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Stock Market-Driven Acquisitions and Toehold Acquisitions in Thailand

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**Thesis submitted in fulfillment of the requirement for
the degree of Doctor of Philosophy**

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Abstract

This thesis examines the gains to acquiring shareholders in cash-acquisitions which occurred in Thailand in the period between 1992 and 2001. It analyses the impact of stock market valuations at the time the acquisitions occurred and the impact of toehold acquisition strategy on acquirers' post-acquisition performance.

The first part reviews the merger and acquisition (M&A) history in the US and Thailand, Thai stock market history and corporate governance. It shows that the merger waves which took place in both countries are positively correlated to economic prosperity. However, after the Asian crisis in 1997, this relationship is reversed for Thailand.

Accordingly, the second part empirically investigates the impact of stock market valuations and acquiring shareholders' long-term performance. The findings show that high-valuation acquirers perform significantly less well than low-valuation acquirers. The underperformance is due to an overpayment of acquisition premiums. Two-stage regressions allow us to discover that the acquisition premium is endogenously determined by the acquirer's financial constraint and the target's leverage. The acquirer's financial constraint is found to have a positive relationship with the acquisition premium whereas the target's leverage is found to be negatively related to the acquisition premium. The findings suggested that stock market valuation has a significant impact on acquiring shareholders. Engaging in an acquisition during a high-valuation period destroys shareholders' value in the long-run whereas low-valuation acquisition is considered to be a profitable strategy.

In the third part, the role of toeholds¹ and their impact on acquirers long-term performance is examined. Simultaneous equations are employed in order to investigate the relationship between the size of the toehold, the stock price run-up², the acquisition

¹ A toehold is defined by Betton and Eckbo (2000) as a pre-takeover ownership stake in a target firm.

² Following Bris (2001), the stock price run-up is defined as an abnormal return in the 120 trading days prior to the acquisition announcement.

premium, and the acquirer's long-term performance. Since acquiring a toehold alerts the market to the possibility of a successful takeover and to a target's value, the size of the toehold is found to increase the target's stock price run-up. However, the size of the toehold is not found to have a direct effect on the acquisition premium but indirectly influences the acquisition premium through the stock price run-up. An increase in the stock price run-up is found to positively influence the acquisition premium. Both the stock price run-up and the acquisition premium have significant negative impacts on acquiring shareholders' post-acquisition gains. Therefore, toehold acquisition induces an added cost of acquisition by increasing the target's share price prior to the announcement date and leading to an acquisition premium.

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Introduction

For almost two decades between the 70's and the early 90's, Thailand was seen as one of the Asian Tigers³ – the leading Asian economies – recording some of the most impressive growth in the world economy. In this period, the so-called “pillow and mattress” generation of Thai businessmen benefited greatly from the relatively low manufacturing cost base and developing economy. Unfortunately, the country's and its businessmen's naivety and lack of awareness concerning the risks of globalisation were eventually cruelly exposed in the currency speculation by fund managers and ultimately, by the Asian Crisis.

The much publicised crisis led to a number of failed businesses and, for a while, the country's economy almost came to a halt. Many businesses had to change their attitude from the pre-crisis period and find their own way of surviving. It is believed that a number of firms undertook mergers and acquisitions (M&As) as a means of survival. However, such a belief has yet to be proven by any published studies. Being a Thai national has drawn my interest to the question of whether M&A activities were indeed seen as a solution and whether they have been beneficial for those firms undertaking them. It is exactly this reason which has driven me to study M&A activities in Thailand from 1992 to 2001 – a timeframe which includes a period when the Stock Exchange of Thailand (SET) index was at its highest in history, as well as the Asian crisis and the post-crisis period.

