On-the-wave*" if its trailing 12-month number of mergers is more than the median and "*Off-the-wave*" otherwise. "*CPS*" stands for Consumer Products and Services; "*ENE*" stands for Energy and Power; "*GOVAGY*" stands for government and agencies; "*HEA*" stands for Healthcare; "*HT*" stands for High Technology; "*IND*" stands for Industrials; "*MAT*" stands for materials; "*MEDIA*" stands for media and entertainment; "*RE*" stands for Real Estate; "*RETAIL*" stands for Retail; "*STAPLES*" stands for consumer staples; "*TELE*" stands for Telecommunication; and "*Sum*" is the total number of deals conducted under each corresponding category.

Acquirer industry	CPS	ENE	GOVAGY	HEA	HT	IND	MAT	MEDIA	RE	RETAIL	STAPLES	TELE	Sum
Hot merger market	18	40	0	26	39	71	103	4	42	17	41	7	408
Cold merger market	23	42	2	51	27	83	89	11	30	17	32	7	414
On-the-wave	22	36	0	24	37	68	107	6	36	18	38	8	400
Off-the-wave	19	46	2	53	29	86	85	9	36	16	35	6	422
Sum	41	82	2	77	66	154	192	15	72	34	73	14	822

Target industry	CPS	ENE	GOVAGY	HEA	HT	IND	MAT	MEDIA	RE	RETAIL	STAPLES	TELE	Sum
Hot merger market	21	44	1	25	37	68	99	10	69	11	21	2	408
Cold merger market	16	39	1	43	27	80	80	9	86	6	24	3	414
On-the-wave	20	38	1	20	39	63	100	11	74	12	21	1	400
Off-the-wave	17	45	1	48	25	85	79	8	81	5	24	4	422
Sum	37	83	2	68	64	148	179	19	155	17	45	5	822

Table 2.4 Sample Descriptive Statistics

This table presents the descriptive statistics such as the mean, median, and number of observations for bidder- and deal-characteristics for the overall sample, and for hot and cold market valuation subsamples, respectively. Hot (cold) market valuation is defined follow Bouwman, Fuller and Nain (2009) using the top (bottom) quarter of the monthly Shanghai Stock Exchange Composite (i.e., SHComp) index detrened P/E ratio. "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "*CAR on bidder's last announcement*" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "*Trailing 12-month BHAR on bidder's stock*" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Public Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a public firm, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*100% cash*" is a binary variable which takes the value of 1 if the deal is financed entirely with cash; and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "*Diversifying*" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{i,t}}\right] - \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{m,t}}\right]$ is used to calculate BHARs with bootstrapped p-values (1000 replications) shown in parentheses. Statistical tests for differences in means for each characteristic for high and low market valuation periods are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*SD*" donates the standard deviation for the overall sample and "*N*" donates the number of observations in each portfolio.

	Overall			Hot market valuation (1)		Cold market valuation (2)		Difference (1)-(2)		
	Mean	Median	SD	Mean	Median	Mean	Median	Mean		p-value
Trailing 12-month average CAR	0.0123	0.0116	0.0147	0.0073	0.0090	0.0018	0.0013	0.0055	***	(0.000)
Trailing 12-month no. of mergers/1000	0.1011	0.1110	0.0398	0.0889	0.0970	0.0867	0.0730	0.0023		(0.563)
Trailing 12-month return on SHComp index	0.1905	-0.0421	0.6564	1.0029	1.2900	-0.1882	-0.2091	1.1910	***	(0.000)
CAR on bidder's last announcement	0.0011	0.0000	0.0332	0.0061	0.0000	0.0000	0.0000	0.0061	*	(0.071)
First merger dummy	0.7409	1.0000	0.4384	0.7532	1.0000	0.7222	1.0000	0.0309		(0.521)
Number of mergers by firm in the last 3 years	0.3552	0.0000	0.6877	0.3038	0.0000	0.3722	0.0000	-0.0684		(0.327)
Trailing 12-month BHAR on bidder's stock	0.1020	-0.0138	0.5824	0.2793	-0.0119	-0.0781	-0.0867	0.3574	***	(0.000)
Government involvement	0.3905	0.0000	0.4882	0.3544	0.0000	0.4111	0.0000	-0.0567		(0.287)
Public target	0.0499	0.0000	0.2178	0.0506	0.0000	0.0944	0.0000	-0.0438		(0.125)
Private target	0.2616	0.0000	0.4398	0.3165	0.0000	0.2167	0.0000	0.0998	**	(0.038)
Subsidiary	0.6886	1.0000	0.4634	0.6329	1.0000	0.6889	1.0000	-0.0560		(0.279)
100% Cash	0.2105	0.0000	0.4079	0.1519	0.0000	0.3111	0.0000	-0.1592	***	(0.001)
Payment incl. stock	0.1326	0.0000	0.3394	0.1203	0.0000	0.0611	0.0000	0.0591	*	(0.057)
Ln(MV)	8.1275	7.9482	1.0987	8.5183	8.2913	7.5954	7.3087	0.9228	***	(0.000)
Relative size (%)	0.0265	0.0036	7.1771	1.7288	0.2093	2.5787	0.0529	-0.8499		(0.221)
BTMV	0.3710	0.3185	0.2345	0.2619	0.2275	0.5712	0.5182	-0.3093	***	(0.000)
ROA (%)	5.5383	4.8350	5.5383	6.7174	5.8500	4.4901	4.1700	2.2273	***	(0.000)
Diversifying	0.5304	1.0000	0.4994	0.5190	1.0000	0.5167	1.0000	0.0023		(0.966)
5-day CAR	0.0161	0.0048	0.0853	0.0143	0.0149	0.0065	-0.0027	0.0078		(0.373)
Post-announcement Returns	-0.0216	-0.0735	0.7508	0.0462	0.9290	-0.2543	0.7587	0.3005	**	(0.002)
Total Window Returns	-0.0086	-0.0795	0.7634	0.0596	0.9885	-0.2470	0.7766	0.3066	**	(0.002)
N		822		158		180				

Table 2.5 Univariate Analysis for Bidder 5-day CAR – Merger Momentum

This table presents the 5-day CAR univariate comparison analysis for deals announced during high trailing 12-month average CAR (i.e., hot merger market) versus those announced during low trailing 12-month average CAR (i.e., cold merger market) for the entire sample, and subsamples according to various bidder and deal characteristics. The trailing 12-month average CAR is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement and is used as a proxy for the hotness of the merger market. A deal is categorized as announced during "*hot merger market*" if its trailing 12-month average CAR is more than the median and "*cold merger market*" otherwise. The "*With government involvement*" subgroup includes either acquirers or targets with any state-ownership, and "*Without government involvement*" subgroup includes acquirers or targets with zero state-ownership. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Payment incl. stock*" and the "*Payment without stock*" subgroups are created depending on whether or not the deal is financed with at least some stock. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile bidder size as deals with "*High Bidder Size*", while the bottom-tertile bidder size as deals with *"Low Bidder Size"*. Same categorization method is used to classify deals with "*High relative size*"/ "*Low relative size*", "*High BTMV*"/ "*Low BTMV*", and "*High ROA*"/ "*Low ROA*". The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The mean CARs are reported and p-values are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

5-day CAR	All	With government involvement	Without government involvement	Public	Private	Payment incl. Stock	Payment without stock	High bidder size	Low bidder size
All	0.0161 ***	0.0205 ***	0.0132 ***	0.0169	0.0160 ***	0.0849 ***	0.0055 **	0.0134 ***	0.0155 ***
p-value	(0.00)	(0.00)	(0.00)	(0.33)	(0.00)	(0.00)	(0.03)	(0.01)	(0.00)
N	822	321	501	41	781	109	713	273	273
High trailing 12-month average CAR	0.0268 ***	0.0319 ***	0.0237 ***	-0.0126	0.0280 ***	0.0953 ***	0.0106 ***	0.0127 **	0.0432 ***
p-value	(0.00)	(0.00)	(0.00)	(0.75)	(0.00)	(0.00)	(0.01)	(0.05)	(0.00)
N	408	157	251	12	396	78	330	173	95
Low trailing 12-month average CAR	0.0055	0.0096 *	0.0027	0.0291	0.0037	0.0586 ***	0.0012	0.0147 *	0.0007
p-value	(0.14)	(0.09)	(0.57)	(0.12)	(0.32)	(0.00)	(0.75)	(0.07)	(0.91)
N	414	164	250	29	385	31	383	100	178
Difference	0.0214 ***	0.0223 **	0.0209 ***	-0.0417	0.0243 ***	0.0367	0.0095 *	-0.0020	0.0426 ***
p-value	(0.00)	(0.02)	(0.00)	(0.28)	(0.00)	(0.20)	(0.07)	(0.85)	(0.00)

5-day CAR	High relative size	Low relative size	High BTMV	Low BTMV	High ROA	Low ROA	Diversifying	Focussed
All	0.0423 ***	0.0015	0.0120 ***	0.0220 ***	0.0223 ***	0.0141 ***	0.0181 ***	0.0138 ***
p-value	(0.00)	(0.67)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
N	273	273	273	271	273	274	436	386
High trailing 12-month average CAR	0.0616 ***	0.0036	0.0275 ***	0.0321 ***	0.0266 ***	0.0415 ***	0.0333 ***	0.0205 ***
p-value	(0.00)	(0.43)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
N	147	138	101	153	148	119	202	206
Low trailing 12-month average CAR	0.0197 **	-0.0007	0.0030	0.0088	0.0173 **	-0.0069	0.0049	0.0061
p-value	(0.02)	(0.90)	(0.59)	(0.26)	(0.02)	(0.25)	(0.31)	(0.28)
N	126	135	172	118	125	155	234	180
Difference	0.0419 ***	0.0042	0.0245 ***	0.0234 *	0.0093	0.0484 ***	0.0283 ***	0.0144
p-value	(0.00)	(0.53)	(0.01)	(0.05)	(0.37)	(0.00)	(0.00)	(0.11)

Table 2.6 Univariate Analysis for Bidder 5-day CAR – Merger Wave

This table presents the 5-day CAR univariate comparison analysis for deals announced during high trailing 12-month no. of mergers (i.e., *"on-the-wave"* period) versus those announced during low trailing 12-month no. of mergers (i.e., "*off-the-wave*" period) for the entire sample, and subsamples according to various bidder and deal characteristics. The trailing 12-month no. of mergers is calculated as the total number of deals made in the 12 months prior to an announcement. A deal is made "*on-the-wave*" is one in which its trailing 12-month no. of mergers is more than the median and "*off-the-wave*" otherwise. The "*With government involvement*" subgroup includes either acquirers or targets with any state-ownership, and "*Without government involvement*" subgroup includes acquirers or targets with zero state-ownership. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Payment incl. stock*" and the "*Payment without stock*" subgroups are created depending on whether or not the deal is financed with at least some stock. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile bidder size as deals with "*High Bidder Size*", while the bottom-tertile bidder size as deals with *"Low Bidder Size"*. Same categorization method is used to classify deals with "*High relative size*"/ "*Low relative size*", "*High BTMV*"/ "*Low BTMV*", and "*High ROA*"/ "*Low ROA*". The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The mean CARs are reported and p-values are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

5-day CAR	All		With government involvement		Without government involvement		Public	Private		Payment incl. Stock		Payment without stock		High bidder size		Low bidder size	
All	0.0161	***	0.0205	***	0.0132	***	0.0169	0.0160	***	0.0849	***	0.0055	**	0.0134	***	0.0155	***
p-value	(0.00)		(0.00)		(0.00)		(0.33)	(0.00)		(0.00)		(0.03)		(0.01)		(0.00)	
N	822		321		501		41	781		109		713		273		273	
High trailing 12-month no. of mergers	0.0295	***	0.0348	***	0.0264	***	-0.0064	0.0307	***	0.0937	***	0.0137	***	0.0181	***	0.0428	***
p-value	(0.00)		(0.00)		(0.00)		(0.89)	(0.00)		(0.00)		(0.00)		(0.01)		(0.00)	
N	400		148		252		13	387		79		321		157		104	
Low trailing 12-month no. of mergers	0.0034		0.0083		-0.0001		0.0277	0.0016		0.0618	***	-0.0011		0.0071		-0.0014	
p-value	(0.35)		(0.13)		(0.98)		(0.15)	(0.65)		(0.01)		(0.77)		(0.36)		(0.81)	
N	422		173		249		28	394		30		392		116		169	
Difference	0.0261	***	0.0264	***	0.0265	***	-0.0340	0.0291	***	0.0319		0.0148	***	0.0109		0.0442	***
p-value	(0.00)		(0.01)		(0.00)		(0.36)	(0.00)		(0.27)		(0.00)		(0.29)		(0.00)	

5-day CAR	High relative size		Low relative size	High BTMV		Low BTMV		High ROA		Low ROA		Diversifying		Focussed	
All	0.0423	***	0.0015	0.0120	***	0.0220	***	0.0223	***	0.0141	***	0.0181	***	0.0138	***
p-value	(0.00)		(0.67)	(0.01)		(0.00)		(0.00)		(0.01)		(0.00)		(0.00)	
N	273		273	273		271		273		274		436		386	
High trailing 12-month no. of mergers	0.0626	***	0.0062	0.0385	***	0.0320	***	0.0257	***	0.0450	***	0.0329	***	0.0257	***
p-value	(0.00)		(0.22)	(0.00)		(0.00)		(0.00)		(0.00)		(0.00)		(0.00)	
N	152		135	105		145		146		120		208		192	
Low trailing 12-month no. of mergers	0.0168	**	-0.0031	-0.0045		0.0104		0.0185	***	-0.0100	*	0.0045		0.0020	
p-value	(0.04)		(0.50)	(0.38)		(0.18)		(0.01)		(0.08)		(0.38)		(0.69)	
N	121		138	168		126		127		154		228		194	
Difference	0.0458	***	-0.0093	0.0430	***	0.0216	*	0.0072		0.0550	***	0.0285	***	0.0237	***
p-value	(0.00)		(0.17)	(0.00)		(0.07)		(0.48)		(0.00)		(0.00)		(0.01)	

Table 2.7 Univariate Analysis for Bidder 3-year Post-announcement BHAR – Merger Momentum

This table presents the 3-year post-announcement BHAR univariate comparison analysis for deals announced during high trailing 12-month average CAR (i.e., hot merger market) versus those announced during low trailing 12-month average CAR (i.e., cold merger market) for the entire sample, and subsamples according to various bidder and deal characteristics. The trailing 12-month average CAR is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement and is used as a proxy for the hotness of the merger market. A deal is categorized as announced during "*hot merger market*" if its trailing 12-month average CAR is more than the median and "*cold merger market*" otherwise. The "*With government involvement*" subgroup includes either acquirers or targets with any state-ownership, and "*Without government involvement*" subgroup includes acquirers or targets with zero state-ownership. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Payment incl. stock*" and the "*Payment without stock*" subgroups are created depending on whether or not the deal is financed with at least some stock. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile bidder size as deals with "*High Bidder Size*", while the bottom-tertile bidder size as deals with *"Low Bidder Size"*. Same categorization method is used to classify deals with "*High relative size*"/ "*Low relative size*", "*High BTMV*"/ "*Low BTMV*", and "*High ROA*"/ "*Low ROA*". The equation $\mathrm{BHAR_i} = \prod_t^T [1 + \mathrm{R_{i,t}}] - \prod_t^T [1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The mean BHARs are reported and bootstrapped p-values (1000 replications) are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

Post-announcement Return	All	With government involvement	Without government involvement	Public	Private	Payment incl. Stock	Payment without stock	High bidder size	Low bidder size
All	-0.0216	-0.0434	-0.0075	-0.1660	-0.0140	0.3139 ***	-0.0729 ***	-0.1223 ***	0.1092 *
p-value	(0.41)	(0.30)	(0.82)	(0.11)	(0.61)	(0.00)	(0.01)	(0.00)	(0.07)
N	822	321	501	41	781	109	713	273	273
High trailing 12-month average CAR	0.1212 ***	0.0709 *	0.1527 ***	0.1113	0.1215 ***	0.2300 ***	0.0955 ***	-0.0328	0.4061 ***
p-value	(0.00)	(0.09)	(0.00)	(0.56)	(0.00)	(0.00)	(0.00)	(0.28)	(0.00)
N	408	157	251	12	396	78	330	173	95
Low trailing 12-month average CAR	-0.1623 ***	-0.1529 **	-0.1684 ***	-0.2808 **	-0.1534 ***	0.5252 ***	-0.2179 ***	-0.2771 ***	-0.0492
p-value	(0.00)	(0.03)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)	(0.00)	(0.55)
N	414	164	250	29	385	31	383	100	178
Difference	0.2835 ***	0.2239 ***	0.3211 ***	0.3921 *	0.2749 ***	-0.2952 **	0.3135 ***	0.2443 ***	0.4553 ***
p-value	(0.00)	(0.01)	(0.00)	(0.08)	(0.00)	(0.04)	(0.00)	(0.00)	(0.00)

Post-announcement Return	High relative size	Low relative size	High BTMV	Low BTMV	High ROA	Low ROA	Diversifying	Focussed
All	0.0994 **	-0.0852 **	-0.0698	0.0210	0.0333	-0.1204 **	0.0012	-0.0473
p-value	(0.03)	(0.03)	(0.21)	(0.59)	(0.40)	(0.02)	(0.97)	(0.19)
N	273	273	273	271	273	274	436	386
High trailing 12-month average CAR	0.1998 ***	0.0332	0.1714 ***	0.1032 ***	0.0818 *	0.1009 **	0.1695 ***	0.0739 **
p-value	(0.00)	(0.38)	(0.01)	(0.01)	(0.06)	(0.04)	(0.00)	(0.03)
N	147	138	101	153	148	119	202	206
Low trailing 12-month average CAR	-0.0177	-0.2062 ***	-0.2115 ***	-0.0855	-0.0242	-0.2902 ***	-0.1441 **	-0.1859 ***
p-value	(0.83)	(0.00)	(0.01)	(0.22)	(0.73)	(0.00)	(0.02)	(0.01)
N	126	135	172	118	125	155	234	180
Difference	0.2176 **	0.2394 ***	0.3829 ***	0.1887 **	0.1060	0.3910 ***	0.3137 ***	0.2598 ***
p-value	(0.02)	(0.00)	(0.00)	(0.02)	(0.18)	(0.00)	(0.00)	(0.00)

Table 2.8 Univariate Analysis for Bidder 3-year Post-announcement BHAR – Merger Wave

This table presents the 3-year post-announcement BHAR univariate comparison analysis for deals announced during high trailing 12-month no. of mergers (i.e., *"on-the-wave"* period) versus those announced during low trailing 12-month no. of mergers (i.e., "*off-the-wave*" period) for the entire sample, and subsamples according to various bidder and deal characteristics. The trailing 12-month no. of mergers is calculated as the total number of deals made in the 12 months prior to an announcement. A deal is made "*on-the-wave*" is one in which its trailing 12-month no. of mergers is more than the median and "*off-the-wave*" otherwise. The "*With government involvement*" subgroup includes either acquirers or targets with any state-ownership, and "*Without government involvement*" subgroup includes acquirers or targets with zero state-ownership. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Payment incl. stock*" and the "*Payment without stock*" subgroups are created depending on whether or not the deal is financed with at least some stock. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile bidder size as deals with "*High Bidder Size*", while the bottom-tertile bidder size as deals with *"Low Bidder Size"*. Same categorization method is used to classify deals with "*High relative size*"/ "*Low relative size*", "*High BTMV*"/ "*Low BTMV*", and "*High ROA*"/ "*Low ROA*". The equation $\mathrm{BHAR_i} = \prod_t^T[1+\mathrm{R_{i,t}}] - \prod_t^T[1+\mathrm{R_{m,t}}]$ is used to calculate BHAR. The mean BHARs are reported and bootstrapped p-values (1000 replications) are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

Post-announcement Return	All	With government involvement	Without government involvement	Public	Private	Payment incl. Stock	Payment without stock	High bidder size	Low bidder size
All	-0.0216	-0.0434	-0.0075	-0.1660	-0.0140	0.3139 ***	-0.0729 ***	-0.1223 ***	0.1092 *
p-value	(0.41)	(0.30)	(0.82)	(0.11)	(0.61)	(0.00)	(0.01)	(0.00)	(0.07)
N	822	321	501	41	781	109	713	273	273
High trailing 12-month no. of mergers	0.1679 ***	0.1483 ***	0.1794 ***	0.2160	0.1663 ***	0.3100 ***	0.1329 ***	-0.0230	0.4703 ***
p-value	(0.00)	(0.00)	(0.00)	(0.32)	(0.00)	(0.00)	(0.00)	(0.55)	(0.00)
N	400	148	252	13	387	79	321	157	104
Low trailing 12-month no. of mergers	-0.2011 ***	-0.2074 ***	-0.1968 ***	-0.3434 ***	-0.1910 ***	0.3242 **	-0.2414 ***	-0.2566 ***	-0.1130
p-value	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.18)
N	422	173	249	28	394	30	392	116	169
Difference	0.3690 ***	0.3557 ***	0.3762 ***	0.5594 ***	0.3573 ***	-0.0142	0.3743 ***	0.2336 ***	0.5832 ***
p-value	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.92)	(0.00)	(0.00)	(0.00)

Post-announcement Return	High relative size	Low relative size	High BTMV	Low BTMV	High ROA	Low ROA	Diversifying	Focussed
All	0.1679 ***	-0.2011 ***	-0.0698	0.0210	0.0333	-0.1204 **	0.0012	-0.0473
p-value	(0.00)	(0.00)	(0.21)	(0.59)	(0.40)	(0.02)	(0.97)	(0.19)
N	273	273	273	271	273	274	436	386
High trailing 12-month no. of mergers	0.2399 ***	0.0827 **	0.2169 ***	0.1595 ***	0.1201 ***	0.1862 ***	0.2086 ***	0.1238 ***
p-value	(0.00)	(0.05)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
N	152	135	105	145	146	120	208	192
Low trailing 12-month no. of mergers	-0.0771	-0.2494 ***	-0.2491 ***	-0.1383 **	-0.0665	-0.3592 ***	-0.1880 ***	-0.2166 ***
p-value	(0.35)	(0.00)	(0.00)	(0.03)	(0.30)	(0.00)	(0.00)	(0.00)
N	121	138	168	126	127	154	228	194
Difference	0.3170 ***	0.3322 ***	0.4660 ***	0.2977 ***	0.1867 **	0.5455 ***	0.3966 ***	0.3404 ***
p-value	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.00)	(0.00)	(0.00)

Table 2.9 Multivariate Regression Analysis for Bidder 5-day CAR, Post-announcement and Total Window Returns

This table presents the results for the multivariate regression analysis of the overall sample. "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "CAR on bidder's last announcement" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "Trailing 12-month BHAR on bidder's stock" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "Diversifying" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{i,t}}\right] - \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{m,t}}\right]$ is used to calculate BHARs. All variables are winsorised at the 1st and 99th percentiles. The p-values shown in parentheses are adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" donates the number of observations.

	Overall					
	5-day CAR		Post-announcement Returns		Total Window Returns	
Bidder's CAR			-0.6664	**		
			(0.013)			
Trailing 12-month average CAR	0.7751	***	8.7380	***	9.0622	***
	(0.003)		(0.006)		(0.004)	
Trailing 12-month no. of mergers/1000	-0.0004		1.9421	*	1.8965	*
	(0.996)		(0.075)		(0.084)	
Trailing 12-month return on SHComp index	0.0049		0.1589	***	0.1612	***
	(0.337)		(0.000)		(0.000)	
CAR on bidder's last announcement	0.0710		-1.1206		-1.1287	
	(0.416)		(0.113)		(0.114)	
First merger dummy	0.0047		0.0315		0.1074	
	(0.661)		(0.769)		(0.747)	
Number of mergers by firm in the last 3 years	0.0036		0.0275		0.0294	
	(0.574)		(0.617)		(0.593)	
Trailing 12-month BHAR on bidder's stock	0.0024		-0.0852	**	-0.0841	**
	(0.718)		(0.018)		(0.022)	
Government involvement	0.0061		0.0467		0.0548	
	(0.341)		(0.440)		(0.371)	
Private target	-0.0002		-0.0850		-0.0848	
	(0.991)		(0.467)		(0.481)	
Subsidiary	-0.0045		-0.0244		-0.0287	
	(0.792)		(0.819)		(0.794)	
Payment incl. stock	0.0452	***	0.1575	*	0.1617	*
	(0.007)		(0.068)		(0.056)	
Ln(MV)	-0.0062	*	-0.1549	***	-0.1573	***
	(0.051)		(0.000)		(0.000)	
Relative size	0.0019	**	0.0092	**	0.0106	**
	(0.029)		(0.037)		(0.017)	
BTMV	0.0141		-0.0526		-0.0267	
	(0.220)		(0.635)		(0.810)	
ROA	0.0012	*	0.0189	***	0.0200	***
	(0.086)		(0.000)		(0.000)	
Diversifying	0.0008		0.0128		0.0157	
	(0.889)		(0.797)		(0.752)	
Constant	0.0285		0.7738	***	0.7712	***
	(0.358)		(0.006)		(0.006)	
N	822		822		822	
Adj-R^2	0.120		0.124		0.140	

Table 2.10 Multivariate Regression Analysis for Bidder 5-day CAR, Post-announcement and Total Window Returns – High Market Valuation

This table presents the results for the multivariate regression analysis of the high market valuation subsample. Hot market valuation is defined follow Bouwman, Fuller and Nain (2009) using the top quarter of the monthly Shanghai Stock Exchange Composite (i.e., SHComp) index detrended P/E ratio. "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "CAR on bidder's last announcement" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "Trailing 12-month BHAR on bidder's stock" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "Diversifying" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{i,t}}] - \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{m,t}}]$ is used to calculate BHARs. All variables are winsorised at the 1^{st} and 99^{th} percentiles. The p-values shown in parentheses are adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" donates the number of observations.

	High Market Valuation					
	5-day CAR		Post-announcement Returns		Total Window Returns	
Bidder's CAR			-0.1637			
			(0.677)			
Trailing 12-month average CAR	-0.7564		-10.7935		-10.7111	
	(0.509)		(0.131)		(0.140)	
Trailing 12-month no. of mergers/1000	0.4909	*	5.5481	***	5.6808	***
	(0.100)		(0.001)		(0.000)	
Trailing 12-month return on SHComp index	-0.0178		0.0456		0.0394	
	(0.202)		(0.442)		(0.503)	
CAR on bidder's last announcement	0.0212		0.3895		0.3129	
	(0.922)		(0.696)		(0.742)	
First merger dummy	0.0519		-0.1253		-0.1262	
	(0.186)		(0.386)		(0.412)	
Number of mergers by firm in the last 3 years	0.0229		-0.1163		-0.1181	
	(0.331)		(0.237)		(0.259)	
Trailing 12-month BHAR on bidder's stock	0.0110		-0.1403	***	-0.1397	***
	(0.280)		(0.000)		(0.000)	
Government involvement	-0.0007		0.0073		0.0032	
	(0.968)		(0.920)		(0.966)	
Private target	-0.0002		-0.0162		-0.0219	
	(0.995)		(0.884)		(0.836)	
Subsidiary	-0.0055		0.0428		0.0442	
	(0.868)		(0.694)		(0.669)	
Payment incl. stock	0.0703	**	0.3579	**	0.4025	***
	(0.048)		(0.025)		(0.007)	
Ln(MV)	-0.0156	*	-0.0729	**	-0.0801	**
	(0.073)		(0.025)		(0.016)	
Relative size	0.0012		-0.0049		-0.0041	
	(0.371)		(0.303)		(0.438)	
BTMV	-0.0161		0.3531	*	0.3953	*
	(0.674)		(0.083)		(0.072)	
ROA	0.0003		0.0220	***	0.0228	***
	(0.753)		(0.000)		(0.000)	
Diversifying	-0.0089		0.0961		0.0861	
	(0.537)		(0.132)		(0.194)	
Constant	0.0770		0.0266		0.0795	
	(0.310)		(0.919)		(0.773)	
N	158		158		158	
Adj-R^2	0.074		0.285		0.307	

Table 2.11 Multivariate Regression Analysis for Bidder 5-day CAR, Post-announcement and Total Window Returns – Low Market Valuation

This table presents the results for the multivariate regression analysis of the low market valuation subsample. Low market valuation is defined follow Bouwman, Fuller and Nain (2009) using the bottom quartier of the monthly Shanghai Stock Exchange Composite (i.e., SHComp) index detrended P/E ratio. "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "CAR on bidder's last announcement" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "Trailing 12-month BHAR on bidder's stock" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "Diversifying" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{i,t}}\right] - \prod_{\mathrm{t}}^{\mathrm{T}}\left[1 + \mathrm{R_{m,t}}\right]$ is used to calculate BHARs. All variables are winsorised at the 1st and 99th percentiles. The p-values shown in parentheses are adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "N" donates the number of observations.

	Low Market Valuation					
	5-day CAR		Post-announcement Returns		Total Window Returns	
Bidder's CAR			-0.3070			
			(0.749)			
Trailing 12-month average CAR	-1.1532		51.1825	***	46.7039	***
	(0.166)		(0.001)		(0.002)	
Trailing 12-month no. of mergers/1000	1.0786	**	-7.8646		-4.2729	
	(0.025)		(0.457)		(0.683)	
Trailing 12-month return on SHComp index	0.0747	*	-0.8495		-0.5459	
	(0.099)		(0.387)		(0.583)	
CAR on bidder's last announcement	-0.1724		0.2663		-0.1683	
	(0.304)		(0.921)		(0.949)	
First merger dummy	0.0120		0.5046		0.5211	*
	(0.554)		(0.108)		(0.092)	
Number of mergers by firm in the last 3 years	0.0109		0.2220		0.2370	
	(0.400)		(0.192)		(0.157)	
Trailing 12-month BHAR on bidder's stock	-0.0176		0.1819		0.2027	
	(0.502)		(0.587)		(0.556)	
Government involvement	0.0086		0.3046	*	0.3311	**
	(0.498)		(0.055)		(0.037)	
Private target	0.0226		-0.2055		-0.1987	
	(0.420)		(0.392)		(0.418)	
Subsidiary	0.0066		0.1598		0.1290	
	(0.800)		(0.466)		(0.558)	
Payment incl. stock	0.0014		-0.1553		-0.1711	
	(0.983)		(0.697)		(0.659)	
Ln(MV)	-0.0122	*	-0.2284	***	-0.2491	***
	(0.056)		(0.001)		(0.001)	
Relative size	0.0018		0.0099		0.0136	
	(0.311)		(0.385)		(0.228)	
BTMV	0.0361		-0.0861		-0.0202	
	(0.105)		(0.704)		(0.929)	
ROA	0.0029	*	0.0302	*	0.0355	**
	(0.057)		(0.092)		(0.044)	
Diversifying	-0.0121		0.1381		0.1346	
	(0.273)		(0.363)		(0.374)	
Constant	-0.0374		1.1124		0.9540	
	(0.481)		(0.176)		(0.232)	
N	180		180		180	
Adj-R^2	0.046		0.152		0.174	

Table 2.12 Multivariate Regression Analysis for Bidder 5-day CAR, Post-announcement and Total Window Returns – High BTMV Bidders

This table presents the results for the multivariate regression analysis of the high BTMV bidders subsample. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. We categorize bidders with the top-tertile BTMV as "*High BTMV Bidders*". "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "CAR on bidder's last announcement" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "Trailing 12-month BHAR on bidder's stock" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "Diversifying" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{i,t}}] - \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{m,t}}]$ is used to calculate BHARs. All variables are winsorised at the 1st and 99th percentiles. The p-values shown in parentheses are adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" donates the number of observations.

	High BTMV Bidders					
	5-day CAR		Post-announcement Returns		Total Window Returns	
Bidder's CAR			-0.6408			
			(0.303)			
Trailing 12-month average CAR	0.2695		20.0427	***	19.5889	***
	(0.535)		(0.000)		(0.000)	
Trailing 12-month no. of mergers/1000	0.2610	*	1.3073		1.6586	
	(0.097)		(0.537)		(0.425)	
Trailing 12-month return on SHComp index	0.0019		0.2870	***	0.2935	***
	(0.882)		(0.002)		(0.002)	
CAR on bidder's last announcement	0.8230		-0.9494		-0.9657	
	(0.823)		(0.522)		(0.508)	
First merger dummy	-0.0096		0.0507		0.0684	
	(0.609)		(0.802)		(0.731)	
Number of mergers by firm in the last 3 years	-0.0049		0.0519		0.0590	
	(0.670)		(0.600)		(0.545)	
Trailing 12-month BHAR on bidder's stock	0.0193		-0.2810	*	-0.2748	*
	(0.324)		(0.057)		(0.065)	
Government involvement	0.0127		0.0924		0.1092	
	(0.169)		(0.442)		(0.363)	
Private target	-0.0140		-0.2464		-0.2380	
	(0.521)		(0.193)		(0.221)	
Subsidiary	-0.0040		-0.1801		-0.1884	
	(0.846)		(0.256)		(0.248)	
Payment incl. stock	0.0364		-0.0042		-0.0146	
	(0.177)		(0.982)		(0.938)	
Ln(MV)	-0.0062		-0.2492	***	-0.2569	***
	(0.175)		(0.000)		(0.000)	
Relative size	0.0021		0.0184	*	0.0220	**
	(0.101)		(0.056)		(0.031)	
ROA	0.0035	***	0.0310	***	0.0335	***
	(0.001)		(0.004)		(0.002)	
Diversifying	0.0095		0.1536		0.1657	
	(0.291)		(0.135)		(0.107)	
Constant	0.0166		1.3940	***	1.3886	***
	(0.706)		(0.005)		(0.005)	
N	273		273		273	
Adj-R^2	0.157		0.126		0.148	

Table 2.13 Multivariate Regression Analysis for Bidder 5-day CAR, Post-announcement and Total Window Returns – Low BTMV Bidders

This table presents the results for the multivariate regression analysis of the high BTMV bidders subsample. "*BTMV*" is bidder's book to market value as measured one month before the deal announcement. We categorize bidders with the bottom-tertile BTMV as "*Low BTMV Bidders*". "*Trailing 12-month average CAR*" is calculated as the average 5-day CAR for all sample mergers made in the 12 months prior and ending 3 days to an announcement. "*Trailing 12-month no. of mergers*" is calculated as the total number of deals made in the 12 months prior to an announcement. "*Trailing 12-month return on SHComp index*" is the change in the SHComp value-weighted index starting one year and ending three days prior to an announcement. "CAR on bidder's last announcement" is the last announcement by the firm is for the most recent deal within the past three years. "*First merger dummy*" is a binary variable which takes the value of 1 if the deal is the first announcement by the bidder in the past 3 years. "*Number of mergers by firm in the last three years*" is the number of deals announced by the bidder in the prior three years. "Trailing 12-month BHAR on bidder's stock" is the bidder's BHAR during the period starting one year prior to an announcement. "*With government involvement*" is a binary variable which takes the value of 1 if either side of a deal (acquirer or target) contains any state-ownership, and zero otherwise. "*Private Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a private firm, and zero otherwise. "*Subsidiary Deals*" is a binary variable which takes the value of 1 if the deal is targeted at a subsidiary firm, and zero otherwise. "*Payment incl. stock*" is a binary variable which takes the value of 1 if the deal is financed at least with some stock; and zero otherwise. "*Ln(Size)*" is the natural logarithm of the bidder's market value as measured one month before the deal announcement. "*Relative size*" is the ratio of the deal value to the market value of the bidder as measured one month before the deal announcement. "*ROA*" is bidder's return on assets as measured one year before the deal announcement. "Diversifying" is a binary variable which takes the value of 1 if the target is in a different industry to the bidder as measured using the first two digits of the four digit Primary SIC code, and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 5-day CAR. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{i,t}}] - \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{m,t}}]$ is used to calculate BHARs. All variables are winsorised at the 1st and 99th percentiles. The p-values shown in parentheses are adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" donates the number of observations.

	Low BTMV Bidders					
	5-day CAR		Post-announcement Returns		Total Window Returns	
Bidder's CAR			-1.2866	***		
			(0.003)			
Trailing 12-month average CAR	1.6554	***	3.7056		3.7181	
	(0.003)		(0.504)		(0.502)	
Trailing 12-month no. of mergers/1000	-0.3502	**	3.7894	**	3.7275	*
	(0.047)		(0.048)		(0.054)	
Trailing 12-month return on SHComp index	0.0093		0.1167	**	0.1135	**
	(0.263)		(0.020)		(0.022)	
CAR on bidder's last announcement	0.0244		-1.9571		-2.0440	
	(0.893)		(0.108)		(0.105)	
First merger dummy	0.0649	**	0.0617		0.0090	
	(0.042)		(0.740)		(0.962)	
Number of mergers by firm in the last 3 years	0.0491	**	0.0431		0.0113	
	(0.049)		(0.721)		(0.926)	
Trailing 12-month BHAR on bidder's stock	0.0033		-0.0596		-0.0616	
	(0.736)		(0.184)		(0.169)	
Government involvement	0.0024		0.0451		0.0457	
	(0.854)		(0.634)		(0.637)	
Private target	0.0884		0.0166		-0.0628	
	(0.184)		(0.952)		(0.811)	
Subsidiary	0.0830		0.0170		-0.0606	
	(0.207)		(0.949)		(0.808)	
Payment incl. stock	0.0851	***	0.1962		0.1622	
	(0.003)		(0.128)		(0.189)	
Ln(MV)	-0.0070		-0.1025	**	-0.0959	**
	(0.266)		(0.013)		(0.020)	
Relative size	-0.0004		0.0064		0.0074	
	(0.764)		(0.229)		(0.180)	
ROA	0.0001		0.0107	*	0.0113	*
	(0.866)		(0.060)		(0.053)	
Diversifying	-0.0021		0.0554		0.0502	
	(0.868)		(0.457)		(0.506)	
Constant	-0.0738		0.1738		0.2390	
	(0.407)		(0.722)		(0.632)	
N	271		271		271	
Adj-R^2	0.118		0.158		0.156	

Chapter 3: The Role of Investment Banks in Chinese Domestic M&As

3.1 Introduction

Over the last decade, the scale of M&As increased dramatically in China, going from US$13.68 billion (162 deals) in 2001 to US$177.21 billion (2,771 deals) in 2010. This increase in merger activity has been accompanied by a surge in demand for financial services from investment banks. Among transactions for which advisory information was disclosed, investment banks advised on 17.6% of deals in 2011, which was up from 4.5% one year earlier.[26]

The investment banking industry is highly hierarchical; for this reason, market share league tables are widely publicized by both the media and the investment banks themselves. In addition, the selection of investment banks by clients is driven primarily by their perceived reputation, and both academics and practitioners have come to view reputation as a measure of expertise. However, most earlier empirical studies of the US market fail to find support for this intuitive reputation-quality mechanism. Rather, the only positive relationship found between the reputation of the acquiring firm's investment bank and the acquiring firm's returns is for tender offers (Kale, Kini and Ryan (2003)) and public acquisitions (Golubov, Petmezas and Travlos (2012)); a negative or at best insignificant relationship is reported for M&As overall (Bowers and Miller (1990), Michel, Shaked and Lee (1991), McLaughin (1990) and (1992), Servaes and Zenner (1996), Rau (2000), Hunter and Jagtiani (2003), and Ismail (2010)), which casts doubt on the reputational capital mechanism in merger advisory services.

Motivated by both the conflicting findings in the financial intermediation literature and the rise of the Chinese investment banking industry, we aim to address the following questions

[26] Source: ChinaVenture, China Investment Banking League Table & Report – 2010, China Investment Banking League Table & Report – 2011, and Annual Statistics & Analysis of China's M&As – 2010.

in this study: Does the reputational capital mechanism also fail in the Chinese domestic market for merger advisory services in the short run? If not, does investment bank reputation have a long-term effect on the outcomes of acquiring firms? Are top-tier investment banks simply employed as "execution houses" that undertake deals as instructed by their clients? How do top-tier investment banks influence the time to deal completion?

To investigate the relationship between investment bank reputation and the quality of their merger advisory services and to examine the role of investment banks in Chinese domestic M&As, we employ a sample of public, private, and subsidiary M&As announced between 1 January 2002 and 31 August 2010 that involve acquirers listed on either the Shanghai or Shenzhen stock exchanges. Our study includes two important departures from previous research.

The first important departure is that we argue that previous researchers do not document a significant relationship between investment bank reputation and bidder returns because they fail to consider the "equilibrium effect" between the total value and total number of transactions when measuring investment banks' market shares as a proxy for expertise. For example, we find that in many of the yearly league tables that measure market share based on the total value of transactions, a significant proportion of the top-tier investment banks represents a small number of deals with extremely high transaction values. In this sense, the reputational measurement primarily captures the deals conducted by large bidders because large bidders are more capable of undertaking acquisitions with extremely high transaction values. In other words, measuring market shares based on the total value of transactions biases the reputation measure towards large bidders, which might explain the long-standing question of "why does the intuitive reputation-quality mechanism fail for M&As overall but hold for public acquisitions?" The reason is that public acquisitions are often conducted by large acquirers who have the ability to execute deals with high transaction values.[27]

[27] For instance, the average transaction value for public acquisitions in our sample is US$1083.88

Therefore, this measurement of advisor reputation is a more appropriate proxy for large acquirers than it is for smaller acquirers. Conversely, when the yearly league table is constructed using the total number of transactions as a measure of market capitalization, the top-tier investment banks are often associated with relatively small total transaction values, and as a result, measuring market shares based on the total number of transactions tends to bias reputation towards small bidders.

Consequently, we argue that measuring reputation using either total value or total number of transactions alone does not give a truly accurate proxy for ability. To further explore this premise, we classify top-tier investment banks based on the total value of transactions they advised in the previous year and based on the total number of transactions they advised in the previous year. We find that the coefficients on both estimates are insignificant in their respective regressions.[28] As a result, we argue that to construct a more appropriate proxy for expertise, we need to balance the reputational effect between large and small bidders – the so-called "equilibrium effect". To account for this "equilibrium effect", we first download from Thomson One Banker the yearly top-25 investment bank league tables according to the total value of transactions on which the banks advised for a sample of M&A transactions targeting China. In doing so, we focus on the top-25 advisors with the most significant market shares based on the total value of deals they advised. Then, to balance the reputational effect between large and small bidders, we re-rank these investment banks according to the total number of transactions they advised, and a deal is classified as being advised by a top-tier investment bank if its advisor is within the top-10 investment banks in the previous year's league table. Indeed, we find strong support for our proposition. By accounting for the "equilibrium effect" when measuring advisor reputation, we find a positive effect of bidder investment bank reputation on bidder returns. This effect is

million, which is significantly larger than that for private acquisitions (US$325.59 million).

[28] The annual investment bank league tables based on the total value and total number of transactions that they advised in the previous year, as well as the results for their respective cross-sectional OLS regressions are available upon request.

economically significant: in a regression of bidder 3-day cumulative abnormal returns (CAR(-1, +1)) on top-tier investment bank reputation, controlling for bidder- and deal-specific characteristics and year effects, the coefficient for top-tier investment bank reputation is 2.98%.

To further extend this study, we also examine the sources of top-tier gains. We find that the time from announcement to completion is significantly longer for acquisitions advised by top-tier investment banks than for those advised by their non-top-tier counterparts. This result supports the “diligent advisor” hypothesis proposed by Golubov, Petmezas and Travlos (2012). Specifically, given that top-tier investment banks have more reputational capital at stake, they might take more time to carefully evaluate the terms of transactions and to negotiate favourable terms for their clients. Moreover, the deal completion rate is insignificantly correlated with investment bank reputation. The effect of reputation on deal completion likelihood seems to result from the trade-off between two of our proposed hypotheses. The first hypothesis is that top-tier investment banks are trustworthy and more skilled at turning away bad deals, even if their advisory fees are largely contingent on deal completion. (i.e., the “preventing poor deals” hypothesis). The second hypothesis is that top-tier investment banks are more skilled at completing deals, especially deals involving greater difficulties in completion (i.e., the “better deal completion skills” hypothesis). Overall, our findings are in line with the “superior deal” hypothesis, meaning that the short-term improvement associated with certain investment banks stems from their diligence; their abilities to identify better targets with higher synergistic gains, negotiate favourable terms and facilitate smooth deal execution; and their trustworthiness in rejecting bad deals for their clients. We find that when the “equilibrium effect” is considered in the measurement of advisor quality, investment bank reputation is relevant to Chinese domestic M&A outcomes in the short term, which is inconsistent with prior research that shows no positive relation between various measures of advisor quality and M&A returns.

In addition to the significantly positive short-term effect of investment bank reputation on bidder returns, the second main departure from earlier research is that we further examine whether investment bank reputation influences bidder outcomes in the long term. To do so, we measure the buy-and-hold abnormal returns for the twenty-four-month holding period after the deal announcement month (BHAR (0, 24)) and employ the use of bootstrapped t-statistics to control for the possible positive skewness effect (Barber and Lyon (1997)). In a regression of bidder BHAR (0, 24) on top-tier investment bank reputation that controls for bidder- and deal-specific characteristics and year effects, we find that the coefficient for top-tier investment bank reputation is 2.78% but insignificant at conventional levels. Similarly, Ertugrul and Krishnan (2011) find an insignificant positive effect of acquirer advisor reputation on the 3-year BHARs of acquirers starting one month after the acquisition completion date adjusted by the BHARs on a reference portfolio. Our findings suggest that the short-run positive effect of investment bank reputation on bidder returns dissipates in the long run. This is puzzling; why would the reputation-quality mechanism hold in the short run but fail in the long run for financial advisory services in the Chinese domestic market? Given that we find the average bidder BHAR (0, 24) on transactions advised by top-tier investment banks to be significantly different from zero (15.8%) and insignificantly lower than that observed for deals advised by non-top-tier investment banks (24.1%), one plausible answer to this question is that the positive but insignificant reputational effect on bidder returns in the long term may not result from top-tier investment banks' inability to conduct better mergers but rather from the complexity in the integration processes, which may cancel out the positive reputational effect in the long term.

This study provides important contributions to the M&A and investment banking intermediation literature. First, to our knowledge, this is the first study to examine the influence of investment bank reputation on bidder returns in Chinese M&As; previous studies have focussed primarily on the US and Australian markets. Second, we provide evidence of the importance of balancing the reputational effect between large and small bidders when measuring financial advisor reputation, which entails taking into account the "equilibrium effect" between the total value and total number of transactions when constructing investment bank league tables. More specifically, we find that using either the total value or the total number of transactions alone does not yield a truly appropriate proxy for ability because it tends to bias the reputation measurement towards either large or small bidders. Third, based on our classification of top-tier and non-top-tier investment banks, we provide new evidence on the effect of financial advisor reputation on bidder outcomes. This is the first study to document a significantly positive short-term effect of bidder investment bank reputation on bidder returns in M&As and to show that top-tier investment bank improvements stem from their superior skills, diligence and trustworthiness. Finally, we find that the effect of bidder investment bank reputation on bidder outcomes is positive but insignificant in the long term and suggest that this result might be attributable to the complexity of the integration process, which may ultimately eradicate the positive reputational effect.

Our results also have important real-world implications. For example, we provide support for the intuitive reputation-quality mechanism and present a novel methodology for the construction of financial advisor league tables for M&As. In doing so, we offer acquiring firms incentives and useful guidance in selecting the most appropriate investment banks for financial advisory services and encourage investment banks to act in the best interest of their clients to protect their reputational capital.

The remainder of this study proceeds as follows. Section 3.2 reviews the literature and develops the hypotheses. Section 3.3 describes the data and methodology, and reports the summary statistics. Section 3.4 examines the effect of investment bank reputation on bidder short- and long-term returns, deal completion and time to resolution. Finally, Section 3.5 concludes the study.

3.2 Literature Review

3.2.1 Theoretical Framework for Reputation, Price and Quality Model

The reputation, price, and quality model was first introduced in the markets for products and for raising capital. Regarding product markets, Shapiro (1983) suggests that a firm sells its product to customers repeatedly and develops "a good reputation if consumers believe its products to be high quality." In addition, Klein and Leffler (1981) and Allen (1984) imply that the desire to build a good reputation provides firms offering high-quality products with greater incentive to provide these high-quality goods in future. This incentive exists because firms can sell higher-quality products at higher prices (i.e., prices above the average cost of production) and consequently generate greater future cash flows.

In capital raising, financial intermediaries act as information producers or middlemen whose function is to certify the value of securities for issuers. Although issuing firms have more private information regarding the value of their respective securities than financial intermediaries do, financial intermediaries have an incentive to build reputations for providing accurate valuation information because they come to the market much more often than issuers do. Hence, differing abilities to provide accurate valuation information will result in variations in reputational capital among financial intermediaries (Beatty and Ritter (1986), Booth and Smith (1986), and Titman and Trueman (1986)).

Although there is no clear definition of investment bank reputation in M&As, we believe that models of reputation, price and quality in both product markets and capital raising can provide useful guidance for studying reputation building by investment banks that advise on M&As, for two reasons.

First, as suggested by Golubov, Petmezas and Travlos (2012), the quality of investment bank services is ex-ante unobservable, and banks must sell their services to clients repeatedly, similar to competitors in product markets. Second, as in capital raising, investment banks help their clients to identify potential targets (bidders) and to evaluate stand-alone and combined values. In addition, investment banks go beyond information valuation and assist clients by proposing methods for obtaining synergies. (Kale, Kini and Ryan (2003)) Indeed, Chemmanur and Fulgjieri (1994) model the relationship among reputation, quality and price specifically for equity underwriting services and find that high-reputation investment banks provide better quality services and charge higher fees. The authors also suggest that their findings could be extended to other situations in financial markets in which investment banks act as intermediaries.

3.2.2 Role of Investment Banks in M&As

To understand the possible sources of correlation between reputation, price and quality, it is important to understand the role that advisors play in M&A deals. Prior studies suggest that financial advisors perform two distinct roles in M&As (McLaughlin (1990) and (1992)).

First, investment banks help to identify potential targets (bidders) and/or to evaluate stand-alone and combined values of bidder and target; in doing so, investment banks help to structure mergers with higher expected synergies for a given bidder-target pair. Second, investment banks provide their clients with strategic advice in takeover contests. This strategic advice is intended to benefit their clients at the expense of the clients' opponents (Brealey and Myers (2000)). For instance, strategic advice for bidders includes the construction of offers that ensure deal completion at the lowest possible offer price. For target firms, strategic advice varies from the deployment of takeover defences to the search for alternative suitors to increase target firms' takeover premiums.

If investment banks perform both roles well, they will improve their respective reputations and market shares by attracting more and bigger clients in the future and will collect larger fees. However, the actual level of investment bank involvement in acquisitions can vary significantly across transactions, although it generally falls into one of three categories: bank-initiated, client-initiated, or fixated-client acquisitions.

In bank-initiated acquisitions, the investment bank is involved in identifying potential targets (bidders) and providing strategic advice. In client-initiated acquisitions, the client proposes an acquisition but relies on the investment bank to determine whether the deal is worth pursuing. Hence, in both of these categories, investment banks are in charge of both deal selection and negotiation. In fixated-client acquisitions, the acquirer selects the target, and it is the responsibility of the investment bank to ensure deal completion at the lowest possible offer price.

Given the variation in involvement levels, the two most well-known hypotheses are used to explain the systematic differences in acquisition outcomes.

1) Skilled-advice hypothesis: certain investment banks possess the ability to select deals (for bank-initiated acquisitions) or to negotiate deals (for bank-initiated, client-initiated, and fixated-client acquisitions). However, the difference between top-tier and non-top-tier investment banks stems from the ability to identify bad deals combined with the trustworthiness to turn them down. The term "skilled-advice" thus includes three qualities of investment banks: the ability to identify better targets (bidders), the ability to negotiate favourable terms, and the trustworthiness to turn away value-destructing acquisitions.

2) Deal completion hypothesis: because investment banks' advisory fees are contingent upon deal completion, their main incentive is to ensure deal completion rather than to create value for their clients (for bank-initiated, client-initiated, and fixated-client

acquisitions).

3.2.3 Measure of Investment Bank Reputation

Earlier researchers have proposed several different measures of reputation. Carter and Manaster (1990) measure reputation based on an investment bank's position in tombstone advertisements for IPOs. Megginson and Weiss (1991) employ market share as a continuous measure of reputation. Carter, Dark and Singh (1998) find that continuous market share and tombstone rankings are highly correlated in the IPO market. Other researchers classify investment bank reputation into various tiers, usually two (Bowers and Miller (1990); Servaes and Zenner (1996), Kale, Kini and Ryan (2003), Ismail (2010), and Golubov, Petmezas and Travlos (2012)) or three (Rau (2000) and Saunders and Srinivasan (2001)), based on their share of the market for corporate takeovers. Market share is measured as the investment bank's share of the total value of transactions or the total number of transactions in the previous year, in the year of the transaction, or across the entire sample period. In addition to tier classifications, Kale, Kini and Ryan (2003) consider the relative reputations of the target advisor (TREP) and the bidder advisor (BREP) based on their respective market shares in the year of the takeover. Bao and Edamns (2011) argue that prior studies that measure quality based on market share or prestige and correlate that measure of quality with investment bank performance based on M&A returns will find significant results only if their chosen measures are truly accurate proxies of ability. Bao and Edamns (2011) employ a fixed-effect analysis instead.

3.2.4 The Effect of Investment Bank Reputation on Bidder (Target) Returns in M&As

The effect of investment bank reputation on bidder (target) returns in M&As has received a fair amount of attention in the prior literature. Bowers and Miller (1990) find that high-reputation investment banks have the ability to identify better mergers because the combined wealth gain to the acquirer and the target is larger when either the bidder or the target employs a first-tier investment bank. However, first-tier investment banks do not provide any bargaining advantage that allows capturing a greater share of the synergy gains.

Michel, Shaked and Lee (1991) conclude that investment bank reputation has a positive influence on the likelihood of deal completion and on investment banks market share, but not on their clients' stock returns. For example, they find that deals advised by Drexel Burnham Lambert (a non-top-tier advisor) outperform those advised by bulge-bracket advisors in terms of bidder announcement period abnormal returns.

McLaughlin (1992) reports that bidders employing top-tier investment banks pay significantly higher premiums and enjoy lower abnormal returns in tender offers. However, the author argues that even if investment banks are motivated by fee income, they might not want to increase the acquisition price because doing so would reduce the value of their reputation capital and would not win future mandates.

Servaes and Zenner (1996) investigate the role of investment banks in M&As in the US market between 1981 and 1992 and find that bidders are more likely to employ investment banks for transactions that involve a hostile bids or large transaction values, as well when the bidder has less prior acquisition experience. In contrast, targets are more likely to retain investment banks when the contest is complex (e.g., when it involves litigation or the use of a poison pill) and when either the target or bidder is large. They show no benefit to hiring an advisor or a top-tier advisor compared with executing a deal in-house. However, they caveat their conclusion by acknowledging that "it is not certain that the (deal characteristics) affecting investment banking choice are exogenous. For example, it is possible that investment banks influence the form of payment or the decision to pursue the acquisition."

Rau (2000) suggests that financial advisors have strong deal completion incentives because their advisory fees are partially contingent on deal completion and that advisors' reputations depend on the number of deals they complete. Moreover, he finds that top-tier financial advisors do not construct better mergers for bidders as measured by their cumulative abnormal returns. Nevertheless, in tender offers, the acquirers advised by top-tier investment banks earned higher abnormal returns than did those advised by non-top-tier banks, and the reason for this might be that investment banks' incentives to act in their clients' interests are far stronger in public acquisitions, where "honest" advice to withdraw from a deal is widely reported.

On the contrary, Hunter and Jagtiani (2003) show that investment bank reputation is negatively correlated with bidder abnormal returns in pubic acquisitions. They find that top-tier investment banks are more likely to complete deals and that the time to completion for top-tier investment banks is much shorter than that for lower-tier investment banks. The deal completion rate is unlikely to be driven by the value of the advisory fees; however, increasing the number of advisors on either side of the deal adds complexity, and in this case, the time to deal completion becomes significantly longer and a greater portion of the advisory fees is contingent upon deal completion.

Kale, Kini and Ryan (2003) employ a relative reputation measurement in their investigation of tender offers in US from 1981 to 1994 and find that the reputation of the bidder's investment bank is positively related to the probability of bid success. They provide evidence to suggest that bidder returns, total synergy gains, and the proportion of total synergies accruing to the bidder increase with the relative reputation of the bidder's investment bank. In addition, bidders that retain more prestigious investment banks are more likely to withdraw from potentially value-destroying takeovers.

Bao and Ismail (2010) document a significant investment bank fixed effect on the announcement returns of M&As. By regressing cumulative abnormal returns on bank fixed effects for all investment banks that advised on at least 10 deals over 1980-2007 while controlling for time effects, they find that the inter-quartile range of bank fixed effects is 1.26%, compared with a full sample average return of 0.72%. They find that their results remain significant after controlling for the component of returns attributable to the acquirer and hence support the skilled advice hypothesis. In addition, they suggest that clients do not chase past returns in M&As due either to rational lock-in or to an inefficient failure to learn because differences in average returns across investment banks are persistent over time and are predictable based on prior performance.

Finally, Golubov, Petmezas and Travlos (2012) use a large and comprehensive sample of US acquisitions from 1996 to 2009 and find that top-tier investment banks deliver higher bidder returns than non-top-tier banks do, but only in public acquisitions. They argue that this result arises because investment banks' incentives to protect their reputational capital is more pronounced in public acquisitions, given that the deal is closely followed by the market and the media, listed targets have greater bargaining power, and public acquisitions involve increased complexity. In addition, they find that the top-tier investment bank improvements stem from their ability to identify more synergetic combinations and to obtain a larger share of the synergies for their clients.

On the whole, the prior findings on the relationship between investment bank reputation and bidder returns in M&As have been controversial and cast doubt on the reputation-quality mechanism in the market for corporate control.

3.2.5 Hypotheses Development

Investment banks have been considered information-producing intermediaries in the context of M&As. In theory, more reputable investment banks should provide higher quality services and charge higher fees. Although most prior studies have consistently found that more reputable investment banks receive higher fees than their less reputable counterparts do (McLaughlin (1990), Saunders and Srinivasan (2001), and Walter, Yawaon and Yeung (2008)), the relationship between investment bank reputation and the quality of services provided has been less clear. Most previous studies suggest that investment bank reputation has a negative effect or, at best, no effect on bidder returns. For example, Michel, Shaked and Lee (1991) find that investment bank reputation has a positive effect on the likelihood of deal completion and on bank market share but not on client returns. McLaughlin (1992) reports that bidders that employ top-tier investment banks in tender offers pay significantly higher premiums and enjoy lower abnormal returns. Servaes and Zenner (1996) conclude that clients are more likely to employ an investment bank when the deal is more complex but gain no benefit from hiring a top-tier advisor.

However, more recent work on this subject has revealed a positive relationship between bidder investment bank reputation and bidder returns in both tender offers and public deals, as well as a bank fixed effect in M&As overall. Kale, Kini and Ryan (2003) employ a relative reputation measurement and find that in tender offers, this measurement is positively related to the probability of bid success, bidder returns, total synergy gains, and the proportion of total synergies accruing to the bidder. They also discover that bidders with more prestigious investment banks are more likely to withdraw from potentially value-destroying takeovers. Bao and Edmans (2011) reveal a significant investment bank fixed effect in M&A announcement returns and find that certain banks persistently outperform others over time and that future bank performance can be predicted based on past performance. Additionally, Golubov, Petmezas and Travlos (2012) find that top-tier investment banks deliver higher bidder returns than do non–top-tier banks only in public acquisitions, suggesting that reputation is more pronounced in public acquisitions and that such acquisitions require greater skill and effort. The authors also demonstrate that the improvement associated with top-tier banks is due to their ability to identify more synergetic combinations and to obtain a larger share of synergies for their bidder clients. We focus on the more recent findings and develop our hypotheses based on a variation of the model developed by Chemmanur and Fulghieri (1994). In our model, high-quality investment banks are more skilled at reducing the adverse impact of information asymmetry for their acquirer clients and charge higher advisory fees. Assuming that investors immediately discount for the advisory fees at deal announcement, we propose the following hypothesis:

Hypothesis I – "superior deal" hypothesis: Investment bank reputation is positively related to bidder returns in the short term, with no long-term reversal.

In addition, Bao and Edmans (2011) state that an investment bank can complete more deals either by advising acquirers to overpay for target firms to win bidding auctions and overcome target management resistance or by skilfully negotiating regulatory and antitrust hurdles. The authors suggest that a bidder that has concerns about deal completion, due either to managerial self-interest or to a desire to create value for shareholders, may consider the likelihood of deal completion to be an important characteristic of investment banks. Similarly, Chemmanur and Fulghieri (1994) state that the ability to complete deals is important from an acquirer's perspective if it considers the acquisition to be an important component of its long-run strategy. Thus, we propose the following hypothesis:

Hypothesis II – "better deal completion skills" hypothesis: Investment bank reputation is positively related to the likelihood of deal completion.

Unlike Rau's (2000) conclusion that investment banks can either "focus on completing the deal" or "prevent poor deals", Bao and Edmans (2011) suggest that high-quality banks are skilled across multiple dimensions and thus clients may not have to choose between these two objectives when selecting advisory banks. Thus, it is also likely that top-tier investment banks are more skilled at identifying value-destroying deals and advising against them. In light of these considerations, the following hypothesis is proposed:

Hypothesis III – "preventing poor deals" hypothesis: Investment bank reputation is negatively related to the likelihood of deal completion.

Moreover, as suggested by Golubov, Petmezas and Travlos (2012), investment banks are largely in charge of the negotiation process and thus should have a significant impact on the duration of negotiations; however, the predicted relationship between the two is less clear. One could argue that because top-tier investment banks have more reputational capital, they might take more time to carefully evaluate the terms of transactions and to negotiate favourable terms for their clients. However, one could also argue that top-tier investment banks possess superior skills and are therefore able to complete deals more efficiently. Based on these two arguments, we propose the following hypotheses:

Hypothesis IV – "diligent advisor" hypothesis: Investment bank reputation is positively related to the length of time between a deal's announcement and its resolution/completion.

Hypothesis V – "skilled advisor" hypothesis: Investment bank reputation is negatively related to the length of time between a deal's announcement and its resolution/completion.

3.3 Data and Methodology

3.3.1 Sample Selection and Data Description

We collect a sample of Chinese domestic M&As announced between 1 January 2002 and 31 August 2010 from Thomson One Banker.[29] The original sample contains 12,968 deals. Deals involving leveraged buyouts, spin offs, recapitalizations, self-tenders, exchange offers, repurchases and privatizations are excluded, leaving us with 8,335 transactions. Among those transactions, we include only successful and unsuccessful deals (leaving us with 3,172 deals) and require that the bidders are listed on either the Shanghai or Shenzhen stock exchanges, which results in a sample of 1,702 deals. We next exclude deals with undisclosed transaction values and deals worth less than US$1 million, which yields a sample of 1,187 transactions. Finally, we require that the bidders have non-missing DataStream codes and that the bidder advisor be reported by Thomson One Banker, which results in a final sample of 246 deals. Of these M&As, 69 bidders were advised by the top-tier investment banks, and 177 bidders were advised by non-top-tier investment banks.

We collect a number of informational items regarding the firms and deals from Thomson One Banker, including the name, nationality, public status, ultimate parent public status, DataStream code and primary industry (as measured by the four-digit Standard Industrial Classification code) for each acquirer and target; announcement date; effective date; withdrawn date; acquirer's financial advisor; method of payment; deal status; and transaction value. Other information relating to the acquirer's share price, market value, market-to-book value, leverage, funds from operations and common shares outstanding, as well as the value-weighted Shanghai composite index, are obtained from Thomson DataStream.

[29] Our sample period selection is based on the fact that Chinese domestic M&As started to emerge rapidly in 2002.

3.3.2 Measure of Advisor Reputation

We first download from Thomson One Banker the yearly top-25 financial advisor league tables according to the total value of transactions on which they advised for a sample of M&A transactions targeting China during the period 1 January 2001 to 1 January 2009. The following criteria are used to construct the league tables: 1) deal size must be US$1 million or higher; 2) deals that do not disclose transaction size are excluded; and 3) equity carve-outs, exchange offers, and open market repurchases are excluded. A number of informational items are obtained from the league tables, including the following: 1) rank; 2) financial advisor name; 3) ranking value including net debt of target in US$ million; 4) market share; and 5) number of deals.

Next, to balance the reputational effect between large and small bidders, we re-rank these investment banks according to the number of deals they advised in each year. Table 3.1 presents the annual top-10 investment bank rankings for all top-tier investment banks. We classify the top-10 investment banks as top-tier investment banks and others as non-top-tier investment banks. A deal is classified as advised by a top-tier investment bank if its advisor is within the top-10 investment banks in the previous year's league table.

This binary classification is used in the spirit of Fang (2005), who argues that the binary classification is justified for two reasons. First, economically, this classification captures the two-tiered structure of Wall Street that is widely acknowledged by both the academic literature and the financial press. Second, econometrically, this classification is preferable because the use of a continuous measure would require the variable to capture reputation precisely and to have a constant effect on the dependent variables.

As shown in Table 3.1, there are 34 different top-tier investment banks in our sample period. A top-tier investment bank is represented by 1 if it is ranked within the top-10 investment banks in a particular year and by 0 otherwise. The most frequent top-tier investment banks involved in Chinese domestic M&As in our sample are Morgan Stanley, JP Morgan, Goldman Sachs & Co, and China International Capital Co. Unlike prior researchers, who find that reputational ranking is stable across years in the US M&A market (e.g., Rau (2000) and Golubov, Petmezas and Travlos (2012)), we find little stability in the annual rankings across our sample period for Chinese domestic M&As. For instance, we find that 25 of our 34 (73.53%) top-tier investment banks are listed in the annual top-10 investment bank rankings fewer than four times during the nine-year sample period, which motivates us to use the annual investment bank ranking rather than the average investment bank ranking for the entire sample period. In addition, for top-tier investment banks that appear in the annual top-10 investment bank rankings twice, we observe that 80% of them are listed as top-tier investment banks in adjacent years. This two-year stability suggests although our ranking is calculated on an annual basis, it captures a reasonable amount of stability in investment bank reputation.

[Insert Table 3.1]

Following Golubov, Petmezas and Travlos (2012), we also track M&As among investment banks themselves to assign the correct reputation to each deal in the sample. For example, Huatai Securities Co., Ltd, a top-tier investment bank in 2009, was acquired by United Securities Co., Ltd., a non-top-tier investment bank in 2009, to create Huatai United Securities Co., Ltd. on 25 August 2009. Hence, we classify deals advised by Huatai United Securities Co., Ltd. before 25 August 2010 as advised by a top-tier investment bank, and after 25 August 2010 as advised by a non-top-tier investment bank, based on the previous year's league table.

In cases in which multiple investment banks advised on one deal, the deal is classified as advised by a top-tier investment bank if at least one of the advisors ranks within the top-10 group. This approach is standard in prior literature (Servaes and Zenner (1996), Rau (2000), and Golubov, Petmezas and Travlos (2012)).

3.3.3 Methodology

3.3.3.1 Short-Term Event Study Methodology

For short-term analysis, we follow Brown and Warner's (1985) standard event study methodology to calculate CARs for a three-day period (-1, +1) surrounding the announcement date supplied by Thomson One Banker. We calculate the normal returns of the acquirer and the market as follows:

$$r_i = \ln(\frac{P_{i,t}}{P_{i,t-1}})$$

Where r_i is the daily normal return of firm i. $P_{i, t}$ and $P_{i, t-1}$ $P_{m, t}$ refer to the daily price index for firm i at day t and day t-1, respectively.

$$r_m = \ln(\frac{P_{m,t}}{P_{m,t-1}})$$

where r_m is the daily normal return of SHComp index. $P_{m, t}$ and $P_{m, t-1}$ refer to the daily price index for the SHComp index at day t and day t-1, respectively.

We note that various methodological approaches are available for the estimation of short-term abnormal return (AR), including the capital asset pricing model (CAPM) recommended by Sharpe (1964) and Lintner (1965), the holding period abnormal return (HPAR) advocated by Lyon, Barber and Tsai (1999) and the market model suggested by Brown and Warner (1985). Given the limitations associated with models such as the CAPM (Roll (1977)) and the inclusion of frequent bidders in our sample, we follow Fuller, Netter and Stegemoller (2002) and estimate AR using the modified market adjusted model, where AR is defined as anything earned above the market return each day, such that the expected return of a stock is assumed to be that earned by the market. Hence, the AR on any stock i is determined by the difference between its return and the simultaneous return on the market portfolio:

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

Thus, the modified market adjusted model focuses on whether the returns on a given stock during the event window are significantly different from the returns on the market at the same time (Ma (2004)). Because the market plays an important role in potential firm misvaluation, we believe that the market-adjusted model is particularly appropriate for estimating ARs in our study. In addition, the modified market adjusted model is consistent with the CAPM if all securities have systematic risk of unity (Brown and Warner (1980)).

Finally, we summate ARs to give the 3-day cumulative AR (CAR (-1, +1)) surrounding the announcement date:

$$\mathrm{CAR_i} = \sum_{t=-1}^{t=+1} \mathrm{AR_i}$$

T-statistics are used to test whether the null hypothesis holds, that is, whether the mean CAR is equal to zero for a sample of n firms. The conventional formula to compute t-statistics is as follows:

$$t_{\mathrm{CAR_i}} = \frac{\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}}{\left(\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}\right)/\sqrt{n}\right)}$$

where $\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}$ refers to the sample mean and $\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}\right)$ refers to the cross-sectional sample standard deviation for the sample of n firms. To assess the strength of the evidence against the null hypothesis, we convert t-statistics into probabilities (i.e., p-values), which are presented in the results section. The larger the p-value, the weaker the evidence that the mean CAR is different from zero; and vice versa.

3.3.3.2 Long-Term Methodology

To determine the long-term effect of investment bank reputation on bidder performance, we intended to use two of the most well-known models for measuring bidder performance over the long run, the Calendar-Time Portfolio approach (CTPA) and the Buy-and-Hold Abnormal Return (BHAR), to overcome the model selection problem. However, because some of the portfolio sample sizes in our long-term bidder returns univariate analysis are relatively small for top-tier investment banks, we encounter a number of problems when implementing the CTPA. Thus, in our case, the BHAR approach is more appropriate for assessing long-term bidder performance. In addition, the BHAR approach is widely used in the recent literature and is advocated by Lyon, Barber and Tsai (1999) for its accurate measurement of the abnormal returns experienced by an investor.

We follow the BHAR approach employed by Buchheim et al. (2001) and measure the returns over twenty-four months after the deal announcement month (24-month BHAR). The BHAR is computed as the difference between the compounded actual return and the compounded predicted return:

$$\mathrm{BHAR}_{i,t} = \prod_{t=0}^{T}\left[1 + \mathrm{R}_{i,t}\right] - \prod_{t=0}^{T}\left[1 + \mathrm{R}_{m,t}\right]$$

where $R_{i,t}$ and $R_{m,t}$ refer to the monthly returns of acquiring firm i and the value-weighted SHComp index, respectively, at month t.

Regarding the computation of t-statistics, we note that the BHAR approach is associated with a potential positive-skewness problem, whereby it can produce statistically significant results even when there is none due to the short-run movement effect. Hence, we implement the skewness-adjusted bootstrapped t-statistics procedure used by Lyon, Barber and Tsai (1999) to compute the statistical significance of BHAR. The skewness-adjusted t-statistic is given by the formula below:

$$t_{sa} = \sqrt{n}\left(S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma}\right)$$

where

$$S = \frac{\overline{\mathrm{BHAR}}_t}{\sigma(\mathrm{BHAR}_t)}$$

$$\hat{\gamma} = \frac{\sum_{i=1}^{n}(\mathrm{BHAR}_{it} - \overline{\mathrm{BHAR}}_t)^3}{n\sigma(\mathrm{BHAR}_t)^3}$$

3.3.4 Empirical Models

Our empirical models aim to test how bidder investment bank reputation affects bidder merger outcomes in both the short and long terms; how bidder investment bank reputation affect the likelihood of deal completion; and how bidder investment bank reputation affect the length of time between deal announcement and deal completion or withdrawal.