There are a total of three main parts. Chapters 1 and 2 make up the first main part. Chapter 1 is concerned with merger history in the United States, including details of underlying factors which have influenced the merger waves and the economic performance of the merger activities in each wave. The chapter demonstrates that merger waves in the US are positively correlated to the country's economic prosperity. Chapter 2, on the other hand, addresses the issues concerning the history of the Thai stock market, the corporate governance of Thai firms, and merger history in Thailand. It reviews the

³ Asian Tigers were Thailand, Indonesia, South Korea, Malaysia, Singapore, Taiwan, and Hong Kong

development of the Thai stock market and its relationship to merger history in Thailand and also, the impact of the unique characteristics of Thai firms' corporate governance on the firm owners' attitude towards M&A transactions.

The second part, which consists only of Chapter 3, looks at the impact that stock market valuations at the time the acquisitions occurred had on acquiring shareholders' performance. Finally, the last part, Chapter 4, demonstrates the role of toehold acquisitions, which have accounted for half of all the M&As in Thailand, as well as the Thai M&A landscape and its influences on acquiring shareholders' long-run abnormal returns.

There are four reasons why Thailand was chosen as a single case study. Firstly, Thailand makes the most interesting case to explore among developing countries. It had one of the fastest growing economies in the world during the last decade. In 1997, it gained notoriety as the epicentre of what came to be known as the 'Asian Crisis', which has since consumed much attention and output in the various genres of literature in the area of social sciences. That the much-vaunted economic growth of Thailand came to such a spectacular halt in 1997 makes the country a worthwhile study from a myriad of scholarly perspectives.

Secondly, a study of the activities in Thailand contributes to the understanding of financial economic development in the developing world and those countries with similar corporate governance practices. Thirdly, I have substantial and thus far unprecedented access to a combination of data and resources which add significant originality to the research and its findings.

Lastly, similar to the US merger wave, the merger wave in Thailand is also positively correlated to economic prosperity from 1992 until 1997. However, from 1998 to 2001, after the economic crisis in Asia, the number of M&A activities in Thailand increased dramatically whereas the country's GDP was falling. After the crisis, Thai firms who did not have strong financial resources or efficient management had serious financial

problems, threatening their survival in the market. Many firms were forced to sell off their non-core, non-performing assets (including fully operational subsidiary businesses) at bargain prices. This led to an increase in the number of M&A activities. Unlike other periods and the merger wave in the U.S., this increase in the number of merger activities was triggered by an economic downturn. M&A was the strategy that Thai firms chose to restructure themselves in order to survive after the economic crisis. They were convinced that mergers and acquisitions would create value for shareholders and use their resources more efficiently. It is therefore interesting to question whether engaging in M&A activities during an economic downturn did indeed generate gains to acquiring shareholders.

Accordingly, Chapter 3 seeks to answer this question. Previous researchers have reported that shareholders of acquiring firms experience value losses, whereas target shareholders receive substantial gains following acquisitions⁴. These studies found that acquiring firms' performance depends on the mode of acquisition, method of payment (cash versus stock), and type of target⁵. Additionally, only a few studies had taken stock market valuations or the related economic conditions into account when examining the acquiring shareholders' returns (Shleifer and Vishny 2003, and Bouwman, Fuller and Nain 2003). Although the findings from these studies showed that stock market conditions had significant impact on the acquisition performance, it did not investigate the mechanism of these impacts. The findings in Chapter 3 indicate that the stock market valuation at the time of the acquisitions⁶ has a significant impact on acquiring shareholders, both in the short-run and the long-run. In the short-run, high-valuation acquirers⁷ experience significant positive abnormal returns, whereas low-valuation acquirers experience

⁴ Servaes (1991), Kaplan and Weisbach (1992), Loughran and Vjih (1997), Rau and Vermaelen (1998), Mitchell and Stafford (2000), Mulherin and Boone (2000), and Andrade, Mitchell, and Stafford (2001).

⁵ Agrawal, Jaffe, and Mandelker (1992), Loughran and Vjih (1997), Rau and Vermaelen (1998), Linn and Switzer (2001).

⁶ Following the work of Bouwman, Fuller and Nain (2003b), the SET (Stock Exchange of Thailand) index is used as a proxy for market valuations. The market valuation is classified into high, neutral or low valuation periods based on the SET index. Each month is defined as high (low)-valuation when it lies in the top (bottom) half of months when SET index was above (below) the past five-year average. All other months are classified as neutral valuation.