3.3.4.1 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Bidder CAR or BHAR

In addition to the short- and long-term univariate analyses of the effect of bidder investment bank reputation on bidder returns, we examine the advisor reputation-client return relationship by conducting cross-sectional regression analysis. This is critical because the univariate comparisons could be misleading due to their failure to account for any confounding effects (Golubov, Petmezas and Travlos (2012)). We perform multivariate regressions that control for various bidder- and deal-specific characteristics to reveal the net effect of investment reputation on the variables of interest. Our main variable of interest is the Top-Tier Dummy, and all variables are defined in Appendix 3.1. Bidder CARs and BHARs are examined in the following multivariate framework:

$$
\begin{aligned}
\text{CARs or BHAR} = {} & \alpha + \beta_1 \times \text{Top} - \text{Tier Dummy} + \beta_2 \times \text{Ln (Size)} \\
& + \beta_3 \times \text{Book} - \text{to} - \text{Market} + \beta_4 \times \text{Run} - \text{Up} + \beta_5 \times \text{Sigma} \\
& + \beta_6 \times \text{Leverage} + \beta_7 \times \text{Cash Flows} - \text{to} - \text{Equity} \\
& + \beta_8 \times \text{Relative Size} + \beta_9 \times \text{Payment incl. Stock Dummy} \\
& + \beta_{10} \times \text{Diversifying Deals Dummy} \\
& + \beta_{11} \times \text{Tender Offer Dummy} \\
& + \beta_{12} \times \text{State} - \text{Owned Dummy} \\
& + \beta_{13} \times \text{Public Deals Dummy} + \sum \gamma_i \times \text{Year Dummy} + \varepsilon_i
\end{aligned}
$$

3.3.4.2 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Deal Completion

We examine whether the top-tier investment banks are employed simply as "execution houses" to complete M&As for their clients. To do so, we run the regressions controlling for various bidder- and deal-specific characteristics to reveal the net effect of investment reputation on deal completion. Our main variable of interest is the Top-Tier Dummy, and all variables are defined in Appendix 3.1. The effect of investment bank reputation on deal completion is examined in the following multivariate framework:

$$
\begin{aligned}
\text{Deal completion} = {} & \alpha + \beta_1 \times \text{Top} - \text{Tier Dummy} + \beta_2 \times \text{Ln (Size)} \\
& + \beta_3 \times \text{Book} - \text{to} - \text{Market} + \beta_4 \times \text{Run} - \text{Up} \\
& + \beta_5 \times \text{Sigma} + \beta_6 \times \text{Leverage} \\
& + \beta_7 \times \text{Cash Flows} - \text{to} - \text{Equity} + \beta_8 \times \text{Relative Size} \\
& + \beta_9 \times \text{Payment incl. Stock Dummy} \\
& + \beta_{10} \times \text{Diversifying Deals Dummy} \\
& + \beta_{11} \times \text{Public Deals Dummy} + \sum \gamma_i \times \text{Year Dummy} + \varepsilon_i
\end{aligned}
$$

3.3.4.3 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Time to Resolution

We examine the length of time between deal announcement and deal completion or withdrawal. This is particularly interesting because the investment banks are largely in charge of the negotiation process; thus, we would expect that they have a significant impact on the acquisitions' time to resolution. We run the regressions controlling for various bidder- and deal-specific characteristics to reveal the net effect of investment reputation on the time to resolution. Our main variable of interest is the Top-Tier Dummy, and all variables are defined in Appendix 3.1. The effect of investment bank reputation on time to resolution is examined in the following multivariate framework:

$$\begin{aligned}
\text{Time to resolution} = \; & \alpha + \beta_1 \times \text{Top} - \text{Tier Dummy} + \beta_2 \times \text{Ln (Size)} \\
& + \beta_3 \times \text{Book} - \text{to} - \text{Market} + \beta_4 \times \text{Run} - \text{Up} \\
& + \beta_5 \times \text{Sigma} + \beta_6 \times \text{Leverage} \\
& + \beta_7 \times \text{Cash Flows} - \text{to} - \text{Equity} + \beta_8 \times \text{Relative Size} \\
& + \beta_9 \times \text{Payment incl. Stock Dummy} \\
& + \beta_{10} \times \text{Diversifying Deals Dummy} \\
& + \beta_{11} \times \text{Tender Offer Dummy} \\
& + \beta_{12} \times \text{State} - \text{Owned Dummy} \\
& + \beta_{13} \times \text{Public Deals Dummy} + \varepsilon_i
\end{aligned}$$

3.3.5 Sensitivity Tests

For robustness reasons, regression results are given after controlling for the year effect, and standard errors are reported after controlling for heteroskedasticity and bidder clustering. We winsorize bidder abnormal returns and continuous independent variables at the 1st and 99th and 2nd and 98th percentiles to control for potential outliers. To ensure the reliability of our results, the short-run event window is extended from 3 days to 5 days around the announcement date (see Tables 3.12 and 3.14), and the long-run event window is shortened from 24 months to 12 months after the announcement month (see Tables 3.13 and 3.16). As a further check, we follow Golubov, Petmezas and Travlos (2012) and rerun our returns analysis using a probit model where the dependent variable is one if bidder return is positive and zero otherwise (see Tables 3.7 and 3.15, and Tables 3.9 and 3.17). We find that the results largely support our main findings, although some coefficients lose their significance at conventional levels.

3.3.6 Summary Statistics

Panel A of Table 3.2 presents the main characteristics of our sample ranked by calendar year. The sample comprises all successful and unsuccessful mergers announced in the Chinese market between 1 January 2002 and 31 August 2010 that disclose advisory information and involve acquirers that are listed on either the Shanghai or Shenzhen stock exchanges.

[Insert Table 3.2]

We find that both the total number and total value of deals increase dramatically beginning in 2005 and peak in 2008, followed by a slight decline in 2009 and a rapid decline in 2010 as a result of the global economic slowdown. Nevertheless, the total number, total value and average value of deals advised by top-tier investment banks are significantly larger than their non-top-tier counterparts in 2010, which indicates the increasing demand and importance of investment banking advisory services in China.

Panel B of Table 3.2 shows the industry distribution of M&As for the entire sample and separately for top-tier and non-top-tier investment banks. These data indicate that Chinese domestic M&As are concentrated primarily in the machinery and business equipment, financial and utilities sectors. In addition, top-tier investment banks are most active in the financial, utilities and petroleum industry sectors. This result is interesting because M&As

in these industry sectors are often associated with greater difficulty and complexity.

Table 3.3 reports descriptive statistics including the mean, median, and number of observations of various bidder- and deal-specific characteristics for the entire sample and separately for deals with top-tier financial advisors and non-top-tier financial advisors. All variables are defined in Appendix 3.1. Statistical tests for differences between the means and equality of medians for each characteristic for the top-tier and non-top-tier financial advisor categories are also presented.

[Insert Table 3.3]

Panel A presents statistics relating to bidder characteristics. The mean (median) acquirer size for the entire sample is $US2584.79 million ($US365.57 million). Acquirers advised by top-tier investment banks ($US5690.15 million) are significantly larger than those advised by non-top-tier investment banks ($US1374.22 million). Previous studies also find that the mean acquirer size for top-tier investment banks is larger than that for non-top-tier banks (Golubov, Petmezas and Travlos (2012)) and that bidder announcement returns are negatively related to acquiring firm size (Moeller, Schlingemann, and Stulz (2004)).

The mean (median) book-to-market ratio for acquirers is 0.30 (0.27) in our overall sample. The mean book-to-market ratio of acquirers advised by top-tier investment banks (0.38) exhibits significantly higher book-to-market ratio (0.27), which is opposite to the trend found in Golubov, Petmezas and Travlos (2012). Earlier literature shows that acquirers with higher book-to-market ratios experience higher announcement period returns (Dong et al. (2006)).

Both the mean and median acquirer sigmas in our sample are 0.026. The mean sigma for acquirers advised by top-tier investment banks (0.023) is significantly lower than that for acquirers advised by non-top-tier investment banks (0.026). The same result is found in Golubov, Petmezas and Travlos (2012). Moreover, Moeller, Schlingemann, and Stulz (2007) suggest that high sigmas generate lower announcement period returns in stock acquisitions.

The average run-up for the overall sample is 8.8%, and the average acquirer stock price run-up does not seem to differ between the top-tier and non-top-tier investment banks. This result is consistent with that of Golubov, Petmezas and Travlos (2012). In addition, Rosen (2006) suggests that the acquirer stock price run-up is negatively related to acquirer returns in the short run.

The mean (median) acquirer leverage for the entire sample is 0.42 (0.34). The difference between the average leverage of acquirers for the two tiers of investment banks is insignificant (0.33 versus 0.45). Maloney, McCormick and Mitchell (1993) find a positive relationship between acquiring firm leverage and acquirer gains.

Acquirers in our sample exhibit a mean (average) cash flow-to-equity value of 0.45 (0.16). The difference between the average acquirer cash flow-to-equity values for the two categories of investment banks is insignificant (0.11 versus 0.58). However, the median cash flow-to-equity value for top-tier investment banks (0.219) is significantly higher than that for non-top-tier investment banks (0.138). High free cash flow induces empire-building acquisitions (Jensen 1986)). In addition, Lang, Stulz and Walking (1991) show a negative relationship between bidder returns and the cash-flow-to-equity ratio.

State-owned acquirers represent only 4.9% of our sample and none of them employs a top-tier investment bank.

Panel B presents statistics for deal characteristics. The mean (median) deal value for the entire sample is $US405.73 million ($US165.82 million). In contrast to prior studies, the mean deal value does not seem to differ between the top-tier and non-top-tier investment banks ($US502.77 million versus $US367.90 million, respectively). However, the median deal value for top-tier investment banks ($US 281.91 million) is significantly higher than that for non-top-tier investment banks ($US134.00 million). Prior works find that both the mean and median deal values for top-tier investment banks are higher than those for non-top-tier investment banks (Golubov, Petmezas and Travlos (2012)).

The mean (median) relative size of targets for the entire sample is 17.0% (5.2%). Like Golubov, Petmezas and Travlos (2012), we find that the mean for this measure does not differ across the two tiers of investment banks (15.7% versus 17.5%). Fuller, Netter and Stegemoller (2002) find that acquirer returns decrease with the relative size of the target in public acquisitions, whereas the opposite is true for private and subsidiary acquisitions.

Public deals represent 10.6% of our sample. Consistent with Golubov, Petmezas and Travlos (2012), we find that top-tier investment banks (17.4%) are more likely to work on public acquisitions than their non-top-tier counterparts (7.9%).

Diversifying deals represent 47.6% of our sample. We find that top-tier investment banks (39.1%) work on significantly fewer diversifying deals than their non-top-tier counterparts (50.8%). Shleifer and Vishny (1990) suggest that investors respond negatively to diversifying acquisitions. However, Campa and Kedia (2002) suggest diversification discount is more likely to be a premium when exogenous characteristics that predict the decision to diversify is controlled, thus, diversification is a value enhancing strategy for those firms that actually pursue it.

Tender offers represent only 2.0% of our sample. Consistent with Golubov, Petmezas and Travlos (2012), we find that top-tier investment banks (5.8%) work on significantly more tender offers than their non-top-tier counterparts do (0.6%).

Acquisitions whose payments include stock represent 68.7% of the overall sample. The percentage of top-tier investment banks (71.0%) that advise on acquisitions involving stock payments is insignificantly different from that of non-top-tier banks (68.7%). Travlos (1987) shows that acquirers offering stock in public acquisitions experience lower returns.

The mean 3-day CAR experienced by acquirers advised by top-tier investment banks is 6.7%, which is significantly higher than that experienced by clients advised by non-top-tier investment banks (2.9%). The mean 3-day CAR experienced by all acquirers in our sample is 3.9%.

The mean 24-month BHAR does not differ between the groups of investment banks (15.8% for acquirers advised by top-tier investment banks and 24.1% for acquirers advised by non-top-tier banks). For the overall sample, the mean 24-month BHAR for acquirers is 21.8%.

3.4 Empirical Results

This section presents the short- and long-run univariate comparison analyses for acquirer returns under top-tier and non-top-tier investment portfolios. In addition, we present the multivariate regression analyses of acquirer short- and long-term performance on investment bank reputation, deal completion on investment bank reputation, and time to bid resolution on investment bank reputation.

3.4.1 Univariate Analyses

This section presents the short- and long-run univariate comparison analyses for acquirer abnormal returns by bidder- and deal-specific characteristics under top-tier and non-top-tier investment banks portfolios.

3.4.1.1 Univariate Analysis – Investment Bank Reputation on Bidder CAR

Table 3.4 reports the short-term univariate analysis that examines the relationship between the reputations of bidders' investment banks and bidder returns in various portfolios. All variables are defined in Appendix 3.1. The average 3-day CAR for acquirers advised by top-tier and non-top-tier investment banks are computed under a variety of portfolios. Statistical tests for the differences in means between top-tier and non-top-tier investment banks for each portfolio are presented.

[Insert Table 3.4]

For the overall sample, the mean 3-day CAR for acquirers is 3.9% and is significantly positive. The mean 3-day CAR for acquirers advised by top-tier investment banks (6.7%, p-value=0.000) is significantly higher than that for acquirers advised by non-top-tier investment banks (2.9%, p-value=0.000). Prior works document a positive announcement effect for acquirers and suggest that merger activities in the Chinese stock market are considered profitable in the aggregate (Chi, Sun and Young (2011) and Zhou et al. (2012)).

We define small, medium and large acquirers as the first, second and third tertile of the sample, respectively. For small acquirers, the mean 3-day CAR is 4.4% and significantly positive. The mean bidder announcement returns of small acquirers advised by top-tier investment banks is significantly higher than that for acquirers advised by non-top-tier banks. This outperformance holds for medium and large acquirers. Hence, our results indicate that deals advised by top-tier investment banks significantly outperform those advised by non-top-tier investment banks irrespective of the size of the acquirer.

Additionally, we find that the difference between the number of deals advised by top-tier and non-top-tier banks is largest when the acquirer is small, whereas the difference is smallest when the acquirer is large. Although small bidders experience the highest announcement period abnormal returns when they employ top-tier advisors, they are also the least likely to be advised by top-tier advisors. Large bidders are the most likely to be advised by top-tier investment banks, and the large bidders that are not advised by top-tier investment banks experience the lowest (and insignificant) announcement abnormal returns among our sample portfolios.

Overall, our results suggest that the reputational effect is more pronounced for large bidders and that it is important to account for the "equilibrium effect" when measuring financial advisors' reputations. If the equilibrium effect is not controlled for, the difference between the abilities of small and large bidders to employ prestigious investment banks would be larger because the bidder-advisor matching problem would be so severe, and the conclusions reached under our proposed framework for examination would thus be less meaningful.

We define small, medium and large relative size as the first, second and third tertile of the sample, respectively, where relative size is measured as the target's market value of equity divided by the bidder's market value of equity one month prior to the announcement. We find that acquirers experience significantly positive announcement abnormal returns if they employ top-tier investment banks, and the returns increase with relative size. However, for transactions advised by non-top-tier investment banks, only large-relative-size transactions create significant gains for bidding firms' shareholders. Additionally, bidders advised by top-tier investment banks outperform their counterparts significantly if the relative size is large or medium, whereas the outperformance remains insignificant for small-relative-size deals. Our results further show that the number of deals advised by top-tier and non-top-tier banks is similar across the different categories of relative size.

These results indicate that the difference between the abilities of top-tier and non-top-tier investment banks to generate higher announcement returns is more pronounced when the size of the target is comparable to or larger than that of the bidder. In other words, investment bank reputation has a greater effect on bidder announcement returns for acquisitions with larger relative sizes. These results provide an early indication that top-tier investment banks possess superior skills because it is generally more difficult to negotiate favourable terms and to capture a larger share of the gains for the bidder in transactions with large relative size, due to the greater bargaining power of the target firms in such transactions.

We define small, medium and large deal value as the first, second and third tertile of the sample, respectively. We find that as the deal value increases, the market reaction to deal announcements becomes more favourable, especially with respect to deals advised by top-tier investment banks. However, the outperformance of top-tier investment banks compared with non-top-tier investment banks only becomes significant for transactions with large deal values. In addition, we observe that the difference between the number of deals advised by top-tier and non-top-tier banks is the largest for small-value deals and the smallest for large-value deals.

Ismail (2010) posits that investment bank incentives differ between large deals and small deals because higher merger premiums are paid in large deals than in small deals, which results in losses for the acquirers in large deals. However, our results do not support such a difference in incentives, given our finding that large deals are associated with the highest acquirer announcement returns if top-tier investment banks are employed. Indeed, McLaughlin (1990) suggests that although financial advisors are motivated by the greater contingency fees earned by completing larger deals, they may not want to increase acquisition prices to complete deals because this type of behaviour would reduce their reputational capital. Moreover, we find that bidder announcement returns are insignificantly different from zero for small deals regardless the type of advisor used, which suggests that bidders might overpay investment banks when the deal value is relatively small. Therefore, we argue that reputational capital matters for investment bank advisory services, especially when deal values are sufficiently large.

When acquisitions are stratified by the target's public status, we find that bidders gain an average of 4.4% three days around the merger announcement date in private acquisitions, whereas they lose insignificantly in public acquisitions. For public acquisitions, the mean 3-day CAR for acquirers advised by top-tier investment banks is significantly positive at 4.2% but insignificantly higher than that for acquirers advised by non-top-tier investment banks. Golubov, Petmezas and Travlos (2012) report that top-tier financial advisors deliver higher bidder returns than their non-top-tier counterparts in public acquisitions only, whereas we observe the same trend for private acquisitions but not for public acquisitions. The mean acquirer 3-day CAR for private acquisitions advised by top-tier investment banks is 3.8% higher than that for private acquisitions advised by non-top-tier investment banks at a 1% significance level. We note that the insignificant outperformance of top-tier advisors compared with non-top-tier advisors in public acquisitions might arise due to the small sample size. Nevertheless, our results indicate that top-tier financial advisors deliver higher bidder gains than their non-top-tier counterparts do. In contrast to many previous studies, we suggest that the positive reputational effect on bidder returns in private acquisitions arises because we appropriately account for the "equilibrium effect" between the total value and total number of transactions conducted by investment banks when measuring investment bank reputation and hence the difference between the ability of small and large bidders to employ prestigious investment banks is adjusted.

In terms of the method of payment, the overall bidder 3-day CAR for payment-includes-stock acquisitions is significant at 5.7%. The mean bidder CAR improvement for payment-includes-stock acquisitions that are advised by top-tier investment banks (8.0%, p-value=0.000) is significantly larger than that for payment-includes-stock acquisitions advised by their non-top-tier counterparts (4.8%, p-value=0.000). For cash-only deals, the average bidder abnormal returns are insignificantly different than zero. However, bidders enjoy significantly positive abnormal returns of 3.6% three days around the merger announcement if top-tier investment banks are employed, which is significantly higher than those enjoyed by bidders advised by their non-top-tier counterparts.

Because almost 90% of the deals in our sample are targeted at private firms, the positive CAR improvement associated with payment-includes-stock deals could be driven by gains from private acquisitions. Chang (1998) suggests that more significant underpayment is likely to occur in private acquisitions because fewer firms compete for private targets and hence the bidding firms obtain higher returns. The CAR improvement could also arise because stock payments for private acquisitions convey positive information to the market regarding the value of the bidding firms or because there is improved monitoring in the newly combined firms due to the presence of blockholders (Draper and Paudyal (2006)). Alternatively, as suggested by Black et al. (2013), the CAR improvement could arise because bidders are able to buy low and then experience gains by riding the upward trend in the Chinese stock market. Black et al. (2013) state that this scenario is most likely to be case in China because the market is in a growth and development phase. Consistent with this line of reasoning, we find that payment-includes-stock acquisitions significantly outperform cash-only deals for both top-tier and non-top-tier advisors.[30] Additionally, because top-tier investment banks generate significantly higher bidder returns than their non-top-tier counterparts do irrespective of the method of payment used, we argue that this result might stem from top-tier investment banks' capacity to evaluate the stand-alone and combined

[30] The univariate analyses of announcement returns obtained by acquirers advised by top-tier or non-top-tier investment banks in payment-includes-stock and cash-only acquisitions are available upon request.

values of the bidding and target firms more precisely; from their ability to propose favourable methods to obtain synergies; or from their superior skill in following the market timing strategy to capitalize on market upturns, as suggested by Black et al. (2013).

Previous studies have found that corporate diversification destroys value and that bidder wealth increases when the target is in a related line of business (Berger and Ofek (1995) and Morck, Shleifer and Vishny (1990)). However, this is not the case in China. We find that bidder 3-day CAR is positive and significant, irrespective of the industry relatedness of the bidding and target firms. Moreover, the mean 3-day CAR for acquirers advised by top-tier investment banks is significantly higher than that for acquirers advised by non-top-tier investment banks for both focussed and diversifying acquisitions. Interestingly, we observe that although diversification can be used as a proxy for information asymmetry, bidders in focussed deals are more likely to seek advice from top-tier investment banks than from non-top-tier banks.

Overall, our short-term univariate analyses suggest that overall, top-tier investment banks are associated with significantly higher bidder abnormal returns than their non-top-tier counterparts are and that such outperformance is robust to various bidder- and deal-specific characteristics. Thus, there is initial support for our first hypothesis – the “superior deal” hypothesis.

3.4.1.2 Univariate Analysis – Investment Bank Reputation on Bidder BHAR

Table 3.5 reports the long-term univariate analysis that examines the relationship between the reputations of bidders’ investment bank and bidder returns in various portfolios. All variables are defined in Appendix 3.1. The average 24-month BHAR for acquirers advised by top-tier and non-top-tier investment banks are computed under a variety of portfolios. Statistical tests for the difference in means between top-tier and non-top-tier investment banks for each portfolio and bootstrapped p-values are presented.

[Insert Table 3.5]

For the overall sample, the mean bidder BHAR two years post-announcement is 21.8% and is significantly different from zero. We find that although Chinese acquirers continue to create value for their shareholders irrespective of the tier of advisor used, the significant outperformance of top-tier relative to non-top-tier investment banks diminishes over the long term. In other words, our results suggest that more prestigious banks do not help clients generate more wealth gains over the long term.

In terms of acquirer size, we find that for deals conducted by small and medium acquirers, the means of acquirer 24-month BHAR are positive and significantly different from zero regardless the tier of advisor used. For these deals, top-tier advisors do not appear to significantly outperform their-non-top-tier counterparts. As the size of the acquirer increases, the BHAR shows a decrease for clients advised by both top-tier and non-top-tier investment banks. Acquirers experience insignificantly negative returns if their market capitalization is within the upper tertile of our sample. It is well documented in previous literature that shareholders earn better returns from small acquirers. For example, Moeller, Schlingemann and Stulz (2004) document a negative size effect on bidder returns and find it is persistent over time. Roll (1986) argues that small bidders earn higher profits in acquisitions because the managers of large bidders may suffer from hubris and overpay their targets. Moreover, Demsetz & Lehn (1985) suggest that the incentives of managers in small firms are better aligned with their shareholders, whereas the opposite is true for large firms. Nevertheless, other explanations might also exist to explain the underperformance of large bidders relative to small bidders. For example, the agency costs of free cash flow, which occur when a firm no longer has growth opportunities, are more likely to affect large firms than small firms.

For acquisitions advised by top-tier and non-top-tier investment banks, the mean 24-month BHAR increases as the relative size of target to bidder increases. Deals advised by both top-tier and non-top-tier investment banks generate significantly positive BHAR for acquiring firms' shareholders if the relative size of the deal is large. Because the majority of our acquisitions are targeted at private or subsidiary firms, our findings are in line with many prior works. For example, Fuller, Netter and Stegemoller (2002) find a positive relationship between the target's relative size and the acquiring firm's stock performance in private and subsidiary acquisitions. In addition, Loughran and Vijh (1997) find that excess post-acquisition period returns to acquirer shareholders is the most negative for high-relative-size deals if stock financing is used, whereas the returns are the most positive if cash financing is used. Overall, our results indicate that after controlling for the relative size of the deal, the positive reputational effect of top-tier investment banks dissipates over time.

In terms of deal value, we find that the mean acquirer 24-month BHAR is insignificantly positive if top-tier investment banks are used but that it is significantly positive if non-top-tier banks are used. Moreover, our results show that the mean acquirer post-announcement returns for top-tier investment banks significantly underperform their non-top-tier counterparts for medium-deal-value transactions.

Regardless of the tier of investment bank used, the mean acquirer 24-month BHAR is insignificantly negative for public acquisitions but significantly positive for private acquisitions. We argue that because public targets are associated with greater bargaining power relative to unlisted firms, it is more difficult for bidding firms to capture gains in public acquisitions (Fuller, Netter and Stegemoller (2002) and Officer (2007)). In addition, public acquisitions require more regulatory and shareholder approvals and may involve fighting antitakeover defences. Furthermore, it is generally more difficult for acquirers to obtain any post-deal indemnification for hidden or undisclosed obligations of public targets due to their dispersed ownership (Golubov, Petmezas and Travlos (2012)). Moreover, we find that the mean BHARs two year post-takeover announcement for acquirers advised by top-tier and non-top-tier investment banks differ insignificantly after controlling for the target's listing status.

The means of the two-year post-announcement abnormal returns are significantly positive and insignificant for payment-includes-stock and cash-only deals, respectively. Our results indicate that the short-term outperformance of payment includes stock deals persists over the long term. Additionally, we find that regardless of whether the deal is financed with stock, the means of 24-month BHAR do not differ significantly between the tiers of investment banks.

The means of acquirer 24-month BHAR for diversifying acquisitions are significantly positive except for the portfolio advised by top-tier investment banks. Bidders experience insignificant post-announcement returns on focussed acquisitions. These results are contrary to those of many prior studies, such as Morck, Shleifer and Vishny (1990) and Matsusaka (1993), which find a negative impact of diversifying acquisitions on acquirer stock price. Although our results do not offer support for the "diversification discount", they are in line with those of Campa and Kedia (2002) and Villalonga (2004), who find no diversification discount effect after controlling for the potential endogeneity problems associated with firm diversification. Finally, we note that there is no significant difference between the means of acquirer 24-month BHAR for acquisitions advised by top-tier and non-top-tier investment banks after controlling for the industry relatedness of the bidding and target firms.

In sum, the results of our long-term univariate analyses offer further support for the "superior deal" hypothesis, which maintains that investment bank reputation is positively related to bidder returns in the short term with no long-term reversal, given that we find no significant difference between bidder post-announcement returns for deals advised by top-tier and non-top-tier investment banks after controlling for various bidder- and deal-specific characteristics.

3.4.2 Multivariate Regression Analyses

This section presents the multivariate regression analyses for investment bank reputation on bidder short- and long-run abnormal returns, deal completion likelihood and deal resolution duration.

3.4.2.1 Multivariate Regression Analyses (OLS and Probit) – Investment Bank Reputation on Bidder CAR

In the short-term univariate analyses, we find a significantly positive effect of investment bank reputation on bidder returns. However, the univariate analysis may be misleading because it does not account for any confounding effects. Verbeek (2008:7&46) suggests that OLS is the most significant technique in econometrics and that its true nature is algebraic rather than statistical. In addition, OLS helps effectively predict the value of the dependent variable when given the values of the explanatory variables.

Hence, we re-examine the relationship between investment bank reputation and bidder announcement returns using a multivariate OLS regression analysis. More specifically, we estimate the relationship between bidder CAR and investment bank reputation while controlling simultaneously for various bidder- and deal-specific characteristics that have been found to affect bidder returns. The results are presented in Table 3.6. In regression (1), p-values are reported based on standard errors adjusted for heteroskedasticity. In regression (2), coefficients are suppressed as a result of controlling for year fixed effects, and p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year fixed effects, and its p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering given the presence of repeated bidders in our sample. Our main variable of interest is the Top-tier dummy, and all variables are defined in Appendix 3.1.

[Insert Table 3.6]

We find that the coefficient on the Top-tier dummy is positive and significant at conventional levels in all three regressions. After controlling for year fixed effects, we find that the magnitude of the coefficient on the top-tier investment bank dummy is associated with a 2.98% CAR improvement, ceteris paribus. Although our reputational measurement takes into account the capability of small and large bidders to employ top-tier investment banks, it is worth noting that our results may still suffer from endogeneity of bidder-advisor matching and self-selection bias. To solve these problems, we follow Gulobov, Petmezas and Travlos (2012) and implement the Heckman two-stage procedure for our sample. Our instrumental variable is No. of IB, which is the number of investment banks employed by the bidder in a transaction. We argue that bidders employ more than one bank in a transaction tend to have more financial resources, thus are more capable of employing a top-tier investment bank, but the correlation between the number of investment banks employed by the bidder and bidder CARs is less clear. We find that the No. of IB variable is a highly significant and positively related to the hiring of a top-tier investment bank. The pseudo-R^2 of the first-stage equation suggests that the model explains 17.7% of the choice between the tiers of investment banks. From the first-stage equation, we construct an inverse Mills ratio and add it as an additional regressor to the second-stage equation. The coefficient on this endogeneity control (or selection term) is positive but statistically insignificant at conventional levels.[31] Thus, we suggest that the coefficient estimates for bidder CARs shown in Table 3.6 are reliable. Furthermore, we find that the signs on the control variables are generally in line with those in the existing literature (e.g., Gulobov, Petmezas and Travlos (2012)), except for the payment-includes-stock dummy.

As a further check, we examine the effect of investment bank reputation on bidder CAR using a probit model where the dependent variable is one if bidder returns are positive and zero otherwise. The results are presented in Table 3.7. We find that the coefficient on the Top-tier dummy is positive and significant at conventional levels in all three regressions. After controlling for year fixed effects, the top-tier investment banks are associated with a 76.7% higher probability of obtaining a positive 3-day CAR for bidding firms' shareholders, ceteris paribus.

[Insert Table 3.7]

Overall, our multivariate results confirm the positive and significant investment bank

[31] The results for the first- (selection) and second- (outcome) stage equations are available upon request.

reputational effect on bidder CAR found in the univariate analyses. Our findings are in line with the superior deal hypothesis, such that in Chinese domestic M&As, bidders advised by top-tier investment banks experience higher short-term abnormal returns than those advised by their non-top-tier counterparts. Moreover, bidders advised by top-tier investment banks are found to complete a significantly higher (lower) proportion of mergers for which the short-term abnormal returns earned by the bidders are positive (negative).

3.4.2.2 Multivariate Regression Analyses (OLS and Probit) – Investment Bank Reputation on Bidder BHAR

In the long-term univariate analyses, we find that the significant and positive effect of investment bank reputation on bidder returns disappears over time. However, given that the univariate analysis does not take into account any confounding effects, this result may be misleading. Therefore, we re-examine the relationship between investment bank reputation and long-term bidder returns in multivariate OLS regression analysis. More specifically, we estimate the relationship between bidder BHAR and investment bank reputation while controlling for various bidder- and deal-specific characteristics that are found to affect bidder returns. The results are presented in Table 3.8. In regression (1), p-values are reported based on standard errors adjusted for heteroskedasticity. In regression (2), coefficients are suppressed as a result of controlling for year fixed effects, and p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year fixed effects, and its p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering given the presence of repeated bidders in our sample. Our main variable of interest is the Top-tier dummy, and all variables are defined in Appendix 3.1.

[Insert Table 3.8]

We find that the coefficient on the Top-tier dummy is positive but insignificant at conventional levels in all three regressions. In addition, the significant predictors of BHAR are bidder size, leverage, and relative size; their signs are generally in line with those in the existing literature.

As a further check, we examine the effect of investment bank reputation on bidder BHAR using a probit model where the dependent variable is one if the long-term bidder abnormal return is positive and zero otherwise. The results are presented in Table 3.9. We find that the coefficient on the Top-tier dummy is negative but insignificant at conventional levels in all three regressions.

[Insert Table 3.9]

Overall, we confirm the primary results obtained in the univariate analysis, which indicate that the significant and positive effect of investment bank reputation on bidder returns disappears in the long term. In other words, the long-term abnormal returns experienced by bidders advised by the two tiers of investment banks are insignificantly different. Additionally, our results suggest that the retention of top-tier investment banks is not associated with a higher or lower probability of securing long-term positive bidder returns on Chinese domestic M&As.

3.4.2.3 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Deal Completion

We scrutinize the probability of deal completion when a bidder hires a top-tier financial advisor compared with when a bidder hires a non-top-tier financial advisor. To do so, we regress financial advisor reputation on acquisition outcome and control for various bidder- and deal-specific characteristics that are known to affect the likelihood of deal completion. The results are presented in Table 3.10. In regression (1), p-values are reported based on standard errors adjusted for heteroskedasticity. In regression (2), coefficients are suppressed as a result of controlling for year fixed effects and p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year fixed effects, and its p-values based on standard errors adjusted for heteroskedasticity and bidder clustering given the presence of repeated bidders in our sample. Our main variable of interest is the Top-tier dummy, and all variables are defined in Appendix 3.1.

[Insert Table 3.10]

Previous research has suggested that the effect of advisor reputation on the likelihood of deal completion is ambiguous. Chemmanur and Fulghieri (1994) argue that the ability to complete deals is important from an acquirer's perspective if the acquirer considers the acquisition to be an important component of its long-run strategy or if bid success signals a superior ability on the part of investment banks; therefore, there is a positive correlation between investment bank reputation and bid success (i.e., the "better deal completion skills" hypothesis). Other authors suggest that investment banks have strong incentives to complete deals because M&A advisory fees are contingent on deal completion (e.g., McLaughlin (1990)). If this is the case, a negative correlation between advisor reputation and bid success would be observed because bulge-bracket banks are less likely to leverage their reputation to obtain advisory fees (i.e., the "preventing poor deals" hypothesis).

We find in all three regressions that there is no effect of investment bank reputation on deal completion. With respect to the control variables, we find that bidder size and relative size are positively related to the deal completion rate, whereas sigma has a negative effect on bid success.

In summary, our findings are inconsistent with those obtained by Golubov, Petmezas and Travlos (2012), who suggest a negative correlation between advisor reputation and the likelihood of deal completion in subsidiary acquisitions. Our results seem to stem from the trade-off between the "better deal completion skills" and "preventing poor deals" hypotheses. That is, the effect of reputation on the deal completion rate may be due to the ability of top-tier investment banks to play multiple roles, meaning that in certain situations, they act to complete deals as directed by bidding firms' management, whereas in other situations, they are trustworthy and contribute to the refusal of deals that are bad for their clients.

3.4.2.4 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Time to Resolution

Investment banks are largely in charge of the negotiation process and hence should exert significant influence over the time to the deal completion; however, the predicted direction of the relationship between investment bank reputation and time to resolution is not so clear (Golubov, Petmezas and Travlos (2012)). On the one hand, if investment bank reputation is positively related to the length of time to deal resolution, the "diligent advisor" hypothesis is supported. Under this hypothesis, top-tier investment banks take more time to carefully evaluate the terms of transactions and to negotiate favourable terms for their clients because they have more reputational capital at stake. On the other hand, if investment bank reputation is negatively related to the length of time to deal resolution, the "skilled advisor" hypothesis is supported. Under the "skilled advisor" hypothesis, top-tier investment banks are able to complete deals more quickly due to their superior skills and expertise.

We examine the relationship between investment bank reputation and time-to-resolution under multivariate OLS regression analysis while controlling for various bidder- and deal-specific characteristics that have been found to affect bidder returns. The results are presented in Table 3.11. In regression (1), p-values are reported based on standard errors adjusted for heteroskedasticity. In regression (2), p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering, given the presence of repeated bidders in our sample. Our main variable of interest is the Top-tier dummy, and all variables are defined in Appendix 3.1.

[Insert Table 3.11]

We find that in both regressions, the coefficient on the top-tier dummy is positive and significantly different from zero at conventional levels, suggesting that top-tier investment banks are associated with longer deal durations. In terms of the time between deal announcement and deal completion, we repeat the analysis for the subsample of completed deals and find that the coefficient on the top-tier dummy is positive and significantly different from zero at the 10% level.[32] Our results are in line with the "diligent advisor" hypothesis. Hence, we suggest that the gains associated with top-tier investment banks stem from their diligence because top-tier banks tend to take more time to carefully evaluate the terms of transactions and to negotiate favourable terms for their clients.

[32] Regression results are available upon request.

3.5 Conclusion

Contrary to most earlier empirical studies, which fail to support for the intuitive reputation-quality mechanism, we find a significantly positive effect of bidder investment bank reputation on bidder returns in the short run. After controlling for year fixed effects, top-tier investment banks are associated with a 2.98% CAR improvement for bidders. We argue that our results arise because we successfully account for the “equilibrium effect" between the total value and the total number of transactions conducted by investment banks when measuring their market shares as a proxy for reputation. In doing so, we account for the difference between the abilities of small and large bidders to employ prestigious investment banks. More specifically, measuring the market share based on the total value of transactions biases the reputation towards large bidders, which might provide an answer to the long-standing puzzle, “why does the intuitive reputation-quality mechanism fail for mergers overall but hold for public acquisitions?”

In addition, we examine the sources of top-tier gains. We find that the time between announcement and completion is significantly longer for acquisitions advised by top-tier investment banks than for acquisitions advised by their non-top-tier counterparts. This result seems to support the “diligent advisor” hypothesis, leading us to suggest that the gains associated with top-tier investment banks in Chinese domestic M&As stems from top-tier investment banks taking more time to carefully evaluate the terms of transactions and to negotiate favourable terms for their clients.

Moreover, we find that investment bank reputation has an insignificant impact on deal completion rate. This might result from the trade-off between the “preventing poor deals” and “better deal completion skills” hypotheses. Specifically, given our finding that bidders advised by top-tier investment banks complete a significantly greater proportion of mergers with positive announcement returns than bidders advised by their non-top-tier counterparts do, deal completion may not be top-tier advisors’ primary motivation; rather, top-tier advisors are trustworthy and systematically turn away deals that are value-destroying for clients, even when their advisory fees are largely contingent upon deal completion. Nevertheless, high-quality investment banks are skilled across multiple dimensions, and in other circumstances, they might be directed by bidding firms’ management to utilize their superior skills to overcome the resistance of target management or regulatory hurdles to successfully complete an acquisition.

Additionally, we examines the effect of bidder investment bank reputation on bidder returns in the long run and find this effect to be insignificant. We suggest that the eradication of the positive relationship between investment bank reputation and bidder returns in the long term does not signal that top-tier investment banks are no different from their non-top-tier counterparts in terms of the ability to provide advisory services. Rather, it could be that long-term acquirer performance depends more on the firm’s intrinsic value and on the complexity of the integration progress after deal completion.

Overall, our findings support the “superior deal” hypothesis, which holds that investment banks with greater prestige are associated with superior bidder abnormal returns in the short term with no long-term reversal. Combining the results related to deal completion and duration, our study indicates that, at least in Chinese domestic M&As, top-tier investment banks are more diligent, more skilled in terms of identifying targets with higher synergy gains, better at negotiating favourable terms to facilitate smooth deal execution, and more trustworthy with regard to turning down bad deals for their clients. Furthermore, given that we find that the stability of top-tier investment banks is relatively low in China and that investment bank reputation serves as a good indicator for the quality of investment bank services, we argue that Chinese acquirers most likely undertake domestic M&As to chase better performance because if this were not the case, Chinese acquirers would be in “lock-in” relationships with their respective investment banks and the top-tier rankings of investment banks would be more stable.

Because this is the first study to examine the reputational effects of investment banks in China, our study provides numerous future research opportunities in a wide range of areas, including investment banking contracts and fees, the sources of top-tier improvement, the wealth effects of top-tier bankers compared with non-top-tier bankers, and the determinants and wealth effects of employing investment banks compared with executing deals in-house.

Table 3.1 Annual Top-Tier Investment Bank Ranking and Stability

This table shows the annual top-10 investment bank ranking for all top-tier investment banks and their stability from 2001 to 2009. The ranking is based on first downloading the yearly top-25 financial advisors league tables according to the total transaction values on which they announced advising for a sample of M&A transactions targeting China from Thomson One banker, followed by re-ranking these top-25 investment banks according to the number of deals they advised in each year. Credit is allocated fully to each eligible bidder firm advisors in the case of multiple advisors for a single transaction. Equity carveout, exchange offers, and open market repurchases are excluded. There are 34 different top-tier investment banks in our sample period. A top-tier investment bank is represented by 1 if it is ranked within the top-10 investment banks in a particular year and 0 otherwise. The most frequent top-tier investment banks involved in Chinese domestic M&As in our sample are Morgan Stanley, JP Morgan, Goldman Sachs & Co, and China International Capital Co.

Top-Tier Financial Advisor	Year									Number of Years Classified as Top-Tier Advisor	% of Time Classified as Top-Tier Advisor
	2001	2002	2003	2004	2005	2006	2007	2008	2009		
Morgan Stanley	1	1	0	1	1	1	1	1	1	8	88.89%
JP Morgan	1	1	1	1	1	1	0	0	0	6	66.67%
Goldman Sachs & Co	1	1	0	0	1	1	1	1	0	6	66.67%
China International Capital Co	0	1	1	0	1	1	0	1	1	6	66.67%
ING	1	0	1	1	0	1	0	0	0	4	44.44%
Haitong Securities Co Ltd	0	1	0	0	0	1	0	1	1	4	44.44%
Somerley Ltd	0	0	0	1	1	0	1	0	1	4	44.44%
HSBC Holdings PLC	1	1	1	0	0	0	0	0	0	3	33.33%
BNP Paribas SA	1	0	0	0	0	1	0	1	0	3	33.33%
UBS	0	0	1	0	0	0	0	1	1	3	33.33%
Citi	0	0	0	1	1	1	0	0	0	3	33.33%
CITIC	0	0	0	1	0	0	1	0	1	3	33.33%
Deutsche Bank	0	0	0	1	1	0	0	0	1	3	33.33%
CLSA	1	1	0	0	0	0	0	0	0	2	22.22%
DBS Group Holdings	0	1	0	0	0	1	0	0	0	2	22.22%
Rothschild	0	1	0	1	0	0	0	0	0	2	22.22%
Guotai Junan Securities	0	0	1	1	0	0	0	0	0	2	22.22%
Bank of America Merrill Lynch	0	0	0	1	1	0	0	0	0	2	22.22%
PricewaterhouseCoopers	0	0	0	0	1	1	0	0	0	2	22.22%
Guosen Securities Co Ltd	0	0	0	0	0	0	1	1	0	2	22.22%
Huatai Securities Co Ltd	0	0	0	0	0	0	0	1	1	2	22.22%
GF Securities	0	0	0	0	0	0	0	1	1	2	22.22%
Southwest Securities Co Ltd	0	0	0	0	0	0	0	1	1	2	22.22%
Credit Suisse	1	0	0	0	0	0	0	0	0	1	11.11%
Standard Chartered PLC	1	0	0	0	0	0	0	0	0	1	11.11%

Yu Ming Investment Management	0	0	1	0	0	0	0	0	0	1	11.11%
Bank of China Ltd	0	0	1	0	0	0	0	0	0	1	11.11%
Societe Generale	0	0	1	0	0	0	0	0	0	1	11.11%
Anglo Chinese Corp Finance	0	0	0	0	0	0	1	0	0	1	11.11%
China Galaxy Securities Co	0	0	0	0	0	0	1	0	0	1	11.11%
South China Capital Ltd	0	0	0	0	0	0	1	0	0	1	11.11%
Investec	0	0	0	0	0	0	1	0	0	1	11.11%
Everbright Securities Co Ltd	0	0	0	0	0	0	1	0	0	1	11.11%

Table 3.2 Summary Statistics by Year and Industry Sector

This table summarizes the main characteristics of merger deals in our sample. The sample includes all successful and unsuccessful merger deals in the Chinese market announced between 1 January 2002 and 31 August 2010, where all acquirers are listed companies on either the Shanghai or Shenzhen stock exchanges. In Panel A, merger activities are classified according to whether the deals are advised by or not advised by top-tier financial advisors by calendar years, with the corresponding number of deals and value of transaction shown. Value of transaction is denominated in US$1 million at the currency rate of 2010. In panel B, all M&A deals are classified according to *Fama-French 17 industry* classifications and ranked by the corresponding deal number and proportion. In addition, the number of deals with top-tier financial advisors and those with non-top-tier financial advisors are reported for each industry sector.

Panel A: Number, Total and Average Value for the Whole Sample, Deals with Top-tier and Non-top-tier Financial Advisors by Year								
Year	Total Number of Deals	Total Number of Deals with Top-Tier Financial Advisors	Total Number Of Deals with Non-Top-Tier Financial Advisors	Total Value of Deals	Total Value of Deals with Top-Tier Financial Advisors	Total Value of Deals with Non-Top-Tier Financial Advisors	Average Value of Deals with Top-Tier Financial Advisors	Average Value of Deals with Non-Top-Tier Financial Advisors
2002	4	2	2	472.53	390.97	81.56	195.48	40.78
2003	13	1	12	837.20	189.61	647.59	189.61	53.97
2004	11	3	8	3129.73	114.28	3015.45	38.09	376.93
2005	3	0	3	223.73	0.00	223.73	0.00	74.58
2006	19	10	9	7155.52	4293.07	2862.45	429.31	318.05
2007	37	3	34	13856.25	609.01	13247.23	203.00	389.62
2008	68	10	58	33452.42	2932.34	30520.07	293.23	526.21
2009	64	24	40	29030.89	15991.65	13039.24	666.32	325.98
2010	27	16	11	14389.62	10972.89	3416.73	685.81	310.61
Sum	246	69	177	102547.89	35493.84	67054.05	2700.86	2416.73

Panel B: Industry Distribution for the Whole Sample, Deals with Top-tier and Non-top-tier Financial Advisors						
Ranking	**No. of Deals**	**%**	**Industry Sector**	**Sector Number**	**No. of Deals With Top-Tier Financial Advisors**	**No. of Deals With Non-Top-Tier Financial Advisors**
1	33	13.41	Other	17	26	7
2	25	10.16	Machinery and Business Equipment	11	8	17
3	23	9.35	Banks, Insurance Companies, and Other Financials	16	8	15
4	21	8.54	Utilities	14	9	12
5	17	6.91	Steel Works Etc	9	3	14
6	16	6.50	Drugs, Soap, Perfumes, Tobacco	7	5	11
7	15	6.10	Transportation	13	6	9
8	14	5.69	Chemicals	6	5	9
9	14	5.69	Food	1	3	11
10	12	4.88	Construction and Construction Materials	8	2	10
11	12	4.88	Textiles, Apparel & Footware	4	1	11
12	10	4.07	Mining and Minerals	2	3	7
13	9	3.66	Automobiles	12	2	7
14	9	3.66	Oil and Petroleum Products	3	5	4
15	7	2.85	Retail Stores	15	2	5
16	5	2.03	Consumer Durables	5	0	5
17	4	1.63	Fabricated Products	10	0	4
Sum	246	100.00			88	158

Table 3.3 Sample Descriptive Statistics

This table summarizes the bidder- and deal- specific characteristics for a sample of successful and unsuccessful merger deals in the Chinese market announced between 1 January 2002 and 31 August 2010, where all acquirers are listed companies on either the Shanghai or Shenzhen stock exchanges. Panel A and B present the mean, median, and number of observations for bidder- and deal-characteristics for the whole sample, deals with top-tier investment banks and non-top-tier investment banks, respectively. We define "*Top-Tier*" as those deals advised by at least one investment bank within the top 10 of the previous year's league table and the others are classified as "*Non-Top-Tier*". "*Size*" is the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*SOE acquirer*" is a deal whose bidder is a state-owned company; "*Deal value*" is the value of the deal from Thomson One Banker in millions of US dollars at the currency rate of 2010; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Public deal*" is the acquisition of a publicly listed firm; "*Diversifying deal*" is a deal where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker; "*Tender offer*" is a tender offer deal; "*Payment incl. stock*" is a deal whose consideration includes stock; "*3-day CAR*"/"*5-day CAR*" is the three-day/five-day event window CAR(-1, +1)/ CAR(-2, +2) where day 0 is the announcement day; "*12-month BHAR*"/"*24-month BHAR*" is the BHAR calculated over a 12-month/24-month period after the deal announcement month. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CARs. The equation $\mathrm{BHAR_i} = \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{i,t}}] - \prod_{\mathrm{t}}^{\mathrm{T}}[1 + \mathrm{R_{m,t}}]$ is used to calculate BHARs. The results of statistical tests for differences in means and the equality of medians for each characteristic between top-tier and non-top-tier investment bank category are also presented. "*N*" donates the number of observations in each portfolio.

	All Sample (1)			Top-Tier (2)			Non-Top-Tier (3)			Difference (2)-(3)	
	Mean	Median	N	Mean	Median	N	Mean	Median	N	p-value Mean	p-value Median
Panel A: Bidder Characteristics											
Size	2584.787	365.565	246	5690.152	765.590	69	1374.220	310.287	177	0.001	0.000
Book-to-market	0.301	0.272	237	0.383	0.285	64	0.271	0.259	173	0.031	0.197
Sigma	0.026	0.026	243	0.023	0.023	67	0.026	0.027	176	0.003	0.006
Run-up	0.088	0.026	243	0.122	0.079	67	0.075	-0.004	176	0.348	0.032
Leverage	0.419	0.341	245	0.330	0.325	69	0.453	0.371	176	0.431	0.634
Cash flows-to-equity	0.447	0.155	245	0.105	0.219	69	0.581	0.138	176	0.496	0.009
SOE acquirer	0.049	-	246	0.000	-	69	0.068	-	177	0.027	-
Panel B: Transaction Characteristics											
Deal value	405.731	165.820	246	502.771	281.910	69	367.902	134.000	177	0.201	0.002
Relative size	0.170	0.052	244	0.157	0.051	67	0.175	0.053	177	0.692	0.301
Public deals	0.106	-	246	0.174	-	69	0.079	-	177	0.030	-
Diversifying deal	0.476	-	246	0.391	-	69	0.508	-	177	0.099	-
Tender offers	0.020	-	246	0.058	-	69	0.006	-	177	0.009	-
Payment incl. stock	0.687	-	246	0.710	-	69	0.678	-	177	0.627	-
3-day CAR	0.039	0.033	244	0.067	0.060	67	0.029	0.016	177	0.005	0.002
24-month BHAR	0.218	0.072	244	0.158	0.025	67	0.241	0.099	177	0.373	0.162
5-day CAR	0.050	0.030	244	0.082	0.044	67	0.039	0.024	177	0.017	0.014
12-month BHAR	0.230	0.048	244	0.227	0.067	67	0.232	0.042	177	0.959	0.939

Table 3.4 Univariate Analysis – Investment Bank Reputation on Bidder 3-day CAR

This table presents the results of the mean 3-day CARs for bidders advised by top-tier and non-top-tier investment banks for various portfolios. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. We define "*Top-Tier*" as those deals advised by at least one investment bank within the top 10 of the previous year's league table and the others are classified as "*Non-Top-Tier*". The variables "*Bidder size*", "*Relative size*", and "*Deal value*" are categorized as small, medium, or large, depending on whether they belong to the first, second, or third tertile of the sample. The variable "*Bidder size*" is the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Deal value*" is the value of the deal from Thomson One Banker in millions of US dollars at the currency rate of 2010; "*Public deal*"/*Private deal*" is the acquisition of a publicly listed/unlisted firm; "*Payment incl. stock*"/"*Payment excl. stock*" is a deal whose consideration includes/excludes stock; "*Focussed deal*"/"*Diversifying deal*" is a deal where the bidder's industry equals/differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker; "*3-day CAR*" is the three-day event window CAR(-1, +1) where day 0 is the announcement day; the equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The results of statistical tests for the differences in means for top-tier versus non-top-tier investment banks for each portfolio are presents. The p-values are shown in parentheses. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations in each portfolio.

	All sample (1)	Top-tier (2)	Non-top-tier (3)	Difference (2)-(3)
	Mean 3-day CAR	Mean 3-day CAR	Mean 3-day CAR	Mean 3-day CAR
All sample	0.039***	0.067***	0.029***	0.038***
P-value	(0.000)	(0.000)	(0.000)	(0.005)
N	244	67	177	
Small size acquirer	0.044***	0.105***	0.034***	0.071**
P-value	(0.000)	(0.007)	(0.005)	(0.031)
N	79	11	68	
Medium size acquirer	0.045***	0.077***	0.034***	0.043*
P-value	(0.000)	(0.004)	(0.007)	(0.087)
N	81	21	60	
Large size acquirer	0.030***	0.050***	0.016	0.034*
P-value	(0.002)	(0.000)	(0.290)	(0.073)
N	84	35	49	
Small relative size	0.022**	0.038**	0.015	0.023
P-value	(0.020)	(0.005)	(0.210)	(0.248)
N	82	24	58	
Medium relative size	0.023**	0.052**	0.011	0.041*
P-value	(0.038)	(0.013)	(0.394)	(0.093)
N	82	24	58	
Large relative size	0.073***	0.121***	0.058***	0.063***
P-value	(0.000)	(0.000)	(0.000)	(0.009)
N	82	20	62	
Small deal value	0.008	0.019	0.006	0.013
P-value	(0.344)	(0.254)	(0.527)	(0.646)
N	82	13	69	
Medium deal value	0.052***	0.071***	0.045***	0.026
P-value	(0.000)	(0.003)	(0.000)	(0.270)
N	81	22	59	
Large deal value	0.058***	0.085***	0.040**	0.045*
P-value	(0.000)	(0.000)	(0.018)	(0.061)
N	82	32	50	
Public deal	-0.001	0.042***	-0.032	0.074
P-value	(0.971)	(0.008)	(0.423)	(0.128)
N	24	10	14	
Private deal	0.044***	0.072***	0.034***	0.038***
P-value	(0.000)	(0.000)	(0.000)	(0.000)
N	220	57	163	
Payment incl. stock	0.057***	0.080***	0.048***	0.032*
P-value	(0.000)	(0.000)	(0.000)	(0.065)
N	168	48	120	
Payment excl. stock	0.000	0.036***	-0.011	0.047***
P-value	(0.958)	(0.007)	(0.200)	(0.006)
N	76	19	57	
Focussed deal	0.032***	0.060***	0.019***	0.041**
P-value	(0.000)	(0.000)	(0.071)	(0.016)
N	128	41	87	
Diversifying deal	0.048***	0.080***	0.039***	0.041*
P-value	(0.000)	(0.001)	(0.000)	(0.066)
N	116	26	90	

Table 3.5 Univariate Analysis – Investment Bank Reputation on Bidder 24-month BHAR

This table presents the results of the mean 24-month BHARs for bidders advised by top-tier and non-top-tier investment banks for various portfolios. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. We define "*Top-Tier*" as those deals advised by at least one investment bank within the top 10 of the previous year's league table and the others are classified as "*Non-Top-Tier*". The variables "*Bidder size*", "*Relative size*", and "*Deal value*" are categorized as small, medium, or large, depending on whether they belong to the first, second, or third tertile of the sample. The variable "*Bidder size*" is the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Deal value*" is the value of the deal from Thomson One Banker in millions of US dollars at the currency rate of 2010; "*Public deal*"/*Private deal*" is the acquisition of a publicly listed/unlisted firm; "*Payment incl. stock*"/"*Payment excl. stock*" is a deal whose consideration includes/excludes stock; "*Focussed deal*"/"*Diversifying deal*" is a deal where the bidder's industry equals/differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker; "*24-month BHAR*" is the BHAR calculated over a 24-month period after the deal announcement month. The equation $\mathrm{BHAR_i} = \prod_t^T [1 + \mathrm{R_{i,t}}] - \prod_t^T [1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The results of statistical tests for the differences in means for top-tier versus non-top-tier investment banks for each portfolio are presents. The p-values are shown in parentheses. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations in each portfolio.

	All sample (1)	Top-tier (2)	Non-top-tier (3)	Difference (2)-(3)
	Mean 24-month BHAR	Mean 24-month BHAR	Mean 24-month BHAR	Mean 24-month BHAR
All sample	0.218***	0.158***	0.241***	-0.083
P-value	(0.000)	(0.052)	(0.000)	(0.373)
N	244	67	177	
Small size acquirer	0.534***	0.692*	0.509***	0.183
P-value	(0.001)	(0.080)	(0.000)	(0.495)
N	79	11	68	
Medium size acquirer	0.281***	0.284**	0.178**	0.106
P-value	(0.001)	(0.011)	(0.012)	(0.420)
N	81	21	60	
Large size acquirer	-0.066	-0.086	-0.053	-0.033
P-value	(0.145)	(0.171)	(0.417)	(0.722)
N	84	35	49	
Small relative size	-0.011	-0.058	0.084	-0.142
P-value	(0.412)	(0.516)	(0.183)	(0.209)
N	82	24	58	
Medium relative size	0.143**	0.169	0.133	0.036
P-value	(0.036)	(0.160)	(0.112)	(0.809)
N	82	24	58	
Large relative size	0.470***	0.387*	0.497***	-0.110
P-value	(0.000)	(0.061)	(0.000)	(0.579)
N	82	20	62	
Small deal value	0.229***	0.439	0.172**	0.267
P-value	(0.009)	(0.107)	(0.043)	(0.201)
N	80	17	63	
Medium deal value	0.265***	0.011	0.361***	-0.350**
P-value	(0.000)	(0.888)	(0.000)	(0.027)
N	80	22	58	
Large deal value	0.155***	0.103	0.181**	-0.078
P-value	(0.009)	(0.239)	(0.021)	(0.534)
N	86	28	58	
Public deal	-0.141	-0.206	-0.094	-0.112
P-value	(0.354)	(0.132)	(0.706)	(0.717)
N	24	10	14	
Private deal	0.258***	0.222**	0 .270***	-0.048
P-value	(0.000)	（0.015)	(0.000)	(0.621)
N	220	57	163	
Payment incl. stock	0.309***	0.268**	0.325***	-0.057
P-value	(0.000)	(0.011)	(0.000)	(0.615)
N	168	48	120	
Payment excl. stock	0.018	-0.121	0.064	-0.185
P-value	(0.788)	(0.211)	(0.436)	(0.227)
N	76	19	57	
Focussed deal	0.075	0.103	0.062	0.041
P-value	(0.109)	(0.155)	(0.304)	(0.682)
N	128	41	87	
Diversifying deal	0.376***	0.244	0.414***	-0.170
P-value	(0.000)	(0.171)	(0.000)	(0.298)
N	116	26	90	

Table 3.6 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Bidder 3-day CAR

This table presents the results of cross-sectional OLS regression analyses of bidder 3-day CAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*3-day CAR*", which is the three-day event window CAR(-1, +1) where day 0 is the announcement day; the equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	3-day CAR (1)	3-day CAR (2)	3-day CAR (3)
Intercept	-0.0074	-0.0510	-0.0510
	(0.856)	(0.315)	(0.392)
Top-tier	0.0406***	0.0298*	0.0298*
	(0.007)	(0.061)	(0.073)
Ln(size)	-0.0025	0.0001	0.0001
	(0.616)	(0.988)	(0.990)
Book-to-market	0.0057	0.0102	0.0102
	(0.778)	(0.625)	(0.627)
Run-up	-0.0307	-0.0463**	-0.0463*
	(0.132)	(0.025)	(0.055)
Sigma	0.0058	0.0279**	0.0279**
	(0.419)	(0.013)	(0.019)
Leverage	-0.0006	0.0055	0.0055
	(0.922)	(0.280)	(0.305)
Cash flows-to-equity	0.0057	0.0040	0.0040
	(0.473)	(0.642)	(0.645)
Relative size	0.0502***	0.0623***	0.0623***
	(0.001)	(0.000)	(0.000)
Payment incl. stock	0.0494***	0.0652***	0.0652**
	(0.001)	(0.001)	(0.025)
Diversifying deal	-0.0051	-0.0077	-0.0077
	(0.705)	(0.575)	(0.610)
Tender offer	0.1050***	0.1030**	0.1030***
	(0.003)	(0.012)	(0.009)
State-owned acquirer	0.0402	0.0341	0.0341
	(0.126)	(0.176)	(0.249)
Public deal	-0.0689**	-0.0574*	-0.0574*
	(0.029)	(0.078)	(0.080)
N	235	235	235
Ajusted-R^2	0.180	0.245	0.245

Table 3.7 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Positive Bidder 3-day CAR

This table presents the results of cross-sectional probit regression analyses of positive bidder 3-day CAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Positive 3-day CAR*", which is the three-day event window CAR(-1, +1) where day 0 is the announcement day; and equals to one if it is positive and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Positive 3-day CAR (1)	Positive 3-day CAR (2)	Positive 3-day CAR (3)
Intercept	0.3050	-0.9840	-0.9840
	(0.669)	(0.297)	(0.315)
Top-tier	0.7420***	0.7670***	0.7670***
	(0.002)	(0.002)	(0.001)
Ln(size)	-0.1070	-0.0922	-0.0922
	(0.218)	(0.311)	(0.323)
Book-to-market	-0.2010	-0.2180	-0.2180
	(0.468)	(0.456)	(0.454)
Run-up	-0.4920*	-0.7570**	-0.7570**
	(0.100)	(0.018)	(0.031)
Sigma	0.1170	0.4230**	0.4230**
	(0.401)	(0.029)	(0.032)
Leverage	0.2560	0.3380*	0.3380*
	(0.222)	(0.059)	(0.065)
Cash flows-to-equity	0.0399	0.0334	0.0334
	(0.698)	(0.234)	(0.233)
Relative size	0.6360	0.8280**	0.8280*
	(0.144)	(0.046)	(0.052)
Payment incl. stock	0.4280*	0.8120***	0.8120**
	(0.053)	(0.006)	(0.015)
Diversifying deal	-0.1200	-0.1630	-0.1630
	(0.562)	(0.465)	(0.491)
State-owned acquirer	0.6900	0.5460	0.5460
	(0.173)	(0.271)	(0.336)
Public deal	-0.7810**	-0.6040	-0.6040
	(0.044)	(0.167)	(0.173)
N	230	230	230
Pseudo-R^2	0.1261	0.1836	0.1836

Table 3.8 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Bidder 24-month BHAR

This table presents the results of cross-sectional OLS regression analyses of bidder 24-month BHAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*24-month BHAR*", which is the BHAR calculated over a 24-month period after the deal announcement month. The equation $\mathrm{BHAR_i} = \prod_{t}^{T}\left[1 + \mathrm{R_{i,t}}\right] - \prod_{t}^{T}\left[1 + \mathrm{R_{m,t}}\right]$ is used to calculate BHAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	24-month BHAR	24-month BHAR	24-month BHAR
	(1)	(2)	(3)
Intercept	0.6640**	1.2220***	1.2220***
	(0.040)	(0.005)	(0.009)
Top-tier	0.0278	0.0720	0.0720
	(0.736)	(0.413)	(0.421)
Ln(size)	-0.1190***	-0.1320***	-0.1320***
	(0.002)	(0.001)	(0.003)
Book-to-market	0.0970	0.1140	0.1140
	(0.559)	(0.477)	(0.486)
Run-up	0.0219	0.0964	0.0964
	(0.858)	(0.432)	(0.450)
Sigma	0.0385	-0.0995	-0.0995
	(0.444)	(0.189)	(0.227)
Leverage	0.1360**	0.1130*	0.1130*
	(0.044)	(0.076)	(0.083)
Cash flows-to-equity	0.0830	0.0930	0.0930
	(0.271)	(0.191)	(0.199)
Relative size	0.5410***	0.4900***	0.4900***
	(0.001)	(0.003)	(0.004)
Payment incl. stock	0.0131	-0.0547	-0.0547
	(0.891)	(0.635)	(0.670)
Diversifying deal	0.0689	0.0622	0.0622
	(0.354)	(0.413)	(0.411)
Tender offer	-0.1790	-0.2220	-0.2220
	(0.345)	(0.309)	(0.371)
State-owned acquirer	-0.2540	-0.1290	-0.1290
	(0.193)	(0.545)	(0.615)
Public deal	-0.0636	-0.132	-0.132
	(0.745)	(0.473)	(0.491)
N	235	235	235
Adjusted-R^2	0.281	0.343	0.343

Table 3.9 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Positive Bidder 24-month BHAR

This table presents the results of cross-sectional probit regression analyses of positive bidder 24-month BHAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Positive 24-month BHAR*", which is the BHAR calculated over a 24-month period after the deal announcement month; and equals to one if it is positive and zero otherwise. The equation $\mathrm{BHAR_i} = \prod_t^T[1 + \mathrm{R_{i,t}}] - \prod_t^T[1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Positive 24-month BHAR (1)	Positive 24-month BHAR (2)	Positive 24-month BHAR (3)
Intercept	0.5580	0.2630	0.2630
	(0.447)	(0.776)	(0.810)
Top-tier	-0.1460	-0.0358	-0.0358
	(0.500)	(0.877)	(0.882)
Ln(size)	-0.1500*	-0.1370	-0.1370
	(0.078)	(0.130)	(0.171)
Book-to-market	0.0632	0.1840	0.1840
	(0.831)	(0.517)	(0.526)
Run-up	-0.0566	-0.0184	-0.0184
	(0.848)	(0.955)	(0.959)
Sigma	0.0819	-0.1200	-0.1200
	(0.550)	(0.520)	(0.568)
Leverage	0.1210	0.1110	0.1110
	(0.124)	(0.154)	(0.190)
Cash flows-to-equity	0.0600	0.0836	0.0836
	(0.595)	(0.476)	(0.485)
Relative size	0.5640	0.5400	0.5400
	(0.133)	(0.141)	(0.159)
Payment incl. stock	0.2180	0.2040	0.2040
	(0.312)	(0.445)	(0.507)
Diversifying deal	0.2700	0.3230	0.3230
	(0.153)	(0.109)	(0.123)
State-owned acquirer	0.2370	0.5450	0.5450
	(0.621)	(0.294)	(0.407)
Public deal	-0.0538	-0.2110	-0.2110
	(0.886)	(0.590)	(0.607)
N	230	227	227
Pseudo-R^2	0.0934	0.1332	0.1332

Table 3.10 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Deal Completion

This table presents the results of cross-sectional probit regression analyses of deal completion on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Deal completion*", which is a dummy variable equals to one for completed acquisitions and zero otherwise. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Deal completion (1)	Deal completion (2)	Deal completion (3)
Intercept	0.9530	0.6220	0.6220
	(0.264)	(0.595)	(0.656)
Top-tier	0.0878	0.2380	0.2380
	(0.728)	(0.365)	(0.367)
Ln(size)	0.2380**	0.2430**	0.2430*
	(0.022)	(0.042)	(0.063)
Book-to-market	1.0830***	1.1490***	1.1490***
	(0.003)	(0.005)	(0.006)
Run-up	-0.8140**	-0.6110	-0.6110
	(0.033)	(0.127)	(0.142)
Sigma	-0.6570***	-0.7430***	-0.7430***
	(0.000)	(0.001)	(0.003)
Leverage	-0.1080	-0.1060	-0.1060
	(0.298)	(0.430)	(0.446)
Cash flows-to-equity	0.0154	0.0126	0.0126
	(0.167)	(0.260)	(0.262)
Relative size	0.9860*	0.9950*	0.9950*
	(0.058)	(0.058)	(0.064)
Payment incl. stock	-0.3560	-0.1180	-0.1180
	(0.178)	(0.710)	(0.798)
Diversifying deal	0.2750	0.3310	0.3310
	(0.226)	(0.169)	(0.190)
Public deal	0.3670	0.3410	0.3410
	(0.526)	(0.556)	(0.560)
N	219	192	192
Pseudo-R^2	0.2049	0.1951	0.1951

Table 3.11 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Time to Resolution

This table presents the results of cross-sectional OLS regression analyses of time to resolution on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Time to resolution*", which is the time it takes from the announcement until the completion or withdrawal from the deal. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. The p-values reported for regression (2) are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Time to resolution	Time to resolution
	(1)	(2)
Intercept	658.6000***	658.6000***
	(0.000)	(0.000)
Top-tier	83.6800**	83.6800*
	(0.044)	(0.068)
Ln(size)	-44.9600***	-44.9600**
	(0.005)	(0.015)
Book-to-market	-137.5000***	-137.5000***
	(0.004)	(0.006)
Run-up	65.0200	65.0200
	(0.264)	(0.280)
Sigma	-21.7800	-21.7800
	(0.459)	(0.521)
Leverage	-8.5530	-8.5530
	(0.644)	(0.672)
Cash flows-to-equity	14.5700	14.5700
	(0.571)	(0.574)
Relative size	46.1200	46.1200
	(0.435)	(0.444)
Payment incl. stock	98.6200**	98.6200**
	(0.027)	(0.044)
Diversifying deal	-14.1300	-14.1300
	(0.684)	(0.691)
Tender offer	-131.200**	-131.200*
	(0.042)	(0.094)
State-owned acquirer	64.9900	64.9900
	(0.478)	(0.496)
Public deals	27.2000	27.2000
	(0.632)	(0.643)
N	235	235
Adjusted-R^2	0.185	0.185

Table 3.12 Univariate Analysis – Investment Bank Reputation on Bidder 5-day CAR

This table presents the results of the mean 5-day CARs for bidders advised by top-tier and non-top-tier investment banks for various portfolios. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. We define "*Top-Tier*" as those deals advised by at least one investment bank within the top 10 of the previous year's league table and the others are classified as "*Non-Top-Tier*". The variables "*Bidder size*", "*Relative size*", and "*Deal value*" are categorized as small, medium, or large, depending on whether they belong to the first, second, or third tertile of the sample. The variable "*Bidder size*" is the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Deal value*" is the value of the deal from Thomson One Banker in millions of US dollars at the currency rate of 2010; "*Public deal*"/*Private deal*" is the acquisition of a publicly listed/unlisted firm; "*Payment incl. stock*"/"*Payment excl. stock*" is a deal whose consideration includes/excludes stock; "*Focussed deal*"/"*Diversifying deal*" is a deal where the bidder's industry equals/differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker; "*5-day CAR*" is the five-day event window CAR(-2, +2) where day 0 is the announcement day; the equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The results of statistical tests for the differences in means for top-tier versus non-top-tier investment banks for each portfolio are presents. The p-values are shown in parentheses. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations in each portfolio.

	All sample (1)	Top-tier (2)	Non-top-tier (3)	Difference (2)-(3)
	Mean 5-day CAR	Mean 5-day CAR	Mean 5-day CAR	Mean 5-day CAR
All sample	0.050***	0.082***	0.039***	0.043**
P-value	(0.000)	(0.000)	(0.000)	(0.017)
N	244	67	177	
Small size acquirer	0.064***	0.125***	0.054***	0.071*
P-value	(0.000)	(0.008)	(0.000)	(0.077)
N	79	11	68	
Medium size acquirer	0.057***	0.109***	0.039***	0.070**
P-value	(0.000)	(0.003)	(0.021)	(0.041)
N	81	21	60	
Large size acquirer	0.031**	0.052***	0.016	0.036
P-value	(0.019)	(0.001)	(0.422)	(0.173)
N	84	35	49	
Small relative size	0.022**	0.029*	0.019	0.010
P-value	(0.044)	(0.080)	(0.174)	(0.660)
N	82	24	58	
Medium relative size	0.021	0.055**	0.008	0.047
P-value	(0.136)	(0.038)	(0.658)	(0.132)
N	82	24	58	
Large relative size	0.107***	0.176***	0.085***	0.091***
P-value	(0.000)	(0.000)	(0.000)	(0.007)
N	82	20	62	
Small deal value	0.007	0.006	0.008	-0.002
P-value	(0.456)	(0.746)	(0.501)	(0.958)
N	82	13	69	
Medium deal value	0.063***	0.083***	0.055***	0.028
P-value	(0.000)	(0.006)	(0.001)	(0.369)
N	81	22	59	
Large deal value	0.082***	0.112***	0.062**	0.050
P-value	(0.000)	(0.000)	(0.011)	(0.139)
N	82	32	50	
Public deal	0.015	0.041	-0.003	0.044
P-value	(0.663)	(0.115)	(0.953)	(0.128)
N	24	10	14	
Private deal	0.054***	0.089***	0.042***	0.047**
P-value	(0.000)	(0.000)	(0.000)	(0.011)
N	220	57	163	
Payment incl. stock	0.074***	0.105***	0.062***	0.043*
P-value	(0.000)	(0.000)	(0.000)	(0.067)
N	168	48	120	
Payment excl. stock	-0.002	0.024*	-0.011	0.035*
P-value	(0.802)	(0.059)	(0.326)	(0.091)
N	76	19	57	
Focussed deal	0.035***	0.066***	0.021	0.045*
P-value	0.002	(0.000)	0.143	(0.052)
N	128	41	87	
Diversifying deal	0.067***	0.106***	0.056***	0.050*
P-value	(0.000)	(0.000)	(0.000)	(0.074)
N	116	26	90	

Table 3.13 Univariate Analysis – Investment Bank Reputation on Bidder 12-month BHAR

This table presents the results of the mean 12-month BHARs for bidders advised by top-tier and non-top-tier investment banks for various portfolios. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. We define "*Top-Tier*" as those deals advised by at least one investment bank within the top 10 of the previous year's league table and the others are classified as "*Non-Top-Tier*". The variables "*Bidder size*", "*Relative size*", and "*Deal value*" are categorized as small, medium, or large, depending on whether they belong to the first, second, or third tertile of the sample. The variable "*Bidder size*" is the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Deal value*" is the value of the deal from Thomson One Banker in millions of US dollars at the currency rate of 2010; "*Public deal*"/*Private deal*" is the acquisition of a publicly listed/unlisted firm; "*Payment incl. stock*"/"*Payment excl. stock*" is a deal whose consideration includes/excludes stock; "*Focussed deal*"/"*Diversifying deal*" is a deal where the bidder's industry equals/differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker; "*12-month BHAR*" is the BHAR calculated over a 12-month period after the deal announcement month. The equation $\mathrm{BHAR_i} = \prod_t^T[1 + \mathrm{R_{i,t}}] - \prod_t^T[1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The results of statistical tests for the differences in means for top-tier versus non-top-tier investment banks for each portfolio are presents. The p-values are shown in parentheses. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations in each portfolio.