⁷ Acquirers initiating acquisitions during high-valuation, neutral-valuation and low-valuation markets will be referred to as high-, neutral-, and low-valuation acquirers, respectively.

significant negative abnormal returns. At the same time, high-valuation acquirers are found to have significant negative abnormal returns three years after the acquisitions were completed, while low-valuation acquirers gain significant positive abnormal returns. High-valuation acquirers are found to have significantly underperformed in comparison to low-valuation acquirers.

I then move on to investigate possible explanations of the high-valuation acquirers' underperformance. Three possible explanations are proposed which are: the valuation of targets, the acquirer's financial constraints and the acquisition premium. The underperformance of the high-valuation acquirers could be due to the acquirer taking ownership of a target firm with high market-to-book ratio. This theory is based on the idea of information asymmetry in the financial market and the resulting inefficiency. A high market-to-book ratio could be seen as a result of a market mis-valuation. The findings, however, indicate that this is not the case. Acquiring a target firm with a high market-to-book ratio generates positive returns to acquiring shareholders in the long-run. The difference between the target's market and book value reflects the target's growth opportunities and management quality which cannot be captured by an accounting measurement. The underperformance of high-valuation acquirers are, therefore, not as a result of acquiring targets with high book-to-market ratios.

The variation in acquirer's financial constraints is the second possible explanation. The constraint is defined by the amount of funds that can be obtained, rather than the source of funds⁸. Since firms are less financially constrained during economic booms or high-valuation periods, firms can access capital and debt financing more easily than in low-valuation periods. With a high level of abundant cash in hand, according to the free-cash flow hypothesis, agency problems could encourage the acquiring manager to pursue his own interests rather than maximising the shareholders' value⁹. The flip side of the same coin means that the low level of cash flows could be used as a tool to monitor a manager's hubristic behaviour. Consequently, managers in high-valuation periods are

⁸ Gelos and Werner (2002)

⁹ Jensen (1986)

more likely to pursue their own interest rather than maximising the shareholders' value and, hence, unintentionally destroy acquiring shareholder value.

This study found that high-valuation acquirers are indeed less financially constrained than low-valuation acquirers. However, the results from two-stage regressions show that the acquirer's financial constraints do not have a significant impact on the post-acquisition returns. It is found, instead, to have an indirect impact through acquisition premiums. The findings show that the acquirer's financial constraint has a significant positive impact on acquisition premiums. The more free cash flows the firms have, the more aggressive they are towards the M&A transaction, and the higher premium the acquirer will pay for their chosen target.

Finally, the underperformance of the acquiring firms is found to be due to overpayment on acquisition. High-valuation acquirers are found to pay a significantly higher premium than their low-valuation counterparts. Acquisition premium is found to have a significant negative impact on acquiring shareholders' gains. The two-stage regressions, which allow us to explore the acquisition premium, are determined by both the acquirer's financial constraint and the target's leverage. Unlike the relationship between the acquirer's financial constraint and acquisition premium, the target's leverage is found to have significant negative impact on the premium. Having a high leverage makes low-valuation targets less attractive and lowers their bargaining power. With such bargaining dynamics, an acquirer could, in theory, pay a premium that is lower than the potential value of the target's potential growth and synergy gains from the acquisition. Due to the combined effects of the acquirer's financial constraint and the target's leverage on the acquisition premium, the findings show that high-valuation acquirers had overpaid on the acquisition premium and, hence, experienced negative abnormal returns in the long-run.

The findings in Chapter 3 imply (as far as the acquirers are concerned) that stock market valuation affects corporate decision making especially regarding acquisition decisions, and hence, affects post-acquisition performance. The results strongly suggest that acquisitions that were made during the high-valuation periods, in the long run,

underperform when compared to those made during the low-valuation periods. Although acquiring target firms with higher growth opportunities and performance should create positive gains to high-valuation acquirers, this positive impact is smaller than the negative impact from the overpayment. As a result, the expected strategic gains from the acquisitions were cancelled out by the overpayment of acquisition premiums and resulted in value-destroying acquisitions.