	All sample (1)	Top-tier (2)	Non-top-tier (3)	Difference (2)-(3)
	Mean 12-month BHAR	Mean 12-month BHAR	Mean 12-month BHAR	Mean 12-month BHAR
All sample	0.230***	0.227***	0.232***	-0.005
P-value	(0.000)	(0.002)	(0.000)	(0.959)
N	244	67	177	
Small size acquirer	0.378***	0.369	0.379***	-0.010
P-value	(0.001)	(0.157)	(0.003)	(0.975)
N	79	11	68	
Medium size acquirer	0.281***	0.438***	0.226***	0.212
P-value	(0.000)	(0.010)	(0.003)	(0.171)
N	81	21	60	
Large size acquirer	0.043	0.055	0.035	0.020
P-value	(0.352)	(0.344)	(0.613)	(0.828)
N	84	35	49	
Small relative size	-0.011	-0.006	-0.013	0.007
P-value	(0.713)	(0.911)	(0.721)	(0.912)
N	82	24	58	
Medium relative size	0.101*	0.109	0.098	0.011
P-value	(0.056)	(0.196)	(0.142)	(0.924)
N	82	24	58	
Large relative size	0.595***	0.620***	0.587***	0.033
P-value	(0.000)	(0.003)	(0.000)	(0.901)
N	82	20	62	
Small deal value	0.227**	0.193*	0.236*	-0.043
P-value	(0.040)	(0.094)	(0.086)	(0.872)
N	80	17	63	
Medium deal value	0.210***	0.207	0.211***	-0.004
P-value	(0.001)	(0.116)	(0.003)	(0.980)
N	80	22	58	
Large deal value	0.250***	0.262**	0.244***	0.018
P-value	(0.000)	(0.045)	(0.001)	(0.891)
N	86	28	58	
Public deal	0.023	0.071	-0.012	0.083
P-value	(0.868)	(0.613)	(0.957)	(0.771)
N	24	10	14	
Private deal	0.253***	0.254***	0.253***	0.001
P-value	(0.000)	（0.002)	(0.000)	(0.992)
N	220	57	163	
Payment incl. stock	0.336***	0.322***	0.342***	-0.020
P-value	(0.000)	(0.001)	(0.000)	(0.889)
N	168	48	120	
Payment excl. stock	-0.004	-0.0152	0.000	-0.0152
P-value	(0.920)	(0.768)	(0.997)	(0.857)
N	76	19	57	
Focussed deal	0.100**	0.195**	0.056	0.139
P-value	(0.025)	(0.032)	(0.265)	(0.141)
N	128	41	87	
Diversifying deal	0.374***	0.276**	0.402***	-0.126
P-value	(0.000)	(0.032)	(0.000)	(0.526)
N	116	26	90	

Table 3.14 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Bidder 5-day CAR

This table presents the results of cross-sectional OLS regression analyses of bidder 5-day CAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*5-day CAR*", which is the five-day event window CAR(-2, +2) where day 0 is the announcement day; the equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	5-day CAR (1)	5-day CAR (2)	5-day CAR (3)
Intercept	0.0325	-0.0248	-0.0248
	(0.545)	(0.697)	(0.731)
Top-tier	0.0463 **	0.0374*	0.0374*
	(0.022)	(0.082)	(0.095)
Ln(size)	-0.00749	-0.0041	-0.0041
	(0.258)	(0.556)	(0.597)
Book-to-market	0.0004	0.0072	0.0072
	(0.986)	(0.781)	(0.781)
Run-up	-0.0551**	-0.0771***	-0.0771**
	(0.047)	(0.006)	(0.013)
Sigma	0.0023	0.0301**	0.0301*
	(0.809)	(0.048)	(0.058)
Leverage	-0.0040	0.0036	0.0036
	(0.561)	(0.517)	(0.534)
Cash flows-to-equity	0.0047	0.0030	0.0030
	(0.628)	(0.782)	(0.783)
Relative size	0.0713***	0.0866***	0.0866***
	(0.004)	(0.000)	(0.000)
Payment incl. stock	0.057***	0.0799***	0.0799**
	(0.002)	(0.001)	(0.016)
Diversifying deal	0.0072	0.0055	0.0055
	(0.682)	(0.755)	(0.770)
Tender offer	0.0954**	0.1070*	0.1070*
	(0.049)	(0.052)	(0.069)
State-owned acquirer	-0.0087	-0.0169	-0.0169
	(0.809)	(0.594)	(0.647)
Public deal	-0.0487	-0.0336	-0.0336
	(0.276)	(0.474)	(0.497)
N	235	235	235
Ajusted-R^2	0.186	0.253	0.253

Table 3.15 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Positive Bidder 5-day CAR

This table presents the results of cross-sectional probit regression analyses of positive bidder 5-day CAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Positive 5-day CAR*", which is the five-day event window CAR(-2, +2) where day 0 is the announcement day; and equals to one if it is positive and zero otherwise. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Positive 5-day CAR (1)	Positive 5-day CAR (2)	Positive 5-day CAR (3)
Intercept	-0.0705	-1.4910	-1.4910
	(0.926)	(0.133)	(0.157)
Top-tier	0.3720*	0.4070*	0.4070*
	(0.094)	(0.080)	(0.098)
Ln(size)	-0.0055	0.0306	0.0306
	(0.950)	(0.740)	(0.751)
Book-to-market	-0.0325	-0.0409	-0.0409
	(0.924)	(0.909)	(0.910)
Run-up	-0.139	-0.359	-0.359
	(0.646)	(0.286)	(0.335)
Sigma	-0.0341	0.210	0.210
	(0.813)	(0.305)	(0.314)
Leverage	-0.0363	-0.0125	-0.0125
	(0.613)	(0.865)	(0.871)
Cash flows-to-equity	0.0726	0.0626	0.0626
	(0.573)	(0.647)	(0.648)
Relative size	1.4790***	1.5810**	1.5810**
	(0.009)	(0.012)	(0.016)
Payment incl. stock	0.3270**	0.7360***	0.7360**
	(0.013)	(0.010)	(0.028)
Diversifying deal	0.2740	0.3460	0.3460
	(0.170)	(0.101)	(0.113)
State-owned acquirer	0.3550	0.2360	0.2360
	(0.462)	(0.639)	(0.688)
Public deal	-0.1660	0.0055	0.0055
	(0.658)	(0.990)	(0.990)
N	230	227	227
Pseudo-R^2	0.0924	0.1335	0.1335

Table 3.16 Multivariate Regression Analysis (OLS) – Investment Bank Reputation on Bidder 12-month BHAR

This table presents the results of cross-sectional OLS regression analyses of bidder 12-month BHAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*12-month BHAR*", which is the BHAR calculated over a 12-month period after the deal announcement month. The equation $\mathrm{BHAR_i} = \prod_t^T[1 + \mathrm{R_{i,t}}] - \prod_t^T[1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	12-month BHAR	12-month BHAR	12-month BHAR
	(1)	(2)	(3)
Intercept	0.2490	0.4890	0.4890
	(0.316)	(0.153)	(0.147)
Top-tier	-0.0134	-0.0109	-0.0109
	(0.881)	(0.917)	(0.919)
Ln(size)	-0.0280	-0.0321	-0.0321
	(0.354)	(0.335)	(0.359)
Book-to-market	0.1870	0.2030	0.2030
	(0.186)	(0.160)	(0.159)
Run-up	0.1330	0.1620	0.1620
	(0.164)	(0.134)	(0.159)
Sigma	-0.0529	-0.1030*	-0.1030*
	(0.214)	(0.089)	(0.099)
Leverage	0.0004	0.0025	0.0025
	(0.993)	(0.957)	(0.957)
Cash flows-to-equity	0.0103	0.0087	0.0087
	(0.927)	(0.941)	(0.941)
Relative size	0.6750***	0.6760***	0.6760***
	(0.000)	(0.000)	(0.000)
Payment incl. stock	0.1330*	0.1110	0.1110
	(0.057)	(0.322)	(0.355)
Diversifying deal	0.0642	0.0382	0.0382
	(0.388)	(0.620)	(0.621)
Tender offer	-0.2290	-0.3110	-0.3110
	(0.234)	(0.201)	(0.259)
State-owned acquirer	-0.2870**	-0.2620	-0.2620
	(0.048)	(0.123)	(0.150)
Public deal	-0.0823	-0.0974	-0.0974
	(0.627)	(0.579)	(0.581)
N	235	235	235
Adjusted-R^2	0.232	0.252	0.252

Table 3.17 Multivariate Regression Analysis (Probit) – Investment Bank Reputation on Positive Bidder 12-month BHAR

This table presents the results of cross-sectional probit regression analyses of positive bidder 12-month BHAR on investment bank reputation and other bidder- and deal-specific characteristics. The sample contains all Chinese domestic M&As announced between 1 January 2002 and 31 August 2010, where bidders are listed on either the Shanghai or Shenzhen stock exchanges. The dependent variable is "*Positive 12-month BHAR*", which is the BHAR calculated over a 12-month period after the deal announcement month; and equals to one if it is positive and zero otherwise. The equation $\mathrm{BHAR_i} = \prod_t^T[1 + \mathrm{R_{i,t}}] - \prod_t^T[1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The main variable is "*Top-tier*", which is a dummy variable equals to one for deals advised by at least one investment bank within the top 10 of the previous year's league table and zero otherwise; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Book-to-market*" is the book value of equity divided by the market value of equity one year prior to the deal announcement from DataStream; "*Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 100 days and ending 6 days before the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 100 days and ending 6 days before the deal announcement; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Relative size*" is the target's market value of equity divided by the bidder's market value of equity one month prior to the deal announcement from DataStream; "*Payment incl. stock*" is a dummy variable equals to one for deals whose consideration includes stock; "*Diversifying deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Tender offer*" is a dummy variable equals to one for tender offers and zero otherwise; "*State-owned acquirer*" is a dummy variable equals to one for deals whose bidder is a state-owned company and zero otherwise; "*Public deal*" is a dummy variable equals to one for acquisitions of publicly listed firms and zero otherwise. The p-values reported for regression (1) are based on standard errors adjusted for heteroskedasticity. Regression (2) controls for year-fixed effects whose coefficients are suppressed and their p-values are based on standard errors adjusted for heteroskedasticity. Regression (3) controls for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	Positive 12-month BHAR (1)	Positive 12-month BHAR (2)	Positive 12-month BHAR (3)
Intercept	-0.3220	-0.7360	-0.7360
	(0.643)	(0.424)	(0.480)
Top-tier	-0.0193	-0.0378	-0.0378
	(0.928)	(0.872)	(0.878)
Ln(size)	0.0514	0.0737	0.0737
	(0.525)	(0.410)	(0.447)
Book-to-market	0.1670	0.0194	0.0194
	(0.534)	(0.944)	(0.944)
Run-up	0.5550*	0.5400*	0.5400
	(0.065)	(0.088)	(0.112)
Sigma	0.0945	0.290	0.290
	(0.485)	(0.118)	(0.136)
Leverage	-0.0118	0.0078	0.0078
	(0.873)	(0.913)	(0.917)
Cash flows-to-equity	-0.0180*	-0.0217**	-0.0217**
	(0.086)	(0.034)	(0.035)
Relative size	-1.0360*	-1.1860*	-1.1860*
	(0.089)	(0.075)	(0.083)
Payment incl. stock	-0.5410**	-0.3430	-0.3430
	(0.012)	(0.233)	(0.331)
Diversifying deal	0.01430	0.1230	0.1230
	(0.941)	(0.568)	(0.579)
State-owned acquirer	0.9910	0.7640	0.7640
	(0.120)	(0.251)	(0.265)
Public deal	-0.0658	0.0614	0.0614
	(0.862)	(0.877)	(0.881)
N	230	218	218
Pseudo-R^2	0.1231	0.1569	0.1569

Appendix 3.1 Variable Definitions

Variable	Definition
	Panel A: Dependent Variables and Advisor Reputation
CAR (-1, +1) or CAR (-2, +2)	Cumulative abnormal return of the bidding firm's stock in the three- (or five-) day event window (-1,+1) (or (-2, +2)) where 0 is the announcement day. The returns are calculated using the market adjusted model.
BHAR (0, 12) or BHAR (0, 24)	Buy-and-Hold Abnormal Return of the bidding firm twelve- (or twenty-four-) months after the announcement month. Following Buchheim et al. (2001), the returns are measured as 'the difference between the compounded actual return and the compounded predicted return'. The Shanghai Stock Exchange Composite Index (SSECI) is used as a proxy for market return.
Top-Tier	Dummy variable: one for transactions with its advisors matched to one of the top-10 financial advisors ranked by the value of deals announced, followed by the number of deals on which they announced in the previous year targeting China (see Table 3.1).
	Panel B: Bidder Characteristics
Size	Bidder market value of equity four weeks prior to the acquisition announcement from DataStream in US$ million at the currency rate of 2010.
Book-to-market	Book value of equity divided by the market value of equity at one year prior to the acquisition announcement. Book-to-Market ratio is from DataStream.
Run-up	Market-adjusted buy-and-hold return of the bidding firm's stock over the period beginning 100 days and ending 6 days prior to the announcement date from DataStream.
Sigma	Standard deviation of the bidding firm's market adjusted daily returns from DataStream over period beginning 100 and ending 6 days before deal announcement.
Leverage	Leverage is calculated as (Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) / (Total Capital + Short Term Debt & Current Portion of Long Term Debt) at one year prior to the acquisition announcement. Leverage ratio is from DataStream.
Cash flows-to-equity	Cash Flows-to-Equity is calculated as the funds from operations divided by the common equity at one year before the deal announcement. Both funds from operations and common equity are from DataStream.
State-owned acquirer	Dummy variable: one for transactions with its acquirer being a state-owned company, and zero otherwise.

	Panel C: Deal Characteristics
Deal value	Value of the transaction from Thomson One Banker in US$ million at the currency rate of 2010.
Public deal	Dummy variable: one for acquisitions of publicly listed firms on either the Shanghai or Shenzhen stock exchanges, zero otherwise.
Relative size	Target's market value of equity divided by the bidder's market value of equity one moth prior to the announcement from DataStream.
Diversifying deal	Dummy variable: one for cross-industry transactions, zero for same industry transactions.

	Industries are defined at the two-digit SIC level from Thomson One Banker.
Payment incl. stock	Dummy variable: one for deals in which the consideration includes stock, zero otherwise.
Tender offer	Dummy variable: one for tender offers, zero otherwise.

Chapter 4: Determinants of Chinese Cross-Border M&As

4.1 Introduction

China's increasing economic power shows no signs of abating. At a time when most developed economies staggered from the aftermath of the global financial crisis, China's GDP increased by 10.3%, reaching a value of US$5.87 trillion in 2010 and overtaking Japan as the second largest economy in the world.[33]

Among the many signs of China's development is a surge in the number of Chinese firms seeking to buy overseas assets. Armed with more than US$3 trillion in foreign currency reserves, China is on a worldwide shopping spree. China's successfully completed CBMAs with disclosed transaction value grew from US$0.87 billion (20 deals) in 2000 to US$30.03 billion (100 deals) in 2014.[34] This substantial increase in outbound activities has been backed by the "go global" policy, which was first spelled out in China's tenth five year plan (2001– 2005) and continued to remain as a key national strategy. Additionally, the increase in CBMA actives have been driven by a number of factors, including resource-seeking (Boateng, Wang and Yang (2008)), favourable exchange rates that occurred after the RMB exchange rate reform (Black et al. (2012)), and favourable valuations resulting from the global financial crisis. In this chapter, we aim to examine how these factors impact the wealth creation of Chinese firms acquiring overseas. Given that a significant proportion of CBMAs are undertaken by SOE firms, which are potentially incentivized and managed differently from typical firms in a market-oriented economy, it would be doubtful if the mainstream theories and empirical findings derived from the western economies are applicable in China; thus, China serves as unique testing ground and is particularly interesting for research purposes.

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[33] Source: BBC News Business - China overtakes Japan as world's second-biggest economy, 14 February 2011.
[34] Source: Thomson One Banker.

The industry preference has raised major concerns from western countries regarding China's intentions for natural resource-related sectors. In addition, these deals are usually high profile and proposed by state-owned enterprises (SOE), which causes foreigners to worry about whether resource-related deals affect national interests or confer unfair advantages on the acquired firms. Hence, Chinese bidders engaged in resource-related deals are experiencing more outright failures and inflated prices than are bidders in other sectors. To ensure the successful completion of natural resource-related deals, bidding firms are required to carefully plan, manage and present all deal rationales to all stakeholders (politicians, media, communities and employees) to alleviate their fears regarding, for example, the bidders' commercial and economic motivations, their plans for the future, who they are, and what role, if any, the Chinese government plays in their decision making.

Motivated by the various concerns over China's dominance and by the scarcity of literature in resource-related sectors, we aim to employ the most up-to-date dataset on Chinese outbound activities to empirically examine the short- and long-term wealth effects of successful resource-related M&As and to compare those wealth effects with the wealth effects in other sectors.

Over the last three decades, the spectacular growth of China's export sector and massive inflows of foreign direct investment (FDI) have resulted in an enormous store of foreign exchange reserves, which puts upward pressure on the renminbi (RMB) exchange rate. In addition, for more than ten years, China kept its RMB fixed at RMB8.25: US$1, which generated much criticism from the international community. In particular, many in the international community claimed that the severe undervaluation of the RMB gave China an unfair trade advantage and argued that China should float its currency.

On July 21, 2005, China officially revalued its currency to RMB8.11: US$1 and modified the exchange rate system. The government announced that "the RMB will be no longer pegged to the US dollar" and that "China will reform the exchange rate regime by moving into a managed floating exchange rate regime based on market supply and demand with reference to a basket of currencies".[35]

Since the July 21st decision, the nominal exchange rate of RMB has strengthened by 24%. Even more strikingly, according to calculations by *The Economist*, the real exchange rate of RMB has strengthened by almost 50% since 2005.[36] The real exchange rate takes into account the price movements in each country as well as the competitiveness of Chinese firms, which is assessed based on their unit labour costs. Thus, the real exchange rate of RMB can increase, even if its nominal exchange rate remains the same. The combined effect of increases in the RMB exchange rate and increases in Chinese unit labour costs is to drive up China's outbound merger activity. According to data from Thomson Reuters, the value of CBMAs remained insignificant until 2005, when it surpassed the 10 billion US dollars mark for the first time.[37]

Indeed, in a study of all successful CBMAs worldwide from 1990 to 2007, Erel, Liao and Weisbach (2012) find that the imperfect integration of capital markets across countries can cause a merger in which a higher-valued acquirer purchases a relatively inexpensive target following changes in exchange rates. The findings of that study mirror prior findings relating to US dollar exchange rates and net FDI inflows in the United States (Froot and Stein (1991)).[38]

If changes in exchange rates can influence the relative wealth of acquiring and target firms, it is plausible to suggest that changes in exchange rates could also potentially affect wealth

[35] Source: People's Bank of China, Public announcement, 2005.
[36] Source: The Economist, The Yuan-Dollar Exchange Rate, Nominally Cheap or Really Dear? Nov 4th 2010.
[37] Source: A Brave New World, The Climate for Chinese M&A Abroad, Economists Intelligence Unit, 2010.
[38] Froot and Stein (1991) find that a depreciation of the US dollar increases the relative wealth position of foreign investors and lowers their relative cost of capital, which allows them to bid more aggressively for assets.

creation in acquisitions. However, this topic seems to be ignored in earlier literature. To our knowledge, the only study that examines the relationship between the Chinese RMB exchange rate and bidder returns is that by Black et al. (2013). Those authors propose that RMB appreciation could benefit acquiring firms' shareholders if the acquiring firms can make acquisitions more cheaply abroad, but fail to find any support for this proposition. The results of that study could be limited due to small sample size (43 CBMAs) because the authors only consider acquirers that are listed on the Shanghai and Shenzhen stock exchanges. We construct a more comprehensive dataset that comprises 111 CBMAs conducted by all Chinese acquirers listed on every stock exchange to assess whether any wealth effect resulting from the substantial appreciation of the RMB can be transformed into significant wealth gains for acquiring firms' shareholders in both the short and long terms.

Additionally, the ongoing economic woes following the global financial crisis in 2008 have opened up attractive investment opportunities around the world. Declining valuations and bid premiums for western firms in the wake of the European and US debt crises have decreased the relative cost of acquisition for Chinese buyers, which in turn has prompted an increasing number of Chinese buyers to look for possible acquisition targets overseas.[39]

The financial crisis has not only yielded some significant bargains from distressed economies but also made Chinese policymakers aware that amassing their foreign reserves in the bonds of over-indebted Western governments would not create the highest returns for hard-working Chinese citizens. In addition, China still needs an enormous amount of foreign-sourced raw materials, technologies and managerial know-how. The financial crisis could prove to be the point at which many Chinese companies emerge as true equals of established multinational companies, gaining competitiveness and allowing China to become a truly world-class economy.

[39] Source: Leveling the M&A Playing Field, MSLGROUP China, July 2013.

Furthermore, cash-strapped western companies are well aware of China's intensions and Chinese companies' deep pockets, given that Chinese companies are often highly liquid with large amounts of free cash or good access to local financing. Although western firms have changed their attitudes towards Chinese investment and now view such investment in a more favourable light, investments in natural resource-related sectors remain sensitive.[40]

We find that in 2009, when most advanced economies remain mired in the aftermath of the global financial crisis, the number of completed CBMAs reached a record high, accounting for 25 deals in our sample. Almost half of these deals were targeted at firms in economically distressed countries, such as the United States, Canada and Australia.

Given that Chinese companies are better positioned than firms in economically distressed countries and benefit from lower cost of acquisition, managers from Chinese companies are likely to be more opportunistic during the crisis. For example, Chinese managers may be concerned that as economic conditions improve, they will be put at a disadvantage relative to their competitors and that targets will be less willing to sell to Chinese firms as other financing becomes available. Hence, the financial crisis could lead managers to succumb to the temptation to acquire abroad without careful planning, which may result in value-destroying deals for their shareholders.

Although it is unquestionably interesting to consider the impact of the recent financial crisis on the performance of Chinese acquirers, no academic work has been performed in this area. We aim to fill this gap in the literature by comparing the short- and long-term abnormal returns of Chinese acquirers engaged in CBMAs during the pre-crisis period with those of Chinese acquirers engaged in CBMAs during the post-crisis period.

[40] Source: A Brave New World, the Climate for Chinese M&A Abroad, Economists Intelligence Unit 2010.

With the above-described research topic in mind, we examine data obtained from Thomson One Banker regarding a sample of 111 successfully completed CBMAs announced between 1 January 2002 and 31 January 2011 that were undertaken by Chinese acquirers listed on all stock exchanges. We categorize our sample according to the following characteristics: whether the target operates in the energy and materials sectors ("*Resource-Related Target*") or in any other sector ("*Non-Resource-Related Target*"); whether the deal was announced before RMB appreciation ("*Before Currency Appreciation*") or after RMB appreciation ("*After Currency Appreciation*");[41] and whether the deal was announced before the global financial crisis ("*Before Financial Crisis*") or after the global financial crisis ("*After Financial Crisis*").[42] In addition, we measure the value created for the acquiring firms' shareholders as the short-term CAR calculated with the market-adjusted model such that a CBMA is considered to be value-enhancing if it generates a significantly positive CAR. To assess whether a merger generates wealth over a longer time horizon, we measure the value created for acquiring firms' shareholders using the BHAR approach, as advocated by Barber and Lyon (1997).

Based on our univariate analyses, we find that CBMAs involving resource-related targets generate positive and significant abnormal returns of 1.98% in the short-run, but insignificantly outperforming those targeting non-resource-related targets. In the long term, CBMAs involving resource-related targets generate insignificant returns for bidding firms' shareholders. Nevertheless, we find that bidding firms' shareholders earn significantly higher returns of 24.4% in deals targeting resource-related firms compared with deals targeting non-resource-related firms. On the whole, our results suggest that although resource-related deals may promote national interests, they do not do so at the expense of shareholder wealth, indeed, they are significantly less value-destroying than their counterparts over the long term.

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[41] We classify the *Currency Appreciation* period as the period after the RMB exchange rate reform on 21 July 2005.

[42] We classify the *Financial Crisis* period as the period after Lehman Brothers filed for Chapter 11 bankruptcy protection on 15th September, 2008.

Regarding the effect of RMB appreciation on Chinese cross-border acquirers' performance, we find over the short term, acquirers earn significant announcement abnormal returns of 1.40% after currency appreciation, which is 2.86% significantly superior to those earned before currency appreciation. Over the longer time horizon, although acquirers experience significantly negative returns of -13.01% after RMB appreciation, their returns before and after currency appreciation are shown to be insignificantly different. Therefore, we suggest that the increase in relative wealth and lower cost of capital for acquirers resulting from currency appreciation plays a more prominent role in wealth generation in the short term than in the long term.

Regarding the impact of the global financial crisis, our results show that on average, acquirers engaged in CBMAs after the financial crisis gain significant wealth of 1.79% in the short term, which is 2.08% significantly higher than that gained before the crisis. However, the long-term analysis fails to show any significant difference between acquirer returns before and after the financial crisis. Our results indicate that in the long term, the wealth destruction associated with managerial risk taking is likely to offset the wealth creation derived from the lower cost of acquisition for CBMAs conducted during the financial crisis period.

We employ multivariate regression analyses to control for any confounding effects in the univariate comparisons and thereby reveal the net effects of resource-related deals, currency appreciation and the financial crisis on acquirer returns. All regressions are controlled for year fixed effects with standard errors adjusted for heteroskedasticity and bidder clustering. Our multivariate results are similar to those obtained from the univariate analyses. We observe that firms acquiring resource-related targets are associated with insignificant CAR and BHAR improvement at conventional levels. Nonetheless, focussed resource-related acquisitions are favoured by the market, especially in the short term. Deals announced after currency appreciation increase bidders' announcement and long-term returns significantly, whereas deals conducted during financial crisis period lead to substantial wealth destruction for acquiring firms' shareholders two years post-acquisition.

In sum, our multivariate regression results indicate that although resource-related cross-border deals promote national interests, they are not value-destroying for shareholders in either the short or long run. Indeed, such deals are especially value-enhancing if the bidding and target firms are in the same line of business. Currency appreciation increases the relative wealth and lowers the cost of capital for acquirers, which helps them gain significantly higher abnormal returns, both around the deal announcement and two years post-merger. The wealth destruction associated with higher managerial risk taking significantly outweighs the benefit of the lower cost of acquisition experienced by acquirers during the financial crisis and leads to underperformance of CBMAs conducted by these firms over the long term.

Our work has several important contributions. First, by employing the most up-to-date dataset of Chinese CBMAs, we empirically examine the difference in bidder performance between resource-related and non-resource related industries to ascertain whether political interests in acquiring resources and shareholder value creation are mutually achievable. Second, this is the first study that documents a significant positive correlation between currency appreciation and acquirer performance in China. Third, our results add to the empirical literature on behavioural finance by demonstrating that acquiring firms' managerial opportunism was significantly enhanced during the recent financial crisis. Finally, our work helps investors gain a more comprehensive understanding of Chinese acquirers' performance in CBMAs over the last decade and might help alleviate western concerns about further Chinese outbound investments.

The reminder of this chapter is structured as follows. Section 4.2 reviews the literature. Section 4.3 describes the data and methodology, and reports the summary statistics. Section 4.4 presents the univariate analyses and the multivariate regression results. Finally, Section 4.5 concludes this chapter and outlines ideas for future research.

4.2 Literature Review

4.2.1 Motivations behind M&As: Neoclassical and Behavioural Explanations

4.2.1.1 Neoclassical Explanations

Neoclassical theories imply that merger activity is driven by economic rationales, such as economies of scale or other synergies, and should thus bring about measurable wealth gains post-merger. These theories emphasise that technology, economic and regulatory shocks to an industry allow firms within and across a particular industry to respond to the shocks and effectively improve their allocation of assets through M&As. Such shocks can also lead to merger clusters, which occur in waves.[43]

Perhaps one of the earliest economic rationales for merger activity is provided by Coase (1937), who argues that changes in technology mitigate the cost of organizing transactions across space and result in larger firms.

Shleifer and Vishny (1992) argue that merger waves always occur during economic booms because during such periods, firms' cash flows and fundamental values increase and financial constraints are reduced, bringing asset prices closer to their fundamental values. Harford (1999) supports this argument by showing that firms with higher cash reserves are more active in the M&A market. Harford (2005) further finds that merger waves are likely to be preceded by external shocks, including shocks stemming from changes in firm valuation and from periods of industry deregulation.

With regard to regulation, corporate law theory proposes that the laws regulating investor protection determine merger activity. La Porta et al. (1997) and (1998) suggest that countries

[43] The Art of Capital Restructuring, Behavioural Effects in M&As, Jens Hagendroff, P387.

with better shareholder protection have more valuable stock markets and more active markets for corporate control than countries with weaker shareholder protection do. However, Roe (2003) argues that the activity of the market for corporate control is not determined by laws and regulations but by social consensus and political will. Regardless of the exact determinants of merger activity, it is widely recognized that the overall institutional context is one reason for mergers to occur.

Despite the undisputed correlation between merger activity and the economic rationales presented by the above-referenced literature, empirical post-merger performance does not always reconcile with the theoretical implications of these rationales, which raises questions about the assumption of rational economic agents under the traditional finance paradigm.

4.2.1.2 Irrational Managers

The behavioural theories of M&As relax the underlying assumption of the traditional finance paradigm, which maintains that economic agents (i.e., managers and investors) act rationally in an efficient market. Rather, behavioural theories are based on more realistic behavioural assumptions and account for irrational managerial and investor behaviour in the market for corporate control.

When the assumption of managerial rationality is relaxed, executive hubris and self-attribution bias arise and act to promote merger activities. The hubris hypothesis was initially developed by Roll (1986) and proposes that managers overestimate their abilities to identify and extract potential synergies from M&As. Hence, overconfident managers are likely to overvalue the net present value of acquisitions and overpay for their targets, which in turn leads to poor post-merger performance of the acquiring firms.

Hayward and Hambrick (1997) relate the acquisition premium to managerial overconfidence and find that superior corporate performance, higher executive compensation and praise for CEOs in the financial press are positively correlated to higher acquisition premiums. They also show that higher premiums are negatively correlated to post-merger abnormal returns. Consequently, the authors argue that hubris causes overinvestment and has a negative impact on firm performance.

Fuller, Netter and Stegemoller (2002) find that acquiring firm announcement returns are positive for the first merger but decrease for subsequent mergers. Their results suggest that managerial hubris grows along the sequence of mergers. Doukas and Petmezas (2007) use the number of mergers completed over a short period of time as a proxy for managerial overconfidence. They show that managers who engage in multiple transactions are likely to suffer from cognitive bias and inflated beliefs in their own abilities. When managers' first deals generate positive wealth creation for shareholders, managerial overconfidence magnifies and turns into self-attribution bias because managers ultimately believe that their initial success was due to their ability to identify a superior target and to their effective management during the post-merger integration process.

However, Aktas, de Bodt and Roll (2009) argue that underperformance in subsequent mergers does not sufficiently explain managerial hubris. This underperformance could also be due to economic reasons; for example, rational managers are risk-averse and are thus more likely to pay higher premiums for a target to ensure that the deal is completed successfully. Nevertheless, there is no reason why hubris and economic rationales cannot coexist in practice.

4.2.1.3 Irrational Investors

Although the irrational managerial behaviour approach sheds some light on the disparity between the theoretical implications of ex-ante motivations and their ex-post effects, this approach does not explain why mergers come in waves, nor does it explain the difference between the performance of cash and stock mergers. This leads us to explore the irrational investor behaviour approach, which argues that when investors are not fully rational, securities market arbitrage is imperfect, which causes securities prices to deviate from their fundamental values over sustained periods. Rational managers are assumed to perceive this mispricing and to respond to it.

Merger waves driven by overvaluation were first noted by Nelson (1959), who finds a strong correlation between merger activity and the state of the capital market. Moreover, prior literature suggests that relative mispricing across international securities markets is also possible, which implies that an increase in an acquirer's stock market valuation will lead to an increase in CBMA volume (Froot and Dabora (1999) and Baker, Foley and Wurgler (2004)).

Shleifer and Vishny (2003) propose a market timing hypothesis of M&As, which suggests that managers are rational and that their perceptions of mispricing drive acquisition activities. In essence, they argue that "mergers are a form of arbitrage by rational managers acting in irrational markets." If managers perceive their firms to be overvalued, they tend to conduct acquisitions not for synergy reasons but to preserve some of the temporary excess value for shareholders by purchasing undervalued targets using their overvalued stock. This in turn provides a cushioning effect for the drop in the acquirer's share price and leaves shareholders with more hard assets per share. Alternatively, if a deal's value proposition caters to investor appetites, which causes the combined entity to be overvalued, managers tend to conduct the deal to gain a cushioning effect even if a higher premium is likely to be paid.

Rhodes-Kropf, Robinson and Vishanathan (2005) support the market timing hypothesis by showing that firms with higher market-to-book ratios have a tendency to acquire those with lower market-to-book ratios.

Baker, Ruback and Wurgler (2007) argue that although managerial decisions based on market timing may increase firm value in the short run, the long-run value of the firm may be lower as prices correct. Empirical evidence of this argument is found in the work of

Bouwman, Fuller and Nain (2009), which shows that although acquirers' announcement returns are higher in high-valuation markets than in low-valuation markets, the opposite wealth effect occurs over the long term. Additionally, they find that the long-term underperformance of acquirers is driven by firms that undertake deals near the end of the merger wave and suggest that management herding behaviour causes late movers to engage in low-quality deals. Given the notion proposed by Persons and Warther (1997) that ex ante uncertainty can only be determined by ex post performance, managerial herding can be viewed as a rational behaviour rather than as late movers making bad decisions, in the sense the that positive experience of early movers encourages others to follow, and this herding effect ends when the ex post performance of recent movers is sufficiently poor.

Nonetheless, it is worth noting that although theoretical works differentiate between the irrational managerial behaviour approach and the irrational investor behaviour approach, in practice, there is no reason why both channels of irrationality cannot operate at the same time.

4.2.1.4 Agency Theory

Agency theory is used to explain the persistent underperformance of acquiring firms in M&As. Agency theory posits that mergers offer private benefits to acquiring firms' managers and lead to value-destroying deals for acquirers' shareholders. Jensen (1986) proposes a free cash flow hypothesis whereby managers intentionally accumulate excess cash to insulate them from monitoring by external markets and make value-destroying investment decisions. In line with the free cash flow hypothesis, Harford (1999) finds that cash-rich firms are more likely to conduct M&As and that these deals are value-decreasing for shareholders overall, as reflected in negative announcement returns and the subsequent poor operating performance of the combined firm.

It is also important to note the key distinction between agency theory and the hubris hypothesis. Agency theory proposes that managers suffer from moral hazard or opportunism and desire to increase their personal undiversified risk or to increase the scope of their authority at the expense of shareholders' wealth. In contrast, the hubris hypothesis proposes that managers are overconfident and engage in good-faith mismanagement that is value decreasing; in other words, managers do not deliberately jeopardize shareholders' wealth through merger activities.

4.2.1.5 Executive Compensation

Though most agency theories and hubris hypotheses that explain M&As cannot be reconciled, there is one exception – executive compensation.

On the one hand, executive compensation can be viewed as a corporate governance instrument that helps curb managerial opportunism and align managerial interests with those of the shareholders. For example, Bliss and Rosen (2001) suggest that performance-based compensation for bank CEOs is likely to lead to fewer acquisitions, and Datta, Iskandar-Datta and Raman (2001) show that performance-based compensation is linked with higher announcement returns in M&As.

On the other hand, executive compensation can be viewed as providing feedback to CEOs, and higher compensation is likely to signal to CEOs that they are successful and to boost managerial overconfidence. For instance, Hayward and Hambrick (1997) find a positive correlation between acquisition premiums and the gap between the highest CEO pay and the next-highest officer pay. Moreover, Bebchuk, Cremers and Peyer (2007) find that higher-paid CEOs, as proxied by "CEO centrality", are more likely to conduct value decreasing M&As. Although they explain their results by suggesting that more powerful CEOs are less likely to be disciplined by the board (agency theory), there is another potential explanation for this observation: more powerful CEOs are likely to be overconfident and engage in good-faith mismanagement that destroys shareholder value.

4.2.2 Additional Motivations for CBMAs

In theory, CBMAs occur for the same reasons that domestic mergers do; however, national boundaries add an extra element to the calculus of CBMAs because they are associated with an additional set of frictions that can either impede or facilitate their progress, including cultural and geographic differences, governance-related differences, and imperfect integration of capital markets across countries (i.e., through changes in exchange rates or stock market valuations in the local currency) (Erel, Liao and Weisbach (2012)).

Ahern, Daminelli and Fracassi (2013) suggest that different languages and religions, as well as longstanding feuds between countries, can increase the contracting costs in CBMAs. The physical distance can also increase the costs and decrease the likelihood of mergers (Rose (2000)). In addition, corporate governance arguments suggest that firms in countries with better legal or accounting standards tend to acquire those in countries with lower-quality governance (Rossi and Volpin (2004) and Bris, Brisley and Cabolis (2008)). Differences in the level of market development can also promote CBMAs by encouraging firms in developed markets to acquire those in emerging markets to benefit from the weaker contracting environments (Chari, Quimet and Tesar (2011)).

Another important factor in cross-border mergers is valuation. Erel, Liao and Weisbach (2012) find that country-level valuation changes, such as changes in currency movements and differences in country-level stock market performance, affect mergers by making otherwise economically sensible mergers more attractive. Therefore, CBMAs should not be viewed as pure financial arbitrage. Erel, Liao and Weisbach (2012) also suggest two possible (and not mutually exclusive) explanations for differences between the pre-merger country-level stock market performances of merging firms. One explanation is that the different in stock market returns could affect the relative wealth of the two countries, motivating firms in the wealthier country to purchase firms in the poor country. This could occur either because the increase in wealth lowers the potential cost of capital for acquirers (Froot and

Stein (1991)) or because the imperfect integration of capital markets renders firms in countries with poorer-performing stock markets relatively inexpensive compared with acquirers' other potential investments. The other explanation is that either overpricing of the acquiring firm or underpricing of the target firm could generate potential gains for the acquiring firm (Shleifer and Vishny (2003)). Following Baker, Foley and Wurgler (2009), Erel, Liao and Weisbach (2012) perform a similar test to distinguish between these explanations and find that the relative wealth explanation better illustrates the relation between valuation differences and CBMAs than the mispricing explanation; their results indicate that valuations do not revert to their true values post-merger.

4.2.3 Existing Literature on CBMA Performance

Despite the fact that an increasing amount of international merger activity involves acquirers from emerging countries, most prior literature focuses on the wealth effect of acquirers in the developed countries, though the empirical evidence on this value creation remains inconclusive.

Cakici, Hessel and Tandon (1996) investigate shareholder wealth creation for 195 foreign firms that targeted US firms between 1983 and 1992 and a control sample of 112 US CBMAs over the same period. Their results indicate that although foreign acquirers experience significant positive announcement returns when purchasing US targets, US acquirers that buy targets in other countries do not experience similar gains. In addition, they find that acquirer announcement returns are not related to the relative size of target to acquirer, to the extent of the acquirer's overseas exposure, or to the target's R&D intensity. Acquirer announcement returns also do not exhibit any industry factor and are not affected by the value of the foreign currency. Nevertheless, they find support for the hypotheses that competition among bidding firms for a single target decreases the returns to the acquirers and that the 1986 Tax Act has not led to any gains for foreign buyers of US firms.

Martynova and Renneboog (2008) employ a sample of 2419 European CBMAs from 1993 to 2001 and find that the acquirer abnormal return over a three-day event window around the announcement date is 0.47 and statistically significant. They also find that a shared language, a common border between the acquirer and the target, and shareholder rights improvement for the acquirer and the target all exert a positive impact on acquirer returns, whereas acquirer size and hostile bids have a negative impact on acquirer returns.

Chari, Quimet and Tesar (2011) study 346 CBMAs from developed countries to emerging countries between 1986 and 2006 and find that the developed-market acquirers experience significant three-day announcement returns of 1.16% on average. They suggest that this wealth gain is positively correlated with the asymmetry between developed and emerging market institutions and with the intangibility of the target industries' assets.

Benou, Gleason and Madura (2007) examine the wealth effect of 503 high-tech CBMAs conducted by US acquirers during the period 1985 to 2001. They find that investor perception of high-tech deals is more positive when these deals have more tangible assets (less information asymmetry) and more media attention and are advised by top-tier investment banks. However, on average, US acquirers experience positive but insignificant announcement returns when purchasing high-tech firms overseas.

Mueller and Yurtoglu (2007) study the acquiring firm's shareholder wealth effect for a sample of 9733 CBMAs from both Anglo-Saxon and non-Anglo-Saxon countries between 1981 and 2002. They find that the average acquirer wealth gain over a twenty-one day event window around the merger announcement is 0.6% and that this wealth gain varies when a different event window is used. Three years post-merger, acquirers from the US and Europe experience a 19% loss in market value compared with a portfolio of non-merging firms in their size decile and two-digit industry; acquirers in Canada, Australia and New Zealand experience a 16% loss; and acquirers in four Scandinavian countries experience a 15% loss. They suggest that although their results indicate that some mergers are driven by economic rationales, a fair amount of CBMAs in continental Europe are driven by the managerial discretion and/or hubris hypotheses. Moreover, their results indicate that corporate governance institutions in the US and other Anglo-Saxon countries promote better investment performance than those in Europe, when one's attention is confined to mergers.

Kuipers, Miller and Patel (2009) examine the effect of legal environments and corporate governance structures across different countries on both target and acquirer announcement returns for a sample of successful CBMAs involve foreign acquirers and US targets between 1982 and 1991. They find that the average CAR during the two-day announcement window before announcement is highly significant at 23.1% for US targets and a similarly significant -0.92% for foreign acquirers. Their results indicate that the incentive mechanisms created by the degree of shareholder-creditor rights protection and legal enforcement in the acquirer's country help to explain the observed variation in target, acquirer and portfolio returns.

Bris and Cabolis (2008) analyze the effects of changes in corporate governance on firm value by examining 506 CBMAs that acquired 100% of the target shares. They find that target firms gain a significant abnormal return of 14.20%, whereas acquirers experience a significant abnormal return of −1.12% five days around the merger announcement. In addition, the authors suggest that the better the shareholder protection and accounting standards are in the acquirer's country, the higher the merger premiums are for CBMAs relative to matching domestic acquisitions.

In the above literature, the targets are from both developed and emerging countries and acquirers are mainly from developed countries. Another stream of studies focuses on CBMAs made by acquirers in emerging countries: Gubbi et al. (2010) look at 425 CBMAs carried out by Indian acquirers during the period 2000 to 2007 and report that Indian acquirers on average earn significantly positive abnormal returns of 2.58% over the eleven-day event window around the merger announcement. They also report that higher value is generated for acquirers when the target firms are located in advanced countries and institutional environments, given that country markets that promise higher-quality resources are more strongly complementary to the existing capabilities of acquiring firms in emerging economies.

Aybar and Ficici (2009) examine acquirer announcement returns in 433 CBMAs conducted by 58 emerging-market multinationals between 1991 and 2004 and find that CBMAs not only do not generate value for acquirers but are value destroying for more than half of the transactions. They further suggest that target size, target diversification, and private status of the target are positively correlated with acquirer announcement returns, whereas high-tech and focussed deals are negatively correlated with acquirer returns. Aybar and Ficici (2009) also find that the percentage of shares acquired in the target firm and cultural distance positively affect acquirer value creation, whereas international experience and enhanced corporate governance do not.

Bhagat, Malhotra and Zhu (2011) look at the characteristics and performance of acquirers in 698 CBMAs made by firms in emerging countries from 1991 to 2008 and find that emerging-country acquirers experience a positive and a significant market response of 1.09% on the announcement day. They further find that acquirer returns are positively correlated with (better) corporate governance measures in the target country.

4.2.4 The Emergence of China and Motivations behind Chinese CBMAs

The economic reforms introduced by China in 1978 were founded on openness to commerce with the rest of the world. Since that time, China's export sectors have served as a remarkable engine for China's spectacular growth. In addition, the Chinese government has displayed a welcoming political policy towards foreign investors, termed the "Invite In" policy, which is intended to attract foreign direct investment to fuel the growth of China's industrial machine with necessary capital. Foreign investors have responded well to this policy, injecting tens of billions of dollars into China to take advantage of its favourable taxation, legislation and financing, as well as its cheap labour force; investors that produce export goods have received the lion's share.[44] In the meantime, China has accumulated huge amounts of foreign exchange reserves, which exerts upward pressure on the foreign exchange rate of its currency, the RMB, and fuels demands from the western world that China appreciates the RMB against dollar. To alleviate this pressure, the Chinese government has actively tried to utilize its foreign exchange reserves in CBMAs.

Moreover, to ensure that China's reformed and market-oriented economic system continues to flourish, the government recognizes that encouraging Chinese companies to invest overseas is as critical as attracting foreign direct investment and thus launched the "go global" policy in 1999. The "go global" policy has three main purposes: first, it aims to alleviate the pressure to appreciate the RMB; second, it aims to sustain the resources necessary for China's growth over the medium to long term; and third, it aims to support local companies' efforts to gain competitiveness through the appropriation of foreign technology and the assimilation of modern business practices (Gu and Reed (2010)).

In 2001, the Chinese government identified outward direct investment as one of the keystones of its 2001-2006 Tenth Five-Year Plan and set aside 500 billion US dollars for outbound investment within these five years. In particular, the government directed specific sectors to invest overseas, including the energy sector, which has been allocated 100 billion US dollars to spend on CBMAs (South China Moring Post, 2005).

The urge to go global intensified when China joined the World Trade Organization (WTO) in 2001 because its participation in this group created not only opportunities for Chinese companies to expand their trade but also intensive competition between local and foreign companies within the domestic market.

[44] Source: A Brave New World, The Climate for Chinese M&A Abroad, Economists Intelligence Unit, 2010.

In 2006, the Chinese government reinforced the "go global" policy in its 2006-2010 Eleventh Five-Year Plan, aiming to bring the corporate sector in line with China's globalization. The most recent five-year plan, the 2011-2015 Twelfth Five-Year Plan, has clear targets in place, including a 17% increase in overseas investment, which contemplates overseas investment of US$150 billion by 2015.[45]

4.2.5 Existing Literature on Chinese CBMA Performance

Despite the recent surge in CBMA activity, few academic studies empirically examine the performance of Chinese acquirers in CBMAs. Rather, existing studies of Chinese CBMAs are merely reviews of existing theories, descriptions of the current situation and case studies.

Boateng, Wang and Yang (2008) examine the strategic motivation and performance of 27 CBMAs conducted between 2000 and 2004 by Chinese acquirers listed on either the Shanghai or Shenzhen stock exchanges. They find that Chinese CBMAs are driven primarily by strategic motivations, for example, to facilitate international expansion and diversification (the primary motive for 39% of acquirers), to increase market share and power and to acquire strategic assets (the primary motive for 27% of acquirers) and to overcome government-mandated barriers (the primary motive for 7% of acquirers). In terms of merger performance, Boateng, Wang and Yang (2008) find that Chinese acquirers experience significantly positive announcement returns of 1.3% three days around the merger announcement, which supports the view that CBMAs enable international firms to create value for their shareholders by exploiting imperfections in product, factor and capital markets.

Wu and Xie (2010) study 32 Chinese CBMAs conducted by acquirers listed on either the Shanghai or Shenzhen stock exchanges from 2000 to 2006 and find that both pre-acquisition performance and the proportion of state-owned shares are positively correlated with the

[45] Source: MOFCOM's 12th Five-Year Plan for utilization of foreign investment, 15 May, 2012.

performance of Chinese companies that engage in CBMAs. Their results indicate that better managers are able to extend their management competence to the combined company and that higher levels of state ownership benefit acquisition performance through favourable government policies and stricter supervision by state agencies, which leads to fewer irrational acquisitions. However, they do not find any significant effect of corporate age or free cash flow on acquirer performance.

Chen and Young (2010) test the relationship between state ownership and acquirer performance by looking at 39 Chinese CBMAs conducted from 2000 to 2008. They proposed two hypotheses, the first being that increased state ownership in the acquiring firms will lead investors to view the deal in less favourable terms (the principal-principal conflict) and the second being that environmental complexity will moderate the negative effect of the principal-principal conflict (the moderating effect). They find support the principal-principal conflict by observing a negative relationship between government ownership in the acquiring firm and merger announcement returns but find no support for the moderating effect.

Gu and Reed (2010) study the performance of 145 CBMAs by Chinese acquiring firms over the period 1994 to 2008. They aim to investigate whether stock markets view Chinese CBMAs as value enhancing for shareholders and whether there is a change in the market perception of CBMAs between before the “go global” period and after the “go global” period. Their results indicate that throughout the entire sample period, the market reacts positively to Chinese CBMA announcements. However, market reaction to CBMAs becomes less favourable during the “go global” period. They propose two hypotheses to explain the market reaction to CBMA after the implementation of go global policy, which aimed to encourage overseas investment. One is that CBMA volume increased as a result of go global policy, but with less attractive targets on average; hence, volume reduces quality. The other hypothesis is that the go global policy redirects investment towards industries with national strategic value at the expense of profits. They find no support for the latter hypothesis and suggest that whatever the role national strategic interest plays in motivating Chinese CBMAs after the go global policy, it is unlikely that this motivation has come at the expense of shareholder wealth.

Black et al. (2013) compare the performance of Chinese domestic and cross-border mergers from 2000 to 2009 and find that CBMA acquirers enjoy significantly higher returns over the long term, although short term CBMA returns are more negative than those of domestic deals. They also find that acquirers' returns vary substantially according to acquirer size and to target characteristics. Their results suggest indicate that resource-related deals are more likely to generate significant wealth for shareholders only for domestic deals in the short run, indicating that external political biases against government efforts to acquire resources at the expense of shareholder wealth are unfounded.

4.2.6 Hypotheses Development

Over the past decade, the growing scarcity of quality natural resources in China has led to an upsurge in resource-related CBMAs.[46] The Chinese government has not only paid more attention to the resource-related sector but has provided it with more legislative flexibility and easier access to financing than any other sectors, particularly after the tremendous investment losses in US financial sector during the crisis. For example, with respect to more flexible legislation, the National Development and Reform Commission (NDRC) in 2011 increased the scope of its provincial-level approval authority to US$300 million for the resource-related sector and to US$100 million for other sectors to accelerate the approval process. With respect to easier access to financing, the Chinese government created two special funds to support companies undertaking mine investment overseas in 2009; these companies are also able to obtain access to outward economic and technical cooperation funding from the Ministry of Finance.

[46] Resource-related CBMAs are defined as deals in which targeted at firms operate in the energy or materials industry sectors.

A recent study by Gu and Reed (2010) of 145 Chinese outbound M&As from 1994 to 2008 finds that firms in the energy, natural resources and technology sectors are the most common targets and that the proportion of CBMAs involving these targets increased from 13% to 30% after the “go global” period. They suggest that this boost is consistent with the purpose of the “go global” policy to assure sufficient resource availability for China’s future economic growth and is profit-enhancing for Chinese acquirers. Black et al. (2013) compare the abnormal returns of Chinese cross-border and domestic M&As between 2000 and 2009 and find that the market reacts positively to resource-related deals in the short run for domestic transactions only, indicating that external political biases against China are unfounded.

Furthermore, Jacks (2013) reveals that long-term inflation-adjusted price appreciation is most pronounced for commodities that are “in the ground”, such as energy, minerals and natural gas, whereas prices for resources that can be grown have trended downwards. He suggests that during periods of industrialization and urbanization, as occurred in China in the 2000s, “in-the-ground” commodity prices can be pushed further off trend. Moreover, the post-acquisition success of natural resource-related transactions is less dependent on the post-acquisition integration capabilities of the acquiring firms than the success of their non-resource-related counterparts is. This result occurs because resource-related transactions tend to have one clear goal, to access resources, and once the resources are extracted, the mission is complete.

Although the torrent of publicity in western countries has emphasized China’s intensions to “lay its hands on the world’s resources” in a close-to-imperial manner and to confer unfair advantages upon the target firms, and the possibility of Chinese government to redirect investment towards sectors with national strategic value at the expense of shareholders’ wealth; we suggest the overall effect of stronger domestic demand, more legislative flexibility, easier access to financing and smoother integration processes, along with the price appreciation of “in the ground” commodities, leads to the following testable hypothesis:

Hypothesis I – Bidders acquiring resource-related targets should earn higher abnormal returns than bidders acquiring non-resource-related targets do in Chinese CBMAs.

Much attention has been paid to the RMB exchange rate in recent years, and the US has placed commercial pressure on China to appreciate its currency against dollar. After keeping the RMB fixed at RMB8.25: US$1 for more than ten years during a period of high growth and declining inflation rates, the People's Bank of China announced on 21st of July 2005 that it would revalue RMB exchange rate to RMB8.11: US$1 and lift its de facto fixed peg of the RMB to the USD by implementing a managed float system. Since then, the nominal rate of the RMB against the USD has appreciated over 20% (McKinnon (2005) and Qin and He (2011)). Most existing literature on the RMB exchange rate has focussed on issues related to the risks and opportunities associated with future exchange rate movements, for example, whether RMB appreciation will lead to a zero-interest liquidity trap in Chinese financial markets that will render the central bank helpless to combat future deflation, similar to the earlier experience of Japan (McKinon (2006), McKinnon (2005) and Qiao (2005)); less attention has been given to the impact of RMB appreciation on the volume of Chinese CBMA activity and to acquirer performance after removal of the peg.

Erel, Liao and Weisbach (2012) discover that currency movement is a major factor in determining the pattern of CBMAs such that firms in countries whose currencies have appreciated (depreciated) are more likely to be acquirers (targets). After econometrically controlling for overall time trends, they find that short-run movements between two countries' currencies increase the propensity of firms in the country with the appreciating currency to purchase firms in the country with the depreciating currency. Moreover, they suggest that the effect of currency movements on merger likelihood is likely to be indicative of a more general valuation effect such that higher-valued firms tend to purchase lower-valued firms and that the wealth explanation is a more appropriate argument for this scenario than the mispricing explanation is.

Chen, Officer and Shen (2014) examine the effect of currency appreciation on acquiring firms' wealth creation in an international context and find that CBMAs led by acquiring firms with "large currency appreciation" generate higher short- and long-term abnormal returns. The short-term wealth enhancement is more pronounced when acquiring firm is from a country with better corporate governance and legal environments. The outperformance for post-acquisition returns is more pronounced for acquiring firms with stronger shareholder rights.[47]

Another study by Black et al. (2013) specifically examines Chinese CBMAs and suggests that RMB appreciation could benefit bidding firms' wealth creation if they are able to acquire more cheaply abroad, but find no evidence to support this argument. The results of this study could be limited by the relatively small sample size (43 CBMAs) because their work considers only the performance of acquirers listed on the Shanghai and Shenzhen stock exchanges. We use a more comprehensive dataset comprising 111 CBMAs undertaken by Chinese acquirers listed on all stock exchanges with available accounting information and propose the following testable hypothesis:

Hypothesis II – Chinese bidders earn higher abnormal returns in the period after currency appreciation than in the period before currency appreciation[48] due to the lower cost of capital and increased relative wealth.

The worsening of the financial crisis in the US beginning in mid-2008 caused liquidity to dry up for a large number of western firms. To combat the liquidity shortage, these firms are

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[47] Chen, Officer and Shen (2014) find that acquiring firms from weak corporate and shareholder rights countries are more likely to overpay their targets following large currency appreciation, thus result in lower announcement returns for acquiring firms' shareholders. Moreover, acquiring firms from countries with weak shareholder rights make poor choices of targets and thus, any synergies generated over the long term might be so negative as to offset any benefit from currency appreciation-driven CBMAs.

[48] We classify the *Currency Appreciation* period as the period after the RMB exchange rate reform on 21 July 2005.

forced to downsize and sell off their assets, which results in severe depreciation in firm value and thus makes them potential targets of Chinese acquirers. Moreover, after the financial crisis, many western governments relaxed their monitoring and approval mechanisms for Chinese investment, particularly with respect to investment undertaken by SOEs. This friendlier environment creates greater opportunities for Chinese companies to acquire overseas. For instance, in February 2013, China National Offshore Oil Corporation successfully completed its US$15.1 billion takeover of Canadian oil and gas company Nexen, making it China's largest-ever foreign takeover.

In our sample, we also observe evidence of a dramatic increase in the number of completed CBMAs during the post-crisis period, from 8 deals in 2007 to more than 20 deals per year since then. Additionally, the financial crisis has decreased merger competition and hence the bid premium for Chinese acquirers. We suggest that the lower valuation and bid premiums for western firms are likely to create wealth gains for Chinese acquirers that undertake CBMAs during the crisis period. However, bidding firms' managers may have concerns about increased competiveness in the M&A market as economic conditions improve because foreign buyers are likely to return to the market and create competitive disadvantages for Chinese firms. Moreover, potential targets might be less willing to sell because the recovery of financial markets could give them access to alternative means of financing.[49] Considering the above-mentioned factors together, we argue that the financial crisis is likely to increase managerial opportunism and decrease shareholder wealth because managers might succumb to the temptation to buy assets quickly rather than focusing on carefully researched targets.

Therefore, we suggest that although foreign acquisitions are ostensibly welcomed and more foreign assets are available at lower costs, Chinese acquirers are relatively inexperienced in integrating cross-border deals, and this lack of management expertise combined with managers' rush to purchase "bargain targets" rather than carefully identifying specific targets will offset the wealth benefit derived from the financial crisis and lead to long-term

[49] A Brave New World, The Climate for Chinese M&A Abroad.

underperformance of the acquiring firms.

Hypothesis III – Chinese bidders earn lower abnormal returns in the period after the financial crisis period[50] than in the period before the financial crisis period because the wealth benefit associated with the lower cost of capital is outweighed by the wealth destruction associated with managerial opportunism.

[50] We classify the *Financial Crisis* period as the period after Lehman Brothers filed for Chapter 11 bankruptcy protection on 15 September 2008. We use this event date to separate the periods before and after the financial crisis for the following reasons: after the burst of the US housing bubble in late 2006, the first phase of financial crisis commenced in August 2007 when BNP Paribas terminated withdrawals from three hedge funds that specialized in US mortgage debt. It was one year before the crisis came to a head, and the bankruptcy of Lehman Brothers' on 15 September 2008 was a turning point for the global financial meltdown. Lehman Brothers' bankruptcy was the largest failure of an investment bank since the collapse of Drexel Burnham Lambert 18 years before. Immediately after Lehman Brothers filed for bankruptcy, an already distressed financial market began to suffer a period of extreme volatility, during which the Dow Jones Industrial Average experienced its largest one-day point loss, largest intra-day range of more than 1,000 points and largest daily point gain.

4.3 Data and Methodology

4.3.1 Sample Selection and Data Description

The second wave of Chinese CBMAs was ushered in by China's entry into the WTO in 2001 (Chen and Yong (2010)); therefore, we collect a sample of Chinese CBMAs announced between 1 January 2002 and 31 January 2011 from Thomson One Banker. The original sample contains 1,205 deals. We require bidders to be listed firms and exclude from the sample leveraged buyouts, spin-offs, recapitalizations, self-tenders, exchange offers, repurchases and privatizations, leaving us with 394 transactions. Among those transactions, we include only successful deals, which results in a sample of 225 deals. Following Gu and Reed (2010), we exclude deals in which either the bidder or target operates within the financial sector because the financial reporting standards and requirements of the financial sector differ from those of other sectors, which yields a sample of 167 transactions. Finally, we exclude deals that are missing accounting information, which gives us a total number of 111 CBMAs.

We collect a number of informational items from Thomson One Banker, including the nationality, public status, DataStream code, and primary industry as measured by the four-digit Standard Industrial Classification code of each acquirer and target; and the announcement date, form, method of payment, and status of each deal. In addition, the following data are obtained from DataStream: each acquirer's share price, market value, market-to-book value, leverage, funds from operations and common equity; and market indexes for Standard and Poor's / Toronto Stock Exchange Composite, Standard and Poor's / Australian Stock Exchange 300, FTSE Bursa Malaysia Klci, FTSE Bursa Malaysia ACE, Standard and Poor's / Hkex GEM, Hang Sheng, FTSE AIM All-Share, TSE Mothers, NASDAQ Composite, New York Stock Exchange Composite, Shanghai Stock Exchange

Composite, Shenzhen Stock Exchange Composite, Shenzhen Stock Exchange SME Composite, Shenzhen Chinext Composite, MDAX Frankfurt, and MSCI Singapore.

4.3.2 Methodology

4.3.2.1 Short-Term Event Study Methodology

To measure short-term market announcement period returns, we follow Brown and Warner's (1985) standard event study methodology and calculate CARs for a three-day period (-1, +1) surrounding the announcement date supplied by Thomson One Banker.

We calculate the normal returns of the acquirer and the market as follows:

$$r_i = \ln\left(\frac{P_{i,t}}{P_{i,t-1}}\right)$$

Where r_i is the daily normal return of firm i. $P_{i,t}$ and $P_{i,t-1}$ refer to the daily price index for firm i at day t and day t-1, respectively.

$$r_{m(i)} = \ln\left(\frac{P_{m(i),t}}{P_{m(i),t-1}}\right)$$

Here, $r_{m(i)}$ is the stock exchange index normal return at which firm i is listed. $P_{m(i),t}$ and $P_{m(i),t-1}$ refer to the daily price index for the stock exchange index at which firm i is listed on days t and t-1, respectively.

We then follow Fuller, Netter and Stegemoller's (2002) modified market adjusted model and calculate AR on any stock i as the difference between its return and the simultaneous return on the market portfolio:

$$AR_{i,t} = r_{i,t} - r_{m(i),t}$$

Finally, we summate ARs to give the 3-day cumulative AR (3-day CAR) surrounding the announcement date:

$$\mathrm{CAR_i} = \sum_{t=-1}^{t=+1} \mathrm{AR_{i,t}}$$

T-statistics are used to test whether the null hypothesis holds, that is, whether the mean CAR is equal to zero for a sample of n firms. The conventional formula to compute t-statistics is as follows:

$$\mathrm{t_{CAR_i}} = \frac{\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}}{\left(\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}\right)/\sqrt{n}\right)}$$

where $\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}$ refers to the sample mean and $\sigma\left(\sum_{i=1}^{i=n} \frac{\mathrm{CAR_i}}{n}\right)$ refers to the cross-sectional sample standard deviation for the sample of n firms. To assess the strength of the evidence against the null hypothesis, we convert t-statistics into probabilities (i.e., p-values), which are presented in the results section. The larger the p-value, the weaker the evidence that the mean CAR is different from zero; and vice versa.

4.3.2.2 Long-Term Methodology

To measure long-term acquirer returns, many researchers advocate the use of BHAR approach because of its accurate measure of the abnormal returns experienced by an investor (Lyon, Barber and Tsai (1999); Loughran and Ritter (2000) and Buchheim et al. (2001)).

We follow the BHAR approach employed by Buchheim et al. (2001) and measure returns over the twenty-four months after the deal announcement month (24-month BHAR). The BHAR is computed as the difference between the compounded actual return and the compounded predicted return:

$$\mathrm{BHAR}_{i,t} = \prod_{t=0}^{T}[1 + R_{i,t}] - \prod_{t=0}^{T}[1 + R_{m,t}]$$

where $R_{i,t}$ refers to the monthly returns of acquiring firm i at month t and $R_{m(i),t}$ refers to the monthly returns of the stock exchange index on which firm i is listed at month t.

Regarding the computation of t-statistics, we note that the BHAR approach is associated with a potential positive-skewness problem, whereby it can produce statistically significant results even when there is none due to the short-run movement effect. Barber and Lyon (1997) suggest that the bootstrapped t-statistic helps correct for instances in which the methodological approach over-rejects the data and hence incorrectly rejects a true null hypothesis. Therefore, we implement the skewness-adjusted bootstrapped t-statistics procedure used by Lyon, Barber and Tsai (1999) to compute the statistical significance of BHAR. The skewness-adjusted t-statistic is given by the formula below:

$$t_{sa} = \sqrt{n}\left(S + \frac{1}{3}\hat{\gamma}S^2 + \frac{1}{6n}\hat{\gamma}\right)$$

where $\hat{\gamma}$ is the skewness, S is the standard deviation, and n is the number of observations:

$$S = \frac{\overline{\mathrm{BHAR}}_t}{\sigma(\mathrm{BHAR}_t)}$$

$$\hat{\gamma} = \frac{\sum_{i=1}^{n}(\mathrm{BHAR}_{it} - \overline{\mathrm{BHAR}}_t)^3}{n\sigma(\mathrm{BHAR}_t)^3}$$

4.3.3 Empirical Model

Our empirical model aims to test how industry preferences, major changes in currency policy and the global financial crisis affect the market reaction to Chinese cross-border merger announcements over both the short and long terms. Our focus is on acquiring firm returns because this allows us to include not only public acquisitions but also private and subsidiary acquisitions. In addition, we control for various acquirer- and deal-specific characteristics when testing market reactions in both time horizons. Because our sample spans more than nine years, during which time both the economic and political systems in China substantially evolved, we control for year fixed effects in the model. Furthermore, to account for repeat acquirers, the standard errors are clustered at the acquiring firm level. Combining all variables, the multivariate framework for acquirer CAR or BHAR is shown as below:

$$
\begin{aligned}
\text{CAR or BHAR} = \alpha + \beta_1 \times \text{Resource} - \text{Related Targets Dummy} + \beta_2 \\
\times \text{Currency Appreciation Dummy} + \beta_3 \times \text{Financial Crisis Dummy} + \beta_4 \\
\times \text{Stock Dummy} + \beta_5 \times \text{Cash Dummy} + \beta_6 \times \text{Public Deal Dummy} + \beta_7 \\
\times \text{Diversifying Deal Dummy} + \beta_8 \times \text{Book} - \text{to} - \text{Market} + \beta_9 \\
\times \text{Ln(Size)} + \beta_{10} \times \text{Leverage} + \beta_{11} \times \text{Cash Flows} - \text{to} - \text{Equity} + \beta_{12} \\
\times \text{Sigma} + \beta_{13} \times \text{Run} - \text{Up} + \sum \gamma_i \times \text{Year Dummy} + \varepsilon_i
\end{aligned}
$$

The dependent variable in our model is either CAR or BHAR, which are the market reactions to a merger announcement in the short and long terms, respectively. Our main results are the three-day CAR around the merger announcement date and the BHAR over the twenty-four months after the deal announcement month.

Table 4.1 presents the correlation coefficients of each pair of variables used in the multivariate analysis. Our results show that a high correlation exists between the "*Currency Appreciation*" dummy and the "*Financial Crisis*" dummy, may likely to create multicollinearity problems. To check for the severity of multicollinearity, the variance inflation factor (VIF) is computed following all of the regressions. We find that the VIF values for these two dummies are under 2 in all of the regressions. The mean VIFs for all regressions are also under 2, hence there is no multicollinearity concern.[51]

[Insert Table 4.1]

Modelling the bidder's choice between resource-related and non-resource-related targets is important as it allows us to obtain unbiased estimates of the effect of target industry preference on bidder returns (i.e., estimates that control for endogeneity biases). The instrumental variable constructed is named as "*Scope*", which takes the value of one if, the bidder belongs to either the resource-related sector or is a SOE; takes the value of two if the bidder belongs to the resource-related sector and is a SOE; and zero otherwise. We argue that the "*Scope*" variable is positively correlated with the choice of target being resource-related, but its correlation with bidder returns is less clear. To test the presence of endogeneity bias, we implement the Heckman two-stage procedure for our sample. We find that the "*Scope*" variable is highly significant and positively correlated to the choice of target being resource-related. The pseudo-R^2 of the first-stage equation suggests that the model explains 82.6% of the choice of targets. From the first-stage equation, we construct an *inverse Mills ratio* and add it as an additional regressor to the second-stage equation. The coefficient on this endogeneity control (or selection term) is negative but statistically insignificant at conventional levels. Thus, we suggest that the coefficient estimates for bidder returns shown in our results below are reliable.[52]

In our model, the key variables are "*Resource-Related Target*", "*Currency Appreciation*" and "*Financial Crisis*". "*Resource-Related Target*" is a binary variable equal to one if the target operates in the energy and materials industry sectors and equal to zero otherwise. "*Currency Appreciation*" is a binary variable equal to one if the merger is conducted after the RMB

[51] The results of multicollinearity checks are available upon request.
[52] The results for the first- (selection) and second- (outcome) stage equations are available upon request.

exchange rate reform on 21 July 2005 and equal to zero otherwise. "*Financial Crisis*" is a binary variable equal to one if the merger is conducted after Lehman Brothers filed for Chapter 11 bankruptcy protection on 15 September 2008 and equal to zero otherwise.

Drawing from the existing literature, we include in our model several of the most frequently used and relevant measures of deal- and bidder-specific characteristics as control variables. They are as follows: method of payment; target firm listing status; deal diversification; and the acquirer's valuation, size, leverage, free cash flow, idiosyncratic volatility and run-up before the deal announcement.

"*Stock*" and "*Cash*" are used to classify different payment types. "*Stock*" is a binary variable equal to one if the deal is financed using 100% stock, and "*Cash*" is a binary variable equal to one if the deal is financed using 100% cash. Travlos (1987) suggests that in a world characterised by asymmetric information, an all-cash offer indicates potential undervaluation of the acquiring firm and will result in non-negative announcement returns for the acquirer, whereas an all-stock payment signals potential overvaluation of the acquiring firm and will cause significant losses for the acquirer at the announcement. His results are consistent with the signalling hypothesis. Moreover, Chang (1998) compares the announcement returns for privately held and publicly listed targets when stock and cash offers are used and find that in contrast to the negative abnormal returns typically found for publicly traded targets, acquirers experience positive announcement returns on stock offers when the target is privately held. However, in cash offers, the acquirer returns are zero and are insignificantly different for both types of targets.

We also control for the listing status of the target firm in our model. "*Public Deal*" is a binary variable equal to one if the target firm is a public firm and equal to zero if the target firm is a private firm. Recent literature shows that acquirers obtain positive announcement returns when they purchase privately held targets but experience zero to negative returns when they purchase publicly listed targets. This difference in performance is commonly known as the "private target discount" and is explained generally by the lack of market liquidity for and more information asymmetry with private targets (Chang (1998); Koeplin, Sarin, and Shapiro (2000); Moeller, Schlingemann, and Stulz (2004); Faccio, McConnell, and Stolin (2006); Officer (2007)).

In addition, there is a considerable literature on the impact of industry relatedness on acquirer value creation. On the one hand, many studies find that diversification is value-destroying for acquirers, whereas the opposite is true for focussed acquisitions. This diversification discount is usually justified by agency theory, overinvestment and cross-subsidization arguments and by the inefficient allocation of resources between firms in different industries (Megginson, Morgan and Nail (2004); Dos Santos, Errunza and Miller (2008)). On the other hand, Black et al. (2012) compare the merger performance of Chinese and US bidders and find that the diversifying effect exists in US market but does not play a significant role in China. Other studies reveal that diversifying acquisitions are value-enhancing for acquiring firms' shareholders and suggest that this diversification premium might emanate from enhanced economies of scope and market power, the coinsurance effect, and internal capital market efficiencies (Matsusaka (1993); Hubbard, Kuttnerand Palia (1999)). Here, we control for deal diversification by creating a binary variable "*Diversifying Deal*", which equals one if the target is in a different industry than the bidder as measured using the first two digits of the four-digit Primary SIC code of the two firms and equals zero otherwise.