Chapter 4 presents an empirical investigation into the difference in performance between toehold and non-toehold acquisitions in Thailand. A toehold is defined by Betton and Eckbo (2000) as a pre-takeover ownership stake in a target firm. Several papers argue that acquiring a toehold is profitable to an acquirer because the share price prior to the announcement date is less expensive than the price offered in the tender. This would reduce acquisition costs. In line with the evidence of other countries in the world, half of the acquisition transactions in Thailand are classified as toehold acquisitions. If the toehold acquisition is really a profitable strategy, why have only half of acquirers purchased toeholds? Many theoretical models attempt to provide an answer for this question by arguing that accumulating toeholds will give out signals to and attract rival bidders and, hence, increase the market share price of potential target firms (referred to as a target's stock price run-up¹⁰). This would, in turn, lead to an increase in bid premiums and an overpayment to the potential targets. However, to the best of my knowledge, there is no study which has empirically examined whether toehold acquisition is a profitable strategy for acquirers in the long-run. The empirical study in Chapter 4 therefore contributes to the existing literature by examining the effect of toeholds on the acquirer's post-acquisition performance.

The findings show that *toehold* acquisitions perform significantly less well than *non-toehold* acquisitions. I then investigate the cause of the toehold acquisitions' underperformance by examining *non-toehold* and *toehold* acquisitions separately. It is

¹⁰ Following Bris (2001), the stock price run-up is defined as the abnormal return in the 120 trading days prior to the acquisition announcement. However, Schwert (1996) calculates price run-up as the cumulative abnormal return from $t=-42$ to $t=-1$ trading days.

found that the acquisition premium of a *toehold* acquisition is significantly lower than that of a *non-toehold* acquisition, whereas the stock price run-up of *toehold* acquisitions is significantly higher than that of *non-toehold* acquisitions. However, the stock price run-up does not have any significant impact on the *non-toehold* acquisition performance, whereas it does have a significant negative impact on the *toehold* acquiring shareholders' abnormal returns. This suggests that the stock price run-up of *toehold* acquisitions could lead to the underperformance. The relationships between toehold size, stock price run-up and acquisition premiums of *toehold* acquisitions are therefore further examined.

The three-stage least square regression is applied in order to examine the relationships between the size of the toehold, the stock price run-up, and the acquisition premiums because these variables are endogenously determined and might have reciprocal relationships. The results from a simultaneous equation analysis show that the size of toehold has a significant positive effect on the target's stock price run-up, which is consistent with previous literature. The higher the toehold an acquirer has, the higher the target's stock price run-up. Since acquiring a toehold reveals information about the potential bidder and target, the target's valuation and the probability of a successful acquisition, an increase in the size of the toehold would increase the probability of acquisitions and, hence, increases the stock price run-up. However, in contrast to previous literature, the size of toehold is found to have a significant positive impact on the acquisition premium. This indicates that an increase in the stock price run-up does not necessarily reduce the acquisition premium. In other words, acquiring toeholds does not provide the potential acquirer with more bargaining power over the target firm as predicted by a number of theoretical models. The stock price run-up is thus considered to be an increase to the total cost of M&A transactions and an added cost to the toehold acquiring shareholders. Accordingly, after controlling for other variables, the results from the simultaneous equation system indicate that *toehold* acquisitions perform less well when compared to *non-toehold* acquisitions due to the significant negative impact from both acquisition premiums and stock price run-ups on acquiring shareholders' long-run returns.

The findings in Chapter 4 suggest that toehold acquisitions are not widely used because, on average, they destroy the acquiring shareholder's value as they alert the market to the possibility of the acquisition. Such a strategy is beneficial to the target firms. Although a *toehold* acquisition reduces the information asymmetry within the market, it is at the acquiring shareholders' expense. As a result, the potential acquirers need to take the effects of the toehold on these factors into account before engaging in toehold acquisitions since it could be a value-destroying strategy to acquiring shareholders.