Moreover, Jensen (2005) suggests that high valuations increase managerial discretion; consequently, managers tend to undertake less favourable acquisitions when good acquisitions are no longer available. Dong et al. (2006) find that acquirers with higher valuations are likely to experience lower announcement period returns. However, Zhou et al. (2012) evaluate the performance of Chinese acquirers that engage in domestic M&As and find a positive relationship between market-to-book ratio and acquirer returns in the short-run, whereas the opposite trend is observed in the long-run. Hence, we control for the acquiring firm's valuation by measuring its "*Book-to-Market*" ratio, which is computed as the book value of equity divided by the market value of equity at one month prior to the acquisition announcement.

The effect of firm size on merger performance has been highlighted in a number of studies. For example, Moeller, Schlingemann and Stulz (2004) document a significant negative effect of firm size on announcement returns, which might be due either to the lack of analyst coverage of small firms, which results in profitable opportunities for investors when a firm's stock price deviates temporarily from its real value, or to the higher risk is associated with smaller firms, which yields higher returns for investors. Although Black et al. (2012) do not find a negative correlation between firm size and Chinese acquirer performance in the short term, they discover a significantly positive correlation over the long term, whereby increases in firm size lead to higher acquirer returns. In our model, we control for firm's size effect by measuring its "*Ln (Size)*", which is the natural logarithm of the acquirer's market valuation one month prior to the deal announcement date.

In addition, we control for the debt-to-equity ratio of the acquiring firm because much attention has been paid in previous literature to the costs and benefits of leverage on firm value. Acquirer's "*Leverage*" is used as a proxy for its financial risk and is calculated as (long-term debt + short-term debt & current portion of long-term debt) / (total capital + short-term debt & current portion of long-term debt) at one year prior to the acquisition announcement. Jensen and Meckling (1976), Harris and Raviv (1990) and Stulz (1990) suggest that debt can alleviate agency conflicts between stockholders and managers, which is commonly known as the debt-monitoring theory. Maloney, Macormick and Mitchell (1993) find evidence to support this theory in context of the M&A market; specifically, they show that leverage is positively correlated with acquirer announcement returns because it helps to reduce agency costs and forces managers to work harder to maximize the cash flow of existing capital and to search for new positive net present value investments. However, they also note that the benefit of debt can be limited by its high cost, which can lead to underinvestment, asset substitution and bankruptcy costs in the normal corporate setting.

In contrast to the debt-monitoring theory, the free cash flow theory suggests that cash flow increases the agency costs of firms and results in poor investment opportunities because managers with more free cash flow tend to invest in negative net present value projects when positive net present value projects are no longer available rather than paying cash out to shareholders (Stulz (1990) and Jensen (1986)). Lang, Stulz and Walkling (1991) extend on the free cash flow theory and find that acquirer announcement returns and cash flow are negatively correlated but that the negative correlation is more pronounced for firms with poor investment opportunities. Moreover, Harford (1999) examines the acquisition behaviour of cash-rich firms and finds that they have more agency conflicts and are more likely to make acquisitions. Consistent with the free cash hypothesis, the acquisitions of cash-rich firms are value-destroying, as evidenced by negative acquirer announcement returns and poor post-acquisition operating performance of the combined firm. Accordingly, we control for the acquirer's "*Cash Flows-to-Equity*" in our model, which is measured as the funds from operations divided by the common equity at one year before the deal announcement.[53]

In addition to cash flow, information asymmetry is also known to influence firm performance. For instance, Dierkens (1991) considers the relationship between abnormal returns and proxies for the nature of the information environment in equity issues and finds that higher information asymmetry is significantly positively correlated with a drop in price at the equity issue announcement. Based on Dierkens' (1991) measure of information asymmetry, Moeller, Schlingemann and Stulz (2007) use idiosyncratic volatility as a proxy for information

[53] Funds from operations represent the sum of net income and all non-cash charges or credits. It is the cash flow of the company.

asymmetry and examine its effect on bidder announcement returns in M&As. They report a negative relationship between idiosyncratic volatility and acquirer announcement returns in all-stock offers but not in all-cash offers. More recently, Golubov, Petmezas and Travlos (2012) document a negative effect of idiosyncratic volatility on acquirer announcement returns for public acquisitions but not for private ones. Therefore, we control for idiosyncratic volatility, known as "*Sigma*" in our model, which is calculated as the standard deviation of the acquirer's market-adjusted daily returns over a three-month period ending one week before the deal announcement.

Finally, we control for acquirer "*Run-Up*", which is measured as the acquirer-specific returns in the period leading up to a merger announcement using the market-adjusted BHAR over a three-month period ending one week before the deal announcement. Morck, Shleifer and Vishny (1990) examine the incentives for managerial decisions by analysing the relationship between acquirers' past performance and acquirer returns on acquisitions and find that bad managers make bad acquisitions simply because they are bad managers, which is consistent with the notion that poor performance drives managers to try something new. Alternatively, Rosen (2006) finds that idiosyncratic acquirer returns are weakly negatively related to acquirer announcement returns. His results support a particular version of Roll's hubris hypothesis, which predicts that the worst acquisitions are made by well performing firms because their managers are most likely to be infected by hubris.

4.3.4 Sensitivity Tests

For robustness reasons, regression results are produced after controlling for the year effect and standard errors are reported after controlling for heteroskedasticity and bidder clustering. Additionally, all continuous variables are winsorized at the 1st and 99th percentiles to control for potential outliers. To ensure the reliability of our results, the short-run event window is extended from 3 days to 5 days around the announcement date, and the long-run event window is shortened from 24 months to 12 months after the announcement month. As a further check, we change the benchmark market index for CAR and BHAR calculations to the Shanghai Stock Exchange Composite Index and find that the results remain largely unchanged. Finally, we restrict the sample to acquiring firms listed on either the Shanghai or Shenzhen stock exchanges, and find that the results largely support our main findings, although certain coefficients lose their significance at conventional levels. To save space, all robustness test results are available upon request.

4.3.5 Summary Statistics

This section presents the time series and target country distributions of Chinese CBMAs, as well as analyses of acquirers' short- and long-term abnormal returns according to both the acquiring and target firms' industry sectors.

4.3.5.1 Time Series Distribution of Chinese CBMAs Stratified by Target Nationality

Table 4.2 reports the time-series distribution of Chinese CBMAs stratified by target nationality. We find that the number of completed M&As has tripled between 2002 and 2010. Indeed, after a dramatic increase between 2007 and 2008, more than 20 deals are conducted during each year. Particularly, we observe that in 2009, when most developed countries remain mired in the aftermath of the global financial crisis, the number of successfully completed CBMAs reached a record high, accounting for 25 deals in our sample. Almost half of these deals are targeted at firms in cash-strapped economies, such as the United States, Canada and Australia. This boost in merger activity can be attributed to many factors, such as China's increasing economic power; the implementation of a series of government programs designed to encourage outward FDI projects to alleviate China's resource bottleneck, facilitate industrial upgrades, improve innovation capabilities, and increase the competence of Chinese firms on the global market (Morck, Yeung and Zhao (2008)); and the global financial crisis, which altered foreign countries' attitudes towards Chinese acquirers and created myriad opportunities for them to buy assets more cheaply abroad.

[Insert Table 4.2]

Table 4.3 shows that in terms of the deal volume time distribution of targets based on nationality, there are three top destinations for Chinese CBMAs: Hong Kong, the United States, and Australia. Hong Kong targets account for more than 17% of total deal volume. There are two possible reasons for the popularity of Hong Kong targets: the first is that Hong Kong provides confidentiality to foreign investors, which is commonly used by multinational firms to store wealth beyond the purview of tax authorities (Harris (1993)); the other is that Hong Kong is geographically close to China and thus gives Chinese acquirers convenient access to trade and financing. The next most frequent target nation is the United States. The Chinese government is evidently gearing up to channel more of its investment towards the United States, especially after the burst of housing bubble in late 2006, which resulted in severely depreciated prices in many asset classes. Moreover, the Chinese government has been seeking better returns for its massive currency reserves, which before the financial crisis were typically parked in low-yielding securities, such as short-term US treasury bonds. Because the risks associated with these bonds increased after the crisis, the Chinese government is moving towards longer-term investments to shield itself from short-term market swings, for example, by acquiring more tangible assets at discounted prices. The third most preferred target country is Australia, which is popular for its well-recognized high-quality metals and mines, coupled with a relatively more friendly environment for Chinese acquirers. In addition, Australian targets benefit Chinese acquirers through lower operational cost because they are located closer to China than are other resources-rich countries, such as Canada and the United States.

We note that there is a major shift in target country preference over time. Prior to 2007, Hong

Kong, Indonesia and Germany were the most targeted destinations, whereas since 2007, firms in Hong Kong, the United States, Australia, Singapore, Canada and Japan have become the preferred targets of Chinese acquirers. This evolution of target country preference from primarily emerging markets to developed markets not only signals the level of market development but also indicates the radical expansion of Chinese acquirers into overseas assets.

Both the media and the prior literature have paid much attention to the industrial preferences of Chinese CBMAs. Boateng, Wang and Yang (2008) note that Chinese acquirers that engage in outbound M&A activities are driven by resource exploration, for example, to obtain foreign advanced technology and resources. Black et al. (2012) find that there is a strong preference for resource-related targets in Chinese overseas acquisitions. In addition to industrial preferences, the "Chinese premium" has generated significant attention in the international CBMA market, particularly with respect to resource-related deals. For example, the price premium offered by China National Offshore Oil Corporation to take over Unocal was US$6 higher per share than the price offered by Chevron Corporation. Although the deal was ultimately unsuccessful, commentators argue that the "go global" policy directs investment towards industries with critical strategic value, which leads firms to undertake deals that promote national interests at the expense of shareholder wealth (Gu and Reed (2010); Boateng, Wang and Yang (2008); Chen and Young (2010)). For the above-mentioned reasons, we stratify Chinese CBMAs by target industry and examine the wealth creation for bidding firms' shareholders in each industrial sector over both the short and long terms to assess the impact of industrial preferences on bidder returns.

4.3.5.2 Acquirer CAR Stratified by Target Industry

Table 4.3 presents the deal volume and acquirer performance of Chinese CBMAs stratified by the target's industrial sector. We show that the most favoured targets operate in the high-technology, materials, industrials and energy sectors. In addition, Chinese firms that acquire either resource-related or industrial targets generate significantly positive abnormal returns for their shareholders in the short term.

[Insert Table 4.3]

4.3.5.3 Acquirer BHAR Stratified by Target Industry

Despite the overall significant wealth destruction of Chinese acquirers over the long term, as observed in Table 4.4, we find that for deals targeting resource-related firms, acquirers enjoy insignificant abnormal returns two years post-acquisition. Thus, both our short- and long-term univariate analyses do not indicate that resource-related CBMAs are value destroying for bidding firms' shareholders, even if they are motivated by national interests.

[Insert Table 4.4]

4.4 Empirical Results

This section presents the univariate comparison results for bidder CAR and BHAR under various bidder- and deal-specific characteristic portfolios, as well as the short- and long-term multivariate regression analyses results of bidder abnormal returns for the overall sample.

4.4.1 Univariate Analyses

In addition to evaluating acquirers' share price movements in various industrial sectors around and post-acquisition, we aim to determine whether there is a significant performance difference between acquisitions targeting resource-related and non-resource-related firms to determine if acquisitions driven by national interests come at the expense of shareholder wealth. Additionally, we aim to examine whether there is any performance difference between Chinese acquirers that undertake CBMAs before and after two major events. One event is the change in fiscal policy that occurred when the Chinese government removed its currency peg on 21 July 2005, which resulted in substantial RMB appreciation (i.e., "*Currency Appreciation*"); the other event is the financial meltdown that occurred after Lehman Brothers declared bankruptcy on 15 September 2008, which led to an extraordinary plunge in asset prices for many western firms (i.e., "*Financial Crisis*"). Recent literature has highlighted the important interrelationships between currency appreciation and macroeconomic factors that may influence CBMA propensities. Erel, Liao and Weisbach (2012) show that either currency appreciation or macroeconomic performance can affect the valuation of a bidder or target, which leads to real increases in wealth and enhanced abilities to finance acquisitions for acquirers. In a similar vein, we argue that both currency appreciation and the financial crisis could lead to lower cost of acquisition and increased relative wealth for Chinese acquirers engage in CBMAs.

In addition, we note that bidding firms' shareholder returns in both the short- and long-terms can differ significantly depending on various bidder- and deal-specific characteristics. However, most prior studies focus on the US market, and only a few examine the Chinese domestic market. For this reason, we extend the prior research by constructing various portfolios to assess and compare the performance of Chinese bidders in CBMAs. The following comparisons are conducted: 100% Cash vs. Not 100% Cash; Diversifying Deal vs. Focussed Deal; High BTMV vs. Low BTMV; Large Bidder vs. Small Bidder; High Leveraged Bidder vs. Low Leveraged Bidder; High Cash Flow-to-Equity Bidder vs. Low Cash Flow-to-Equity Bidder; High Sigma Bidder vs. Low Sigma Bidder; and High Run-Up Bidder vs. Low Run-Up Bidder.

The "*100% Cash*" and the "*Not 100% Cash*" subgroups are created depending on whether the deal is financed exclusively with cash. The "*Public Deals*" subgroup includes deals targeting publicly listed firms, whereas the remaining deals are included in the "*Private Deals*" subgroup. The "*Diversifying Deals*" and "*Focussed Deals*" subgroups are created according to whether the acquirer and target belong to the same industry, with same-industry deals in the latter subgroup and others in the former subgroup. We further categorize top-tertile book-to-market ratio acquirers as "*High BTMV Bidder*" and bottom-tertile book-to-market ratio acquirers as "*Low BTMV Bidder*". The same categorization method is used to classify "*Large Size Bidder*"/"*Small Size Bidder*", "*High Leverage Bidder*"/"Low Leverage Bidder", "*High Cash Flow-to-Equity Bidder*"/"*Low Cash Flow-to-Equity Bidder*", "*High Sigma Bidder*"/"*Low Sigma Bidder*" and "*High Run-Up Bidder*"/"*Low Run-Up Bidder*".

4.4.1.1 Short-Term Univariate Analysis

Table 4.5 summarizes the mean 3-day CAR around the deal announcement date for various bidder- and deal-specific characteristic portfolios, as discussed above. Statistical tests for the difference in means for each portfolio pairs and p-values are presented.

[Insert Table 4.5]

We find that over a three-day event window, acquirers targeting resource-related firms earn significant announcement abnormal returns of 1.98% but fail to significantly outperform those targeting non-resource-related firms. This is in line with the prior results of Black et al. (2012), who find that firms acquiring targets in resource-related sectors (particularly energy and industrials) earn significant positive abnormal returns in the short term, although their results are largely driven by domestic M&As because their CBMA sample is relatively small. Gu and Reed (2010) expect to find negative announcement returns for CBMAs targeting firms in energy and high-technology industries, given that two of the three motivations underlying the go global policy are to secure natural resources and to appropriate new technologies. However, their results show no support for this proposition and indicate that the market responds positively to CBMAs involving energy and high-technology targets after the implementation of the go global policy. Both of these studies, as well as our results, indicate that although there is a strong preference for Chinese firms, especially SOEs, to acquire resource-related targets overseas, these transactions are not undertaken at the expense of shareholder wealth.[54]

Additionally, we find that acquirers earn 1.40% (p-value=0.023) announcement returns after currency appreciation and statistically outperform acquirers that announce CBMAs before currency appreciation by 2.86% at a 5% significance level. Likewise, the 3-day CAR accruing to bidders after the financial crisis are 1.79% (p-value=0.018), which significantly outperform announcement returns accruing to bidders before financial crisis by 2.08%. Our results suggest that both RMB appreciation and the financial crisis result in higher announcement abnormal returns for Chinese acquirers, possibly because these two events increase the relative valuation of acquirers, enhance the abilities of acquirers to finance

[54] Out of 30 SOE bidders in our sample, 26 of them are targeted at resource-related targets.

acquisitions, and lower the cost of targets in western economies. However, to more precisely assess the effect of each event on bidder returns, multivariate analysis is essential given there is a time period overlap between the currency appreciation and financial crisis periods.

In contrast to prior studies, we that find CBMAs that are not financed exclusively with cash earn significant announcement abnormal returns of 1.29% (p-value=0.042). Nevertheless, this superior performance is insignificantly different than that of CBMAs with all cash offers. The high BTMV bidder, large bidder, and high leverage bidder are all associated with significantly positive 3-day CAR of 1.84%, 1.65% and 1.34%, respectively. However, none of them is shown to significantly outperform its counterpart.

Consistent with Jensen's (1986) free cash flow hypothesis, the low cash flow-to-equity bidders in our sample enjoy significant positive announcement abnormal returns of 1.93%. This wealth enhancement is also shown to be significantly higher than that for bidders with high cash flow-to-equity ratios and can be attributed to the agency conflicts between managers and shareholders. Managers tend to accumulate excess cash to avoid monitoring by external capital providers and to advance their personal interests, thereby excess cash results in value-destroying acquisitions.

4.4.1.2 Long-Term Univariate Analysis

Table 4.6 presents the mean long-term 24-month BHAR under various bidder- and deal-specific characteristic portfolios, as discussed above. Significant differences in the means of each portfolio are observed. Statistical tests for the difference in means for each portfolio pairs and bootstrapped p-values are presented.

[Insert Table 4.6]

We find that the CBMAs involving resource-related targets experience insignificant 24-month BHAR for bidding firms' shareholders. Nevertheless, the abnormal returns accruing to resource-related targets are 24.4% significantly higher than their counterparts. Therefore, we suggest that although resource-related CBMAs fail to generate any significant wealth effect for bidders, they are significantly less value destroying than their counterparts over longer period.

With respect to the effect of RMB appreciation on Chinese cross-border acquirer abnormal returns two years after the merger announcement, we find that although acquirers experience significantly negative abnormal returns of -13.01% after RMB appreciation, their abnormal returns before and after currency appreciation are insignificantly different. This univariate comparison suggests that the effect of increased relative wealth and lower cost of capital for acquirers stemming from currency appreciation is insignificant on acquirer returns in the long term. However, this results may be misleading because it also includes the effect of financial crisis on acquirer returns.

The 24-month BHAR for acquirers that engage in CBMAs before the financial crisis is significantly negative at -13.7%; however, this underperformance is insignificantly different than that of acquirers that engage in CBMAs after the crisis. We argue that this is because in the long term, the wealth destruction associated with managerial risk taking is more likely to offset the wealth creation derived from the lower cost of acquisition for CBMAs undertaken during the financial crisis period.

Over a longer horizon, the wealth creation from not 100% cash financed deals is reversed. We observe that deals without all cash financing are associated with a -20.2% significant loss of wealth two years post-deal announcement. In addition, this underperformance is shown to be -28.0% lower than the performance of all cash deals. This is consistent with the asymmetric information hypothesis proposed by Travlos (1987), which maintains that an all-cash offer indicates potential undervaluation of the acquiring firm and will thus result in positive returns for the acquirer over a longer period.

The long-term abnormal returns experienced by bidders engaged in public and diversifying deals are significantly negative at -13.6% and -20.8%, respectively. However, they do not significantly underperform their counterparts over the long term. Moreover, low BTMV and low leverage bidders earn significantly negative post-announcement abnormal returns of -22.1% and -23.7%, respectively, but do not significantly underperform their counterparts.

Additionally, high sigma bidders suffer from significant wealth loss two years post-merger announcement, and this wealth loss is significantly higher than that of their counterparts. Consistent with Moeller, Schlingemann and Stulz (2007), our results indicate that idiosyncratic volatility as a proxy for information asymmetry has a significant negative effect on acquirer returns.

Finally, we find that low run-up bidders are associated with significant post-announcement abnormal returns of -43.0% at a 1% level and that high run-up bidders significantly outperform low run-up bidders by 48.3% over the long term. In line with the findings of Morck, Shleifer and Vishny (1990), our results indicate that acquirers' past performance is positively correlated with their merger performance.

4.4.2 Multivariate Regression Analyses

The results from the univariate analyses could be misleading because abnormal returns are compared without taking into account any confounding effects. To analyse these results more formally, we use a multivariate regression framework and control for other deal- and acquirer-specific characteristics. This section presents and discusses the regression results for acquirer returns over both the short and long terms.

4.4.2.1 Short-Term Multivariate Regression Analysis

Table 4.7 presents the 3-day CAR regression results that control for the acquirer- and deal-specific characteristics discussed in Section 4.3.3., and for year fixed effects. To account repeat acquirers, the standard errors are clustered at the acquiring firm level.

[Insert Table 4.7]

Regressions (1) and (4) show that the resource-related target dummy is positive but insignificant at conventional levels. Our multivariate results confirm the univariate findings by showing that although resource-related deals promote national interests, they do not do so at the expense of shareholder wealth. By examining our data more closely, we note that the market perception towards resource-related deals is significantly positive if the deal is not diversifying in nature. In other words, investors actually welcome focussed resource-related CBMAs in the short term.[55]

Regression (2) and (4) indicate that CBMAs conducted after RMB appreciation are associated with significantly higher CARs than those conducted before RMB appreciation. This value enhancement is in line with Chen, Officer and Shen's (2014) results, in which they find that CBMAs led by acquirers with "large currency appreciation" generate higher short and long-term abnormal returns. Erel, Liao and Weibach (2012) suggest that the effect of currency appreciation on bidder returns is likely to be indicative of a more general valuation effect and can be attributed either to the misvaluation explanation (Shleifer and Vishny (2003)) or to the wealth explanation (Rhodes-Kropf and Viswanathan (2004)).

[55] In a subsample of focussed acquisitions (80 deals), we run the same regression as regression (4) in Table 4.7, and find that the resource-related target deals are associated with 2.55% CAR improvement at 10% significance level. Additionally, by adding an interaction term of resource-related target*diversifying into regression (4) in Table 4.7, the resource-related target dummy becomes significantly positive at 10% level. More detailed results are available upon request.

Regardless, both explanations predict a positive correlation between bidder CARs and increases in relative valuation of the bidding firms. In our case, the wealth explanation is more likely given that RMB has generally posted steady one-way appreciation for most of the time since the RMB exchange rate reform. Nonetheless, we extend our analysis to the long term to distinguish these two explanations.

In contrast to the effect of currency appreciation, the effect of the financial crisis on acquirer performance is found to be positive but insignificant in the short term. One might suggest that the financial crisis triggered in United States could bring about a substantial slump in the stock prices of western firms and cause stocks to trade at much lower multiples than before the crisis; hence, during the crisis, the cost of acquisition for Chinese acquirers decreases and the wealth gains from CBMAs conducted by Chinese acquirers increase. However, it is also possible that managers are likely to become opportunistic during the crisis and conduct value-destroying transactions. Managers may believe that they will encounter more difficulties in completing acquisitions when economic conditions improve because the competition for targets will increase and that targets will be less willing to sell to Chinese acquirers if the economic recovery provides targets with alternative means of raising funds. Therefore, managers tend to make acquisitions without carefully identifying specific targets and engage in a “rush to buy”, even if they anticipate a decline in shareholder wealth in the short-term because they hope that their decisions will generate value in the long term. Such managerial opportunism hurts shareholder value and negates the positive effect of the lower acquisition costs. To test for managerial opportunism, we further examine the long-term performance of acquirers. If managers are truly more opportunistic during the crisis, we would expect to see a strong negative correlation between the financial crisis variable and acquirer returns in the long-term multivariate regression.

We find that one of the most pronounced differences between the Chinese merger market and western merger markets is the positive perception of the Chinese market towards deals financed with pure stock. In contrast to the negative signalling effect of stock payments observed in the US market in prior studies, our results indicate that stock offers are associated with significant wealth enhancement for bidders in the short term. The effect of payment method on acquirer returns seems to be driven by the predominant proportion of private deals in our sample (over 70% of the sample CBMAs are targeted at privately held firms), given that Chang (1998) finds that acquirers gain significant announcement returns in stock offers when the target is privately held. Chang (1998) also reveals that cash offers are on average associated with zero announcement returns to acquirers.

In addition, consistent with the free cash flow theory, whereby free cash flow increases the agency costs of acquiring firms and leads to poor investment decisions (Stulz (1990) and Jensen (1986)), we find that the cash flow-to-equity value has a significantly negative influence on acquirer announcement abnormal returns at a 5% level in all regressions. Moreover, on the contrary to Rosen's (2006) finding, our results show that bidder run-up is significantly positively correlated to bidder returns in the short term.

Overall, our multivariate results appear to be largely in line with the results obtained from the univariate analysis, except with respect to the financial crisis variable, which loses its significance when the analysis controls for other firm- and deal-specific characteristics.

4.4.2.2 Long-Term Multivariate Regression Analysis

Extending the horizon until the results of CBMAs are known allows us to more precisely determine the source of takeover gains after currency appreciation; that is, whether the increase in the acquirer's relative valuation stems from misvaluation or a real increase in wealth. If the misvaluation explanation holds such that either overpricing of the acquirer or underpricing of the target could lead to a potentially profitable investment for the acquirer, valuations will tend to revert to their true value in the long term, and we would expect to see a reversal of CAR over time (Shleifer and Vishny (2003); Baker, Foley and Wurgler (2009)). Alternatively, if the wealth explanation holds such that currency appreciation leads to a real increase in wealth and lowers the potential cost of capital for acquirers, valuation will tend to persist subsequent to the acquisition, and we would expect to see no reversal of CAR in the longer run (Froot and Stein (1991)). Additionally, the long-term analysis allows us to test whether managers are more opportunistic during financial crisis periods. Specifically, if managers are indeed more opportunistic, the wealth benefits associated with the lower cost of acquisition would be cancelled out by the wealth destruction caused by managerial opportunism, and we would expect to see negative returns for acquiring firms over the long term. Table 4.8 presents the acquirers' BHARs two years post-announcement because this period provides sufficient time for the merger results to become known.

[Insert Table 4.8]

Regressions (1) and (4) in Table 4.8 demonstrate that firms acquiring resource-related targets experience positive but insignificant long-term abnormal returns. Hence, the argument that resource-related CBMAs promote national interests at the expense of shareholder wealth is unfounded. Furthermore, we find that diversified resource-related acquisitions are significantly more value destroying than focussed ones over the long term.[56]

The coefficient on the currency appreciation dummy is significantly positive at 1% level in regressions (2) and (4). Our results strongly support the view that the impact of valuation on acquirer returns stems from the wealth effect described by Froot and Stein (1991), meaning that the increase in relative valuation due to currency appreciation reflects a real increase in acquirer wealth and enhances acquirers' abilities to finance acquisitions overseas. Our results

[56] By adding an interaction term of resource-related target*diversifying into regression (4) in Table 4.8, we find the coefficient on this interaction term is -0.40 and statistically significant at 10% level. More detailed results are available upon request.

also suggest that the positive market reaction at the announcement can be justified by real economic gains (or synergies) from currency appreciation-driven acquisitions. Both the short- and long-term results on currency appreciation provide solid supports for our second hypothesis.

On the contrary, the coefficient on the financial crisis dummy is negative and significant at 5% level in regressions (3) and (4). This sign of reversal on acquirer performance in the long term provides clear evidence for the proposition that managers are likely to be opportunistic and succumb to the temptation to buy assets that have become cheaply available during the financial crisis, rather than focusing on carefully researched targets, supporting our third hypothesis.

Interestingly, the signs on the stock and cash variables both reverse in the long run. Regression (4) shows that all cash offers are associated with weakly significant positive 2-year BHARs. This result provides supports for the positive signalling effect of all-cash offers and suggests that the market will reward undervalued acquirers that engage in CBMAs over the long term.

The sigma (idiosyncratic volatility) of the acquiring firm is negatively related to the BHAR at 1% significance level in all regressions, suggesting that as the information asymmetry of the acquiring firm increases, the BHAR decreases, all else being equal.

Moreover, we find that the acquirer run-up (acquirer-specific stock momentum) is associated with higher abnormal returns in the long term and such correlation is marginally significant in all regressions. Essentially, our results suggest that value-enhancing acquisitions are simply more likely to be conducted by better managers.

4.5 Conclusion

This chapter employs the most up-to-date dataset comprising 111 CBMAs conducted by Chinese acquirers listed on all stock exchanges from 1 January 2002 to 31 January 2011. We aim to examine both short- and long-term acquirer abnormal returns according to different industrial sectors and different timeframes (i.e., before and after currency appreciation, and before and after the global financial crisis) to provide a comprehensive picture of the motivations and performance of Chinese acquirers undertaking CBMAs over the last decade and to help alleviate western concerns about further Chinese outbound investment.

Our results indicate that although resource-related cross-border deals promote national interests, they are not value-destroying for shareholders, in either the short or long run. Indeed, focussed acquisitions targeting resource-related firms are especially welcomed by the market. We suggest that this preference by the market arises because resource-related acquisitions contain substantial tangible assets, and thereby are easier to integrate especially when the deal is focussed. Moreover, focussed acquisitions targeting resource-related firms are more likely to be carried out by SOEs, which align their interests with China's development and hence are more likely to be supported by the government, to benefit from favourable government policies and to have easier access to government funding. Additionally, these deals attract high levels of media attention and face unfavourable perceptions from western countries, which make deal completion more difficult. Therefore, successfully completed deals must involve an enormous amount of pre-acquisition planning such that once these deals are announced, they are perceived positively by the market.

Furthermore, after China officially revalued its currency to RMB8.11: $US1 and modified its exchange rate system by de-pegging the RMB from the US dollar and implementing the managed float system on July 21, 2005, the RMB exchange rate has strengthened substantially, which has led to increased relative wealth and lower potential cost of capital for Chinese acquirers engaged in CBMAs. Indeed, we find that acquirers engaged in CBMAs after currency appreciation are associated with substantial improvement in returns over both the short and long terms. In other words, our results suggest that the increase in relative valuation resulting from RMB appreciation can be transformed into significant wealth gains for acquiring firms' shareholders.

Finally, the ongoing economic woes following the global financial crisis in 2008 has opened up attractive overseas investment opportunities for Chinese acquirers by decreasing the valuation and bid premiums of western firms. However, we find that acquirers engaged in CBMAs after the financial crisis experience insignificant announcement gains and a significant wealth loss two years post-merger announcement. Accordingly, we argue that the financial crisis promotes managerial opportunism, whereby managers succumb to the temptation to acquire abroad without careful planning and that the wealth destruction associated with higher managerial risk taking significantly outweighs the benefit of the lower cost of acquisition for acquirers during the financial crisis period, leading to substantial long-term underperformance.

Overall, our work indicates that several hypotheses may operate to explain CBMAs from China. In particular, some CBMAs fit neoclassical theories better and some fit behavioural theories better, depending on the period in which the deal is conducted.

Table 4.1 Correlation Matrix

This table presents pairwise correlations of all variables used in the multivariate analysis. The sample contains 111 Chinese CBMAs announced between 1 January 2002 and 31 January 2011, where bidders are listed on all stock exchanges. "*Resource-Related Target*" is a dummy variable equals to one for deals targeting firms within either energy or materials sector, and zero otherwise; "*Currency Appreciation*" is a dummy variable equals to one for deals carried out after the RMB exchange rate reform on 21st July, 2005, and zero otherwise; "*Financial Crisis*" is a dummy variable equals to one for deals undertook after Lehman Brothers' bankruptcy on 15thof September2008, and zero otherwise; "*Stock*" is a dummy variable equals to one for deals financed with pure stock, and zero otherwise; "*Cash*" is a dummy variable equals to one for deals financed with pure cash, and zero otherwise; "*Diversifying Deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Book-to-market*" is the book value of equity divided by the market value of equity one month prior to the deal announcement from DataStream; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 105 days and ending 6 days before the deal announcement; *Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 105 days and ending 6 days before the deal announcement from DataStream.

	Resource-Related Target	Currency Appreciation	Financial Crisis	Stock	Cash	Public Deal	Diversi-fying Deal	Book-to-Market	Ln(Size)	Leverage	Cash Flows-to-Equity	Sigma
Currency Appreciation	-0.0878											
Financial Crisis	-0.0337	0.5335										
Stock	-0.0652	0.1049	0.0220									
Cash	0.0463	-0.0792	0.0438	-0.1292								
Public Deal	0.2703	0.0443	-0.0015	-0.0384	0.0412							
Diversifying Deal	-0.1529	0.0443	0.0793	0.1553	-0.0045	-0.0742						
Book-to-Market	-0.1518	0.0665	0.0355	0.1298	-0.0780	-0.0234	0.1318					
Ln(Size)	0.3795	0.1519	0.0862	-0.2568	0.0880	0.0242	-0.1605	-0.4206				
Leverage	0.0960	0.0283	0.0064	-0.1498	-0.0492	0.2889	-0.0894	-0.0016	0.0516			
Cash Flows-to-Equity	0.1863	0.0382	0.0230	-0.1687	0.0296	0.1073	-0.2080	-0.3173	0.3441	0.0648		
Sigma	-0.2949	0.2305	-0.0216	0.1022	-0.2018	-0.1482	0.0864	0.4468	-0.4212	0.0049	-0.0932	
Run-Up	0.1022	-0.0478	0.1172	-0.0162	0.2224	0.0623	0.2008	-0.1584	0.0055	0.0402	0.0077	-0.1193

Table 4.2 Time Distribution of Targets by Nation

This table shows the time-series distribution of Chinese cross-border M&As and of targets stratified by their nation. The figures shown represent the number of deals conducted in each target nation by year.

Nation	2002	2003	2004	2005	2006	2007	2008	2009	2010	Jan. 2011	Total
Argentina	0	0	0	0	0	0	0	0	1	0	1
Australia	1	0	1	0	0	2	3	3	3	0	13
Brazil	0	0	0	0	0	0	1	2	0	0	3
British Virgin	0	0	0	0	1	0	0	0	1	0	2
Canada	0	0	0	0	0	0	1	3	1	0	5
Cayman Islands	0	0	0	0	0	0	1	0	0	0	1
Denmark	0	0	0	0	0	0	0	0	1	0	1
Egypt	0	0	0	0	0	0	0	0	1	0	1
France	0	0	1	0	0	0	0	2	0	1	4
Germany	0	0	3	0	0	0	1	0	0	1	5
Hong Kong	1	3	2	2	1	3	4	2	1	0	19
Hungary	0	0	0	0	0	0	0	0	3	0	3
India	0	0	0	0	0	0	1	1	0	0	2
Indonesia	3	0	0	0	0	0	0	0	0	0	3
Italy	0	0	0	0	0	0	0	2	0	0	2
Japan	0	0	0	0	0	0	0	1	3	1	5
Malaysia	0	0	0	0	0	0	1	0	1	0	2
Netherlands	0	0	0	1	0	1	0	0	0	1	3
New Zealand	0	0	0	0	0	0	0	1	1	0	2
Peru	0	0	0	0	0	0	1	0	0	0	1
Poland	0	0	0	0	0	0	0	0	0	1	1
Russian Fed	0	0	0	0	1	0	1	0	0	0	2
Singapore	0	0	0	0	0	0	3	3	0	0	6
South Korea	1	0	0	0	0	0	0	0	1	0	2
Taiwan	0	0	0	0	0	0	1	0	1	0	2
Thailand	0	0	0	0	0	0	0	1	1	0	2
United Kingdom	0	0	0	0	0	0	1	0	0	0	1
United States	2	0	1	0	0	2	2	4	4	2	17
Total	8	3	8	3	3	8	22	25	24	7	111

Table 4.3 Acquirer 3-day CAR by Target Industry

This table reports the acquirer short-term 3-day CAR(-1, +1) around the date of deal announcement stratified by the target industry. The industry sector is classified by target TF Macro Industry obtained from Thomson One Banker. The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 3-day CAR. For the abbreviated industries: Overall stands for all industry sectors in the full sample; CPS stands for Consumer Products and Services; Energy stands for Energy and Power; Health stands for Healthcare; HT stands for High Technology; IND stands for Industrials; Realest stands for Real Estate; Telcom stands for Telecommunication; Energy & Materials are classified as Resource-Related sector in our sample. The mean CARs are reported and p-values are shown in parentheses. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals conducted within each industry sector.