Chapter 5 presents the summary of findings of the impact of both external and internal factors which influence M&A decision making and hence M&A performance. The similar results are expected to be found in emerging markets with similar market development and corporate governance. The same effect is also expected to happen in developed markets, but at different degree depending upon each country specific factors.

I postpone further remarks on the three parts of the thesis to each chapter individually – these include thorough and self-contained introductory sections providing an overview of the contributions of each chapter.

Chapter 1

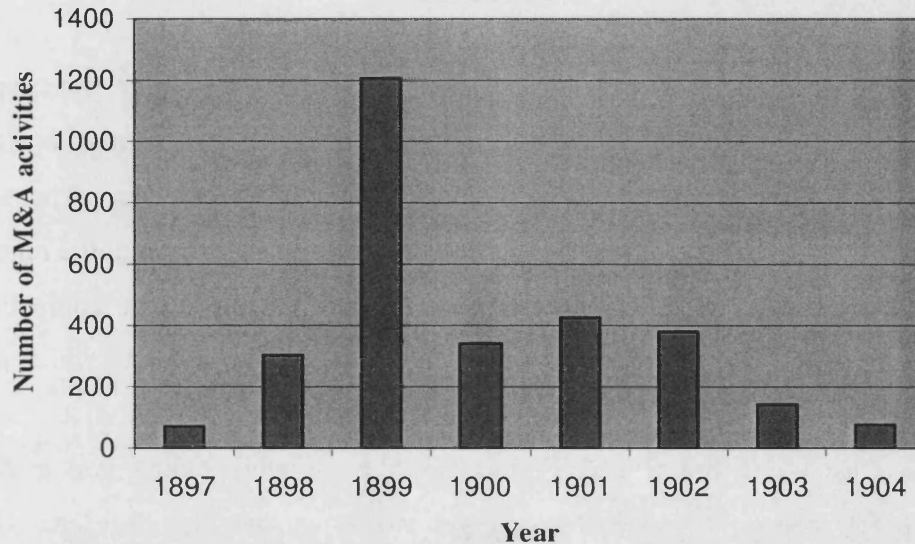
American Merger History

This chapter reviews the history of merger waves in the US. The main discussion will concern the underlying factors which influence the occurrence of historic merger waves, their characteristics, and the main reasons for the end of each wave. Interestingly, each of the merger movements reflected some underlying economic or technological factors. Every merger wave arose mainly from external exogenous disturbances such as economic, technological and legal factors (Caves, Fortunato, and Ghemawat 1984). This is because M&As represent the process of resource allocation or reallocation in the economy and, as such, they will affect most people within the economy (Weston et al. 2004). The following section aims to shed some light on the underlying factors that are favourable for the mergers, the characteristics of mergers, and the reasons why the waves ended.

1.1 The First Merger Wave 1898-1904

The first U.S merger wave began in the early 1890s and culminated in 1898-1902, probably the most intense period of merger activity in history relative to the size of the economy. Moody (1904) reported that, in this period, over 300 industrial combinations were formed and involved about half of the country's manufacturing capacity.

Figure 1.1: Merger Activity of The First Merger Wave, 1897-1904



Source: Merrill Lynch Business Brokerage and Valuation, Megastat Review, 1989

Underlying Factors

The emergence of the first merger wave is associated with the recovery of economic growth that occurred in the period between 1892 and 1902, as well as with the development of economic infrastructure. The completion of the transcontinental railway, telegraphic networks, and the invention of electricity had played an important role by creating a national market and resulted in an increase in the growth opportunities for firms which used to operate at a local or regional scale. Accordingly, firms faced competition from distant rivals and opted to merge with local competitors in order to keep their market share (Gaughan 2002).