Acquirer Short-Term Performance 3-day CAR by Target Industry													
	Overall	CPS	Energy	Health	HT	IND	Materials	Media	Realest	Retail	Staples	Telecom	Energy & Materials
Mean	0.0086	-0.0024	0.0207**	-0.0488	-0.0072	0.0312**	0.0193*	0.0070	0.0738	-0.0856	0.0084	-0.0239	0.0198***
P-Value	(0.129)	(0.886)	(0.038)	(0.284)	(0.488)	(0.013)	(0.066)	(0.605)	(0.201)	(0.182)	(0.768)	(-)	(0.007)
N	111	3	15	2	28	17	23	4	3	4	11	1	38

Table 4.4 Acquirer 24-month BHAR by Target Industry

This table reports the acquirer long-term 24-month BHAR(0, +24) after the deal announcement month stratified by the target industry. The industry sector is classified by target TF Macro Industry obtained from Thomson One Banker. The equation $\mathrm{BHAR}_{i,t} = \prod_{t=0}^{T}[1 + R_{i,t}] - \prod_{t=0}^{T}[1 + R_{m,t}]$ is used to calculate 24-month BHAR. For the abbreviated industries: Overall stands for all industry sectors in the full sample; CPS stands for Consumer Products and Services; Energy stands for Energy and Power; Health stands for Healthcare; HT stands for High Technology; IND stands for Industrials; Realest stands for Real Estate; Telcom stands for Telecommunication; Energy & Materials are classified as Resource-Related sector in our sample. The mean BHARs are reported and bootstrapped p-values (1000 replications) are shown in parentheses. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals conducted within each industry sector.

Acquirer Long-Term Performance 24-month BHAR by Target Industry													
	Overall	CPS	Energy	Health	HT	IND	Materials	Media	Realest	Retail	Staples	Telecom	Energy & Materials
Mean	-0.1286**	-0.0462	0.1983	-0.0049	-0.1755	-0.2038	-0.0764	-0.4157**	-0.2779	-0.1353	-0.1956	-1.7770	0.0320
P-Value	(0.025)	(0.907)	(0.308)	(0.964)	(0.228)	(0.165)	(0.186)	(0.020)	(0.368)	(0.501)	(0.259)	(-)	(0.701)
N	111	3	15	2	28	17	23	4	3	4	11	1	38

Table 4.5 Univariate Analysis for Acquirer 3-day CAR

This table summarizes the mean 3-day CAR(-1, +1) under various bidder- and deal- specific characteristic portfolios. The "*Resource-Related Target*" subgroup contains deals targeting firms within either energy or materials sector, whereas deals targeting firms within other industry sectors are included in the "*Non-Resource-Related Target*" subgroup. The "*After Currency Appreciation*" subgroup includes any deals carried out after the RMB exchange rate reform on 21st July, 2005, any deals carried out before the RMB exchange rate reform are included in the "*Before Currency Appreciation*" subgroup. The "*After Financial Crisis*" subgroup contains any deals undertook after Lehman Brothers' bankruptcy on 15thof September2008, with all remaining deals include in the "*Before Financial Crisis*" subgroup. The "*100% Cash*" and "*Not 100% Cash*" subgroups are created depending on whether or not the deal is financed purely with cash. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile book-to-market ratio acquirers as "*High BTMV Bidder*", while the bottom-tertile book-to market ratio acquirers as "*Low BTMV Bidder*". Same categorization method is used to classify "*Large Size Bidder*"/"*Small Size Bidder*", "*High Leverage Bidder*"/"*Low Leverage Bidder*", "*High Cash Flows-to-Equity Bidder*"/"*Low Cash Flows-to-Equity Bidder*", "*High Sigma Bidder*"/"*Low Sigma Bidder*" and "*High Run-Up Bidder*"/ "*Low Run-Up Bidder*". The equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate 3-day CAR. The mean CARs are reported and p-values are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

	Mean 3-day CAR	P-Value	N
Resource-Related Target	0.0198***	(0.007)	38
Non-Resource-Related Target	0.0027	(0.723)	73
Difference	0.0171	(0.149)	
After Currency Appreciation	0.0140**	(0.023)	90
Before Currency Appreciation	-0.0146	(0.296)	21
Difference	0.0286**	(0.045)	
After Financial Crisis	0.0179**	(0.018)	61
Before Financial Crisis	-0.0028	(0.740)	50
Difference	0.0208*	(0.065)	
100% Cash	-0.0035	(0.780)	29
Not 100% Cash	0.0129**	(0.042)	82
Difference	-0.0163	(0.203)	
Public Deal	0.0145	(0.193)	31
Private Deal	0.0063	(0.340)	80
Difference	0.0082	(0.514)	
Diversifying Deal	0.0086	(0.521)	31
Focussed Deal	0.0086	(0.150)	80
Difference	0.0000	(0.997)	
High BTMV Bidder	0.0184*	(0.070)	37
Low BTMV Bidder	0.0139	(0.132)	37
Difference	0.0045	(0.740)	
Large Size Bidder	0.0165**	(0.014)	38
Small Size Bidder	0.0083	(0.521)	38
Difference	0.0082	(0.570)	

	Mean 3-day CAR	P-Value	N
High Leveraged Bidder	0.0134*	(0.083)	38
Low Leveraged Bidder	-0.0056	(0.659)	38
Difference	0.0189	(0.199)	
High Cash Flows-to-Equity Bidder	-0.0058	(0.566)	37
Low Cash Flows-to-Equity Bidder	0.0193*	(0.091)	37
Difference	-0.0251*	(0.097)	
High Sigma Bidder	0.0168	(0.172)	38
Low Sigma Bidder	0.0123	(0.025)	38
Difference	0.0045	(0.733)	
High Run-Up Bidder	0.0117	(0.275)	37
Low Run-Up Bidder	0.0037	(0.691)	38
Difference	0.0800	(0.569)	

Table 4.6 Univariate Analysis for Acquirer 24-month BHAR

This table summarizes the mean 24-month BHAR(0, +24) under various bidder- and deal-specific characteristic portfolios. The "*Resource-Related Target*" subgroup contains deals targeting firms within either energy or materials sector, whereas deals targeting firms within other industry sectors are included in the "*Non-Resource-Related Target*" subgroup. The "*After Currency Appreciation*" subgroup includes any deals carried out after the RMB exchange rate reform on 21st July, 2005, any deals carried out before the RMB exchange rate reform are included in the "*Before Currency Appreciation*" subgroup. The "*After Financial Crisis*" subgroup contains any deals undertook after Lehman Brothers' bankruptcy on 15thof September2008, with all remaining deals include in the "*Before Financial Crisis*" subgroup. The "*100% Cash*" and "*Not 100% Cash*" subgroups are created depending on whether or not the deal is financed purely with cash. The "*Public Deals*" subgroup includes deals targeting publicly-listed firms, whereas the remaining targets are included in the "*Private deals*" subgroup. The "*Diversifying Deals*" and the "*Focussed Deals*" subgroups are created according to whether the acquirer and the target belong to the same industry, with the same industry deals in the former subgroup and the others in the later one. We further categorize the top-tertile book-to-market ratio acquirers as "*High BTMV Bidder*", while the bottom-tertile book-to market ratio acquirers as "*Low BTMV Bidder*". Same categorization method is used to classify "*Large Size Bidder*"/"*Small Size Bidder*", "*High Leverage Bidder*"/"*Low Leverage Bidder*", "*High Cash Flows-to-Equity Bidder*"/"*Low Cash Flows-to-Equity Bidder*", "*High Sigma Bidder*"/"*Low Sigma Bidder*" and "*High Run-Up Bidder*"/ "*Low Run-Up Bidder*". The equation $\mathrm{BHAR}_{i,t} = \prod_{t=0}^{T}[1 + R_{i,t}] - \prod_{t=0}^{T}[1 + R_{m,t}]$ is used to calculate 24-month BHAR. The mean BHARs are reported and bootstrapped p-values (1000 replications) are shown in parentheses. Statistical tests for differences in means are also presented. Significance at the 1% level, 5% level and 10% level is denoted by ***, ** and * respectively. "*N*" donates the number of deals within each portfolio.

	Mean 24-month BHAR	P-Value	N
Resource-Related Target	0.0320	(0.701)	38
Non-Resource-Related Target	-0.2123***	(0.005)	73
Difference	0.2443**	(0.040)	
After Currency Appreciation	-0.1301**	(0.042)	90
Before Currency Appreciation	-0.1223	(0.036)	21
Difference	-0.0078	(0.957)	
After Financial Crisis	-0.1218	(0.136)	61
Before Financial Crisis	-0.1370*	(0.089)	50
Difference	0.0152	(0.894)	
100% Cash	0.0781	(0.510)	29
Not 100% Cash	-0.2017***	(0.002)	82
Difference	0.2798**	(0.029)	
Public Deal	-0.1104	(0.220)	31
Private Deal	-0.1357*	(0.060)	80
Difference	0.0253	(0.842)	
Diversifying Deal	-0.2018*	(0.064)	31
Focussed Deal	-0.1003	(0.140)	80
Difference	-0.1016	(0.423)	
High BTMV Bidder	-0.1721	(0.232)	37
Low BTMV Bidder	-0.2207***	(0.001)	37
Difference	0.0486	(0.754)	
Large Size Bidder	-0.0866	(0.202)	38
Small Size Bidder	-0.1283	(0.322)	38
Difference	0.0417	(0.733)	

	Mean 24-month BHAR	P-Value	N
High Leveraged Bidder	-0.1542	(0.161)	38
Low Leveraged Bidder	-0.2369**	(0.031)	38
Difference	0.0827	(0.586)	
High Cash Flows-to-Equity Bidder	-0.0452	(0.579)	37
Low Cash Flows-to-Equity Bidder	-0.1766	(0.141)	37
Difference	0.1314	(0.359)	
High Sigma Bidder	-0.2643**	(0.022)	38
Low Sigma Bidder	0.0081	(0.924)	38
Difference	-0.2724*	(0.055)	
High Run-Up Bidder	0.0534	(0.586)	37
Low Run-Up Bidder	-0.4300***	(0.000)	38
Difference	0.4834***	(0.000)	

Table 4.7 Multivariate Regression Analysis for Acquirer 3-day CAR

This table presents the results of multivariate regression analyses of a sample of Chinese CBMAs announced between 1 January 2002 and 31 January 2011, where bidders are listed on all stock exchanges. The dependent variable is "*3-day CAR*", which is the three-day event window CAR(-1, +1) where day 0 is the announcement day; the equation $\mathrm{CAR_i} = \sum_{\mathrm{t}}^{\mathrm{T}}(R_{i,t} - R_{m,t})$ is used to calculate CAR. The main variables are "*Resource-Related Target*", "*Currency Appreciation*", and "*Financial Crisis*". "*Resource-Related Target*" is a dummy variable equals to one for deals targeting firms within either energy or materials sector, and zero otherwise; "*Currency Appreciation*" is a dummy variable equals to one for deals carried out after the RMB exchange rate reform on 21st July, 2005, and zero otherwise; "*Financial Crisis*" is a dummy variable equals to one for deals undertook after Lehman Brothers' bankruptcy on 15$^{\text{th}}$of September2008, and zero otherwise; "*Stock*" is a dummy variable equals to one for deals financed with pure stock, and zero otherwise; "*Cash*" is a dummy variable equals to one for deals financed with pure cash, and zero otherwise; "*Diversifying Deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Book-to-market*" is the book value of equity divided by the market value of equity one month prior to the deal announcement from DataStream; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 105 days and ending 6 days before the deal announcement; *Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 105 days and ending 6 days before the deal announcement from DataStream. All variables are winsorised at the 1% and 99% levels. All regressions are controlled for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	3-day CAR (1)		3-day CAR (2)		3-day CAR (3)		3-day CAR (4)	
Resource-Related Target	0.0156						0.0154	
	(0.234)						(0.214)	
Currency Appreciation			0.0915	***			0.0846	**
			(0.010)				(0.050)	
Financial Crisis					0.0368		0.0084	
					(0.332)		(0.830)	
Stock	0.0822	***	0.0816	***	0.0856	***	0.0802	***
	(0.004)		(0.003)		(0.002)		(0.004)	
Cash	-0.0136		-0.0103		-0.0144		-0.0104	
	(0.275)		(0.360)		(0.216)		(0.363)	
Public Deal	0.0008		0.0053		0.0061		0.0009	
	(0.957)		(0.686)		(0.640)		(0.951)	
Diversifying Deal	-0.0100		-0.0057		-0.0103		-0.0050	
	(0.493)		(0.652)		(0.438)		(0.710)	
Book-to-Market	0.0017		0.0030		0.0021		0.0011	
	(0.925)		(0.860)		(0.906)		(0.952)	
Ln(Size)	0.0050		0.0047		0.0056	*	0.0036	
	(0.219)		(0.114)		(0.089)		(0.288)	
Leverage	0.0002		0.0002		0.0002		0.0002	
	(0.438)		(0.438)		(0.443)		(0.420)	
Cash Flows-to-Equity	-0.1201	**	-0.1056	**	-0.1115	**	-0.1089	**
	(0.023)		(0.023)		(0.022)		(0.018)	
Sigma	0.0036		0.0013		0.0024		0.0019	
	(0.477)		(0.795)		(0.617)		(0.711)	
Run-Up	0.0371	*	0.0362	*	0.0400	*	0.0343	*
	(0.075)		(0.065)		(0.054)		(0.099)	
Constant	-0.0472		-0.1085	**	-0.0744	**	-0.1037	**
	(0.297)		(0.017)		(0.092)		(0.031)	
N	111		111		111		111	
Adj-R^2	0.139		0.198		0.152		0.195	

Table 4.8 Multivariate Regression Analysis for Acquirer 24-month BHAR

This table presents the results of multivariate regression analyses of a sample of Chinese CBMAs announced between 1 January 2002 and 31 January 2011, where bidders are listed on all stock exchanges. The dependent variable is "*24-month BHAR*", which is the BHAR calculated over a 24-month period after the deal announcement month. The equation $\mathrm{BHAR_i} = \prod_t^T[1 + \mathrm{R_{i,t}}] - \prod_t^T[1 + \mathrm{R_{m,t}}]$ is used to calculate BHAR. The main variables are "*Resource-Related Target*", "*Currency Appreciation*", and "*Financial Crisis*". "*Resource-Related Target*" is a dummy variable equals to one for deals targeting firms within either energy or materials sector, and zero otherwise; "*Currency Appreciation*" is a dummy variable equals to one for deals carried out after the RMB exchange rate reform on 21st July, 2005, and zero otherwise; "*Financial Crisis*" is a dummy variable equals to one for deals undertook after Lehman Brothers' bankruptcy on 15thof September2008, and zero otherwise; "*Stock*" is a dummy variable equals to one for deals financed with pure stock, and zero otherwise; "*Cash*" is a dummy variable equals to one for deals financed with pure cash, and zero otherwise; "*Diversifying Deal*" is a dummy variable equals to one for deals where the bidder industry differs from that of the target, as defined by the first two digits of the four digit Primary Standard Industrial Classification (SIC) code from Thomson One Banker, and zero otherwise; "*Book-to-market*" is the book value of equity divided by the market value of equity one month prior to the deal announcement from DataStream; "*Ln(Size)*" is the natural logarithm of the bidder's market value of equity one month prior to the deal announcement from DataStream in millions of US dollars at the currency rate of 2010; "*Leverage*" is calculated as (long-term debt + short-term debt and current portion of long-term debt)/(total capital + short term debt and current portion of long term debt) one year prior to the deal announcement from DataStream; "*Cash flows-to-equity*" is calculated as funds from operations divided by common equity one year prior to the deal announcement from DataStream; "*Sigma*" is the standard deviation of the bidding firm's market-adjusted daily returns from DataStream over the period beginning 105 days and ending 6 days before the deal announcement; *Run-up*" is the market-adjusted buy-and-hold abnormal returns of the bidding firm's stock over the period beginning 105 days and ending 6 days before the deal announcement from DataStream. All variables are winsorised at the 1% and 99% levels. All regressions are controlled for year-fixed effects and their p-values are based on standard errors adjusted for heteroskedasticity and bidder clustering. Significance at the 1% level, 5% level and 10% levels is denoted by ***, ** and *, respectively. "*N*" denotes the number of observations.

	24-month BHAR (1)		24-month BHAR (2)		24-month BHAR (3)		24-month BHAR (4)	
Resource-Related Target	0.0534						0.0484	
	(0.675)						(0.700)	
Currency Appreciation			1.8542	***			1.8445	***
			(0.000)				(0.000)	
Financial Crisis					-0.4267	**	-0.4133	**
					(0.023)		(0.020)	
Stock	-0.4531		-0.4206		-0.4812		-0.4603	
	(0.147)		(0.164)		(0.106)		(0.138)	
Cash	0.1020		0.1382		0.1143		0.1520	*
	(0.264)		(0.106)		(0.210)		(0.079)	
Public Deal	0.0921		0.0703		0.1094		0.0572	
	(0.433)		(0.459)		(0.296)		(0.602)	
Diversifying Deal	-0.0220		0.0108		-0.0166		0.0221	
	(0.850)		(0.926)		(0.884)		(0.842)	
Book-to-Market	-0.0096		0.0138		0.0051		0.0172	
	(0.949)		(0.925)		(0.971)		(0.901)	
Ln(Size)	-0.0344		-0.0189		-0.0339		-0.0254	
	(0.286)		(0.505)		(0.290)		(0.416)	
Leverage	-0.0030		-0.0021		-0.0033		-0.0024	
	(0.240)		(0.394)		(0.190)		(0.335)	
Cash Flows-to-Equity	0.0743		-0.0840		0.1219		-0.0617	
	(0.870)		(0.844)		(0.787)		(0.889)	
Sigma	-0.1051	***	-0.1155	***	-0.1072	***	-0.1134	***
	(0.004)		(0.001)		(0.003)		(0.001)	
Run-Up	0.4621	**	0.3592	*	0.4741	**	0.3562	*
	(0.023)		(0.054)		(0.016)		(0.051)	
Constant	0.1160		-1.8249	***	0.5363		-1.3747	***
	(0.735)		(0.000)		(0.209)		(0.009)	
N	111		111		111		111	
Adjusted-R^2	0.221		0.305		0.248		0.320	

Chapter 5: Conclusion

5.1 Conclusion

The primary goal of this thesis is to provide a comprehensive understanding of Chinese domestic and cross-border M&As by evaluating acquiring firms' merger motives, stock performance, and key determinants of performance. To do so, we first examine the effect of merger momentum and how this effect fluctuates during different market valuation periods to shed light on the source of merger momentum and on the motives for Chinese domestic M&As. Moreover, we investigate how the merger momentum effect differs between value and growth bidders to provide insight on whether investors evaluate mergers based on bidders' past managerial performance. Second, given that investment banks act as an important intermediary in corporate M&As, we extend our analysis to the effect of the reputation of the acquiring firms' investment bank on acquirer performance to test the effectiveness of the reputation-quality mechanism in merger advisory services. Additionally, we offer new evidence on the key factors that differentiate the advisory services of top-tier and non-top-tier investment banks. Third, we examine the wealth effects of favourable exchange rates and valuations stemming from RMB exchange rate reform and the global financial crisis on acquiring firms. Furthermore, we investigate whether the national interest in accruing resources and shareholder value creation are mutually achievable through resource-related CBMAs. Finally, this thesis provides in-depth empirical analyses in the Chinese context of common bidder- and deal-specific factors that have been found to affect acquirer returns in previous studies of other markets, including state ownership in the acquiring and target firms, method of payment, target listing status, acquirer size, BTMV, ROA, leverage, sigma, run-up, relative size of deal to acquirer, deal value and diversification.

In Chapter 2, we focus on the effect of merger momentum on acquiring firms' abnormal returns over the short and long terms. We find a form of momentum in mergers at the market level but not at the firm level. More specifically, our results show that merger momentum, as measured by the trailing 12-month average CAR in the broad market, imposes a significantly positive effect on bidder announcement and long-term abnormal returns. Additionally, we find that both merger wave and stock market momentum measures (i.e., the trailing 12-month number of mergers and trailing 12-month return on the SHComp index) are significantly positively correlated with bidder abnormal returns over the long term. These findings are in line with the neoclassical theory of mergers, which posits that merger waves may be caused by changes in the business environment that lead to an increase in overall stock prices and more profitable merger opportunities. Hence, neoclassical theory also implies that the primary motive of mergers and the source of merger momentum is synergy creation.

Our findings contribute to the existing literature by documenting that merger momentum patterns exist outside the developed merger market; however, we further suggest that unlike the UK and US markets, where investor sentiment theory is found to be the cause of merger momentum (Rosen (2006) and Antoniou, Guo and Petmezas (2008)), the source of merger momentum in China is synergy creation, as predicted by the neoclassical theory. Moreover, we find that the firm-level stock momentum variable, which is measured as the trailing 12-month BHAR on the bidder's stock, exerts a negative and significant impact on bidder abnormal returns over the long term, suggesting that the possibility of managerial hubris and market-timing motives for Chinese merger activities cannot be ignored.

Prior studies indicate that there is often a positive correlation between market valuation and the intensity of merger activity and that merger motives may change as market valuation varies. We therefore classify the market into high-, neutral-, and low-valuation periods based on the P/E ratio of the SHComp index and use the SHComp index itself as robustness check, following the same methodology employed by Bouwman et al. (2009). However, we observe that the number of acquisitions per month during hot-valuation markets is only marginally higher than the number of acquisitions per month during cold-valuation markets; most acquisitions are conducted when market valuation is neutral. Our results are in stark contrast to those of existing studies based on developed markets and suggest that in China, the stock market over-valuation is not the primary driver of merger activity.

In addition, in the spirit of Antoniou, Guo and Petmezas (2008), we examine the effect of merger momentum during hot-valuation periods and during cold-valuation periods. Antoniou, Guo and Petmezas (2008) find that the market reaction to a merger announcement is positively correlated to its reaction to other recent mergers, particularly during hot-valuation periods and that acquirers experience more significant long-term reversals if they announced deals during hot merger markets. The authors attribute their findings to overly optimistic investor sentiment during hot market valuation periods.

In contrast, we find that the merger momentum effect may not be as significant when market valuation is high, either in the short or long term. Hence, we do not support the view that investors are overly optimistic about merger announcements during hot-valuation markets. Nevertheless, acquiring firms' shareholders experience significantly higher announcement and post-announcement abnormal returns if the merger is initiated on-the-wave rather than off-the-wave, which indicates that mergers that occur on-the-wave and during stock market booms are conducted to exploit synergies and to add firm value in the long term, supporting the neoclassical theory of mergers. However, our results also indicate that the bidder-specific stock momentum measure exerts a more significant and negative impact on bidder abnormal returns over the long term for deals announced during hot market valuation periods than for deals announced at other times. Therefore, although we identify the neoclassical explanation as the primary driver of merger waves, our results suggest that bidding firms' managers are more likely to be overconfident or to favour the market-timing strategy during high-valuation markets, and therefore these rationales help to explain a nontrivial fraction of merger activity in China.

When the analysis is extended to the low market valuation subsample, we find that the effect of merger momentum on bidder abnormal returns is insignificant in the short term but significantly positive in the long term. This signals that the stock price will revert to its fundamental value over time as the track record of the merger becomes known, which indicates the existence of overly pessimistic investor sentiment during cold-valuation periods. Moreover, this result implies that acquisitions are primarily driven by synergy creation during cold-valuation periods. Additionally, both merger wave and stock market momentum measures exert a significantly positive impact on bidder announcement returns when market valuation is low. We also observe that the bidder's specific stock momentum has no effect on bidder returns. Overall, these results again suggest that mergers are driven by synergy creation; however, motivations relating to managerial hubris or market-timing are not found during cold-valuation markets. Nevertheless, we find evidence of the bounded rationality of investors and overly pessimistic investor sentiment during cold market valuation periods.

Furthermore, we suggest that the Chinese market serves as an ideal testing ground to examine whether investors base their merger evaluations on, and over-react to, the bidding firm's managerial track record because nearly 90% of acquisitions in the Chinese market are targeted at private firms, whose value is more difficult for investors to estimate. Moreover, the Chinese financial market suffers from severe information asymmetries and information uncertainty problems and is filled with an overwhelming number of individual investors. Zhang (2006) and Jiang, Lee and Zhang (2005) also posit that investors' over-reaction tends to be more pronounced under conditions of information uncertainty. We find that when bidders are divided into value and growth subsamples based on whether their BTMVs are within the top or bottom tertile, the effect of merger momentum is more prominent for growth bidders than that for value bidders in the short term, whereas the opposite trend is found over the long term, as evaluation is replaced by real firm performance. Our results indicate that individual investors fail to understand that past managerial performance is not necessarily a good indicator of future performance or that high firm valuation does not necessarily equal better firm performance; hence, employing such an evaluation approach could lead to potentially value-destroying decisions and should thus be discouraged.

We further extend our study to explore the role of investment banks in Chinese domestic M&As. In Chapter 2, we document a substantial increase in merger activity, and it is almost certain that the demand for merger advisory services from investment banks moves in line with takeover volume. Additionally, investment banks act as information producers and are responsible for reducing the adverse impact of information asymmetry in corporate takeovers. Given that investment banks come to the market repeatedly, it is essential that they provide credible advice and thereby develop a reputation that will attract future mandates and justify higher advisory fees. However, most of the existing literature based on the US market fails to support this intuitive reputation-quality mechanism, and there is no theoretical or empirical work on this subject in China. We aim to fill this gap in the literature and hence dedicate chapter 3 to an examination of these issues.

One important departure of our study is that we use a modified reputational measurement that accounts for the difference between the abilities of small and large bidders to employ top-tier investment banks, which alleviates the bidder-advisor matching problem; most earlier studies fail to use this approach. In addition, we use a binary classification to measure investment bank reputation, as advocated by Fang (2005). We first download from Thomson One Banker the yearly top-25 investment bank league tables based on the total value of the transactions on which they advised for a sample of M&A transactions targeting China. Then, to balance the reputational effect between large and small bidders, we re-rank these investment banks according to the total number of transactions on which they advised. A deal is classified as being advised by a top-tier investment banks if its advisor is within the top-10 investment banks in the previous year's league table.

Our results show that the effect of a top-tier investment bank is reflected by a significant increase in the stock price of the acquiring firm in the short term, with no long-term reversal, which supports the "superior deal" hypothesis, whereby more prestigious investment banks are more skilled at reducing the adverse impact of information asymmetry for their clients and charge premium fees. These results also confirm the validity of the reputation-quality mechanism of merger advisory services in China.

Upon further investigation of the sources of top-tier investment bank improvements, we find that top-tier investment banks are associated with insignificantly higher completion rates. This finding may imply that top-tier investment banks are skilled across multiple dimensions and will act according to their clients' needs; for example, top-tier banks are better skilled at completing complex mergers and mergers that face resistance (i.e., the "better deal completion skills" hypothesis), but they are also trustworthy and thus more willing to turn away value-destroying deals, even if their advisory fees are largely contingent on deal completion (i.e., the "preventing poor deals" hypothesis). Therefore, clients that employ top-tier investment banks do not face a trade-off between these objectives. Additionally, we find that the time to resolution and completion are significantly longer for top-tier investment banks. This finding is consistent with our proposed “diligent advisor” hypothesis, which posits that top-tier investment banks have more reputational capital at stake and thus take more time to carefully evaluate the terms of transactions and negotiate favourable terms for their clients. In sum, our findings suggest that top-tier investment bank-associated gains stem from their diligence; their enhanced abilities to identify targets with higher potential synergistic gains, negotiate favourable terms for their clients and facilitate smooth deal execution; and their trustworthiness and willingness to sacrifice their advisory fees by rejecting bad deals for their clients.

Chapter 3 contributes to the existing literature by using a modified reputation measure to explicitly account for the difference in the abilities of large and small bidders to employ top-tier investment banks (i.e., bidder-advisor matching). It further contributes to the literature by being the first empirical study to provide support for the effectiveness of reputation-quality mechanism for merger advisory services in China, whereas most studies based on the US market fail to find support for this mechanism. Moreover, Chapter 3 offers incentives for investment banks to act in the best interests of their clients to protect their most valuable asset: their reputations. Finally, it provides justification for the widely published investment bank “league tables” because we find that Chinese bidders do not form “lock-in” relationships with certain investment banks but are instead performance chasers; hence, the construction of “league tables” should motivate investment banks to render superior services in return for a high and stable ranking in the league tables, which in turn will allow them to charge premium fees for future mandates.

Although the global financial crisis clearly diminished investment banking revenue worldwide, it also resulted in significant changes to the M&A landscape. In particular, the global finical crisis has accelerated China's "go global" policy by placing Chinese firms in a privileged financial position relative to their competitors in more developed countries.[57] Moreover, the RMB exchange reform implemented in 2005 has led to substantial RMB appreciation and has boosted Chinese CBMA volume because Chinese firms can benefit from their relative increase in wealth by engaging in CBMAs. However, the FT reports that the massive spike in Chinese overseas investment in recent years was due partly to opportunistic buying because assets were cheap and partly to a structural secular shift in Chinese overseas investment, which moved from securing natural resources to acquiring brands and technology.[58] The FT's assertions cast doubt on the wealth effects of favourable valuation and exchange rates on the acquiring firms. Nevertheless, regardless the structural secular shift, Chinese acquirers' preference for natural resources cannot be overlooked. Rather, natural resource-related acquisitions have been the primary theme of Chinese CBMA over the past decade and have caused significant political tensions; hence, it is evident that resource-related transactions are critical from both the political and economic perspectives and thus are worth investigating.

Motivated by the above trends and facts, and the lack of related literature, we examine whether there is a significant performance difference between acquisitions targeting resource-related firms and acquisitions targeting non-resource-related firms to determine whether acquisitions driven by national interests are undertaken at the expense of shareholder wealth. Moreover, we aim to determine whether there is any difference in performance between Chinese acquirers that conducted CBMAs before and after two major events. The first such major event is the change in fiscal policy that occurred when the

[57] Source: OECD, China Investment Policy, 2013.

[58] Source: FT.com, Chinese investors surged into EU at height of debt crisis, 6 October, 2014.

Chinese government removed its currency peg on 21 July 2005, which resulted in substantial RMB appreciation (i.e., currency appreciation); the second major event is the financial meltdown that occurred after Lehman Brothers filed for bankruptcy on 15 September 2008, which led to an extraordinary plunge the asset prices for many western firms (i.e., the financial crisis). Recent work has focussed on the impact of currency appreciation and other macroeconomic factors on the propensity to conduct CBMAs. For instance, Erel, Liao and Weisbach (2012) indicate that either currency appreciation or macroeconomic performance could affect the valuation of bidders or targets, resulting in real increases in wealth and enhanced abilities to finance acquisitions for acquirers. Similarly, we propose that currency appreciation and financial crisis could lead to increased relative wealth or lower cost of acquisition for Chinese acquirers that engage in CBMAs and could thus affect CBMAs performance.

Our results indicate that bidders experience insignificant abnormal returns overall. After simultaneously controlling for various factors that affect bidder performance, we find that regardless of the national strategic motives embedded in resource-related deals, such deals are not undertaken at the expense of shareholder wealth; and determine that resource-related deals are particularly welcomed by investors if they are focussed.

We further find that deals conducted after currency appreciation are associated with higher bidder announcement abnormal returns. Moreover, when we extend the analysis to the long term, thereby allowing the results of the CBMAs to be known, we find that bidders that undertake acquisitions after RMB reform continue to enjoy higher abnormal returns. These results are in line with the wealth explanation for takeover gains described by Froot and Stein (1991). Specifically, the increase in relative valuation due to currency appreciation reflects a real increase in acquirer wealth and enhances the acquirer abilities to finance acquisitions overseas. In addition, this valuation effect tends to persist and add to firm value over the long term.

Moreover, our results show that although acquirers engaged in CBMAs after the financial crisis are not perceived more or less favourably by the market in the short term, these acquisitions lead to significant losses for shareholders over time. This underperformance is likely to be the result of managerial opportunism, whereby managers succumb to the temptation to buy assets that have become cheaply available during the financial crisis without carefully researching the targets.

Chapter 4 not only fills the gap in the literature but also sheds light on the motives behind Chinese CBMAs during specific time periods. We find that in general, managers act rationally and engage in well-planned acquisitions following currency appreciation to take advantage of the relative increase in wealth and lower cost of capital but tend to be less rational and gravitate towards opportunistic buying during the financial crisis period. Our study further contributes to the literature by implying a possible phenomenon that might be an interesting subject for future study, namely, the effect of favourable valuation may not always benefit acquiring firms' shareholders but might instead vary depending on whether the favourable valuation is temporary or rather permanent.

5.2 Implications and Proposals for Future Research

Chapter 2 shows that neoclassical theory of mergers can shed light on the primary motives of merger activity, the source of merger momentum, and hence factors that affect bidder wealth creation in Chinese domestic M&As. In addition, it offers evidence of other motives for merger activity, such as managerial hubris and market timing, and shows that these motives tend to play a more prominent role in triggering merger activity in hot-valuation markets, whereas they are least detectable when market valuation is low. Therefore, we suggest that investors respond to acquisitions conducted in hot-valuation markets with caution, especially if the government gradually unwinds its restrictions on daily stock market fluctuation and the investor sentiment effect becomes more pronounced.

Moreover, our results in Chapter 2 suggest that although Chinese investors tend to be overly pessimistic during cold-valuation markets, the overoptimism widely observed among investors in the US and UK markets during bullish periods is not detected in China. In order words, Chinese investors tend to be affected more by negative market sentiment than by positive market sentiment. Future research on why investors become prone to different market sentiments is suggested because this could help us better understand how investors process new information and make decisions.

Additionally, we find that due to the severe information asymmetry problem in China, investors tend to evaluate mergers based on bidders' past managerial performance, which can lead to potentially value-destroying investment decisions. As a result, we suggest that the Chinese government should place more emphasis on developing accounting disclosure standards that will require managers to release more firm information and thereby decrease corporate opacity, which in turn will allow investors to perform more accurate assessments of firms' fundamental value. In these conditions, investors would be more objective and better positioned to make investment decisions.

The results presented in Chapter 3 support the effectiveness of the reputational-capital mechanism for merger advisory services in China and indicate that the source of gains associated with top-tier investment banks is a combination of their skills, diligence and trustworthiness. Our results highlight the importance of developing and maintaining reputational capital for investment banks and provide justification for the widely published investment bank "league tables". We suggest the construction of "league tables" should motivate investment banks to provide high-quality services to stay at the top of the league tables and effectively reduce banks' selfish incentives to complete bad acquisitions to secure contingency fee payments.

Given that this is the first study to examine the effect of investment bank reputation on bidder returns in China, our study provides numerous opportunities for future research, including the following areas: investment banking contracts and fees; other sources of top-tier improvement; the wealth effects of top-tier bankers versus non-top-tier bankers; and the determinants and wealth effects of employing financial advisors compared with executing deals in-house.

Our findings in Chapter 4 alleviate concerns about the wealth effects associated with resource-related CBMAs. We find that although resource-related cross-border deals promote national interests, they are not undertaken at the expense of shareholder wealth. Indeed, such deals are especially value-enhancing for focussed resource-related bidders around the merger announcement. In addition, resource-related acquisitions often encounter "protectionism" from target countries and ultimately fail to be completed in many instances. Therefore, we recommend the establishment of policies designed to avoid similar obstacles to large-scale overseas investment by Chinese firms in the future. Research is also recommended to untangle the reasons for these negative reactions so that appropriate actions can be taken to reduce or eliminate them.

Further, our results show that managers tend to be opportunistic and to conduct value-destroying transactions as a result of the favourable valuation effect of the global financial crisis. To avoid this, we suggest that institutional investors or blockholders play a more active role in monitoring and constraining the self-serving or irrational behaviour of corporate managers, especially during periods when managerial discretion is expansive.

Finally, despite the success of the "go global" in directing more Chinese companies to expand overseas, we find that their post-expansion performance is less than promising. Hence, future research is recommended to identify potential factors that help to boost acquirers' post-acquisition performance. For example, a comparative analysis of the effectiveness of different policies across various provinces in China could be conducted by considering their initial provincial conditions, and any effective policies identified through this process can be implemented on a national scale to enhance the performance of acquiring firms.

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