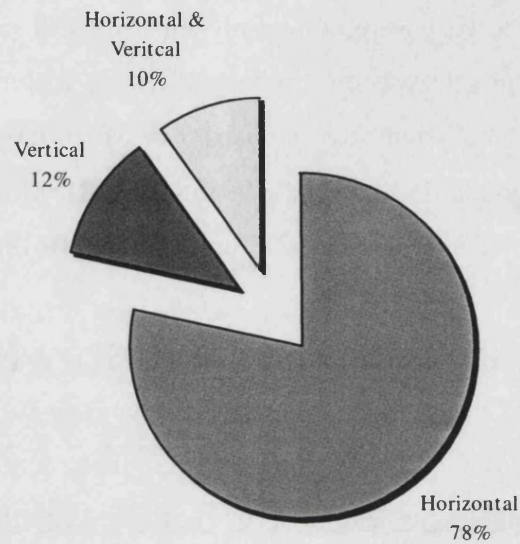
The merger activity in the first wave was concentrated among heavy manufacturing industries. The industries that experienced the greatest amount of merger activity during this period, according to Nelson's (1959) National Bureau of Economic Research study, include; primary metals, food products, petroleum products, chemicals, transportation equipment, fabricated metal products, machinery and bituminous coal. This period is also known for the first billion-dollar merger between United States Steel, owned by J.P.

Morgan, and Carnegie Steel, owned by Andrew Carnegie. Markham (1955) reported that, from 1882 to 1892, the average scope of the geographic market covered by firms had increased three times.

The emergence of these vast national market producers led to intensification amongst firms and firms generally attempted to become more competitive by exploiting economies of scale achieved via new mass production techniques. The search for economies of scale triggered a race to achieve critical size and fostered the regrouping of firms. Many firms contracted alliances in order to avoid direct competition with competitors. Following the proclamation of the Sherman Act in 1890, which authorized the formation of holding companies, these firms formed themselves as holding companies, leading to an artificial rise in the number of attempted mergers made in order to search for monopoly power. This merger movement was therefore characterized as 'merging for monopoly' in specific industries through horizontal mergers. For instance, United States Steel accounted for 75% of the United States steel industry's market share, American Tobacco held a 90% market share, while Standard Oil accounted for 80% of its market (Gaughan 2002). Although the Sherman Antitrust Act of 1890 was in place to prevent anti-competitive behaviour that resulted from the monopolistic power of firms, industry consolidation progressed unabated without major antitrust interventions (Stigler 1950). The first merger wave was characterized by firms attaining monopoly power. Interestingly, the horizontal integration of leading producers in the same industry created a number of lasting dominant firms that still survive in the present, such as Du Pont, U.S. Rubber, U.S. Steel, General Electric, Coca Cola and National Biscuit.

After 1890, the vitality of the stock market contributed to the development of mergers and acquisitions. Many firms increasingly utilized the stock market in order to raise capital for their businesses. At the same time, investors preferred to invest in holding stocks rather than trust investment certificates which were less established investments. The investors, speculators, and financiers thus played an important role in merger activity during this period (Markham 1955, and Salter and Weinhold 1979).

Figure 1.2: Mergers of The First Merger Wave by Type



Source: Nelson 1959 and Fligstein 1990

Economic Performance of Mergers

Research into the economic performance of the first merger wave has been undertaken by several studies. Dewing's (1921) study showed that the performance of merging firms taking place between 1873 and 1902 was much lower than pre-merger expectations. The performance was measured in three ways: (1) previous earnings before consolidation compared with the actual earnings realized, (2) estimated earnings at the time of consolidation compared with the actual earnings realized, and (3) comparison of the earnings of industrial consolidations immediately after consolidation with later earnings. Overall it is found that, on average, their performances decreased by 15% throughout the years following the merger. However, the results of this study suffer from some limitations in sample size, which consisted of only 35 mergers. Dewing (1921) argues that the quality of the management during the post-acquisition process caused the post-acquisition underperformance.

Livermore (1935) undertook the first large scale statistical study of the merger performance of the first wave. He measured merger success by using earning capitalization 30 years after the merger. From a sample of 328 mergers, the study showed that horizontal mergers were commonly successful in industries where size effects were present (e.g. chemicals, precious metals, glass, etc.). Nonetheless, he found a high failure rate in the high labour intensive industries in which large size effects did not exist, (e.g. textile, leather goods and utensils). In line with Dewing's (1921) argument, Livermore (1935) also concluded that merger failure is due to the implementation of mergers.

From the same base sample, Markham (1955) replicated Livermore's study and confirmed the previous findings with a similar rate of merger failure (47%). Chandler (1977) did a historical analysis and found that, consistent with Livermore's (1935) findings. Nonetheless, Chandler (1977) stressed that, even in industries favourable to size effects, firms that did not go beyond the stage of legal consolidation did not remain profitable. Indeed, these remaining firms were mere substitutes for horizontal alliances and became less productive than their counterparts that opted for administrative centralization and the rationalization of manufacturing assets (Chandler 1977). The case studies carried out by Brozen (1982) and the quantitative analysis undertaken by Lamoreaux (1985) support Chandler's arguments by showing that the merging firms, which were mainly driven by a search of market power, became poor performers. Furthermore, mergers promoted by speculators based on the erroneous premise of access to market power, became bankrupt.

The downturn of merger activity started in 1901 when the majority of mergers failed and did not achieve the expected increases in efficiency (Weston et al. 2004). There were three major reasons why the first merger wave came to an end. Firstly, the shipbuilding trust collapsed in the early 1900s putting an end to fraudulent financing. Secondly, in 1903, the economy went into recession and the stock market crashed in 1904. Thirdly, it was also due to the Banking Panic of 1907 that closed numerous banks and led to the formation of the Federal Reserve System (Gaughan 2002). The Supreme Court ruled in 1904 that the Sherman Act could be used to attack anti-competitive mergers which

contributed to the ending of the first wave. In essence, the first merger wave came to an end because these fraudulent financing practices had been stopped, and the key financial ingredients for takeover activity were halted due to a deteriorated stock market and a weakened banking system.

1.2 The Second Merger Wave 1922-1929

The second merger wave began in 1922 and ended in 1929. The industries that were impacted by merger activity included primary metals, petroleum products, food products, chemicals, and transportation equipment (Gaughan 2002). Unlike the first merger wave, which was characterized by monopolistic behaviour and horizontal mergers of firms, the second merger wave was characterized by oligopolistic behaviour and the formation of vertical and conglomerate mergers. In other words, rather than one firm dominating its respective industry, the consolidation of firms gave industry control to a few firms. Speculative motives propelled this wave, as with its predecessor, with financial promoters and corporate officers seeking quick gains from the rising values of the common stock of companies targeted for mergers and takeovers.

With the exception of the work initiated by Nelson (1959) and Eis (1969), economists did not embark upon major research on the mergers that occurred within the 1920's (Borg, Borg, and Leeth 1989).

Underlying Factors

The development of mergers during the 1920's corresponds to a period of economic growth (that is, the economic recovery of 1922). In the technological field, automotive transport development provided incentives for firms to undertake geographic expansion mergers, especially in service industries (such as distribution and cinema). Furthermore, the improvement in communication networks, such as radio, led to the launching of advertising campaigns on a national scale (Markham 1955 and Stocking and Mueller 1955). Moreover, since the 1920's, the development of mass distribution systems, based on low commercial margins, enabled firms to reduce their production costs to a minimum by increasing their volume of production (ibid.). Horizontal mergers then constituted a

means of quickly acquiring new productive capacities in order to supply increasing outlets. In the case of horizontal mergers, the motivations were similar to those of the first wave. Vertical mergers were motivated by the search for increased security in outlets and a better control of supply sources. Some of these mergers were driven by increasing internal efficiency, thanks to improvements in the coordination of activity at different stages of the technical and organizational processes (Stocking and Mueller 1955). Additionally, it allowed firms to broaden their scope by inducing mergers between firms whose activities were located up or downstream in the business system, or in related industries. While they were losing market share, market leaders did not try to recover their previous monopolistic position in the market but rather invested in related branch activities. Mergers of related diversification allowed for the expansion of the product line and the enlargement of geographic coverage of firm activities, thus, leveling out expenditures on the national scale. These mergers represented a new source of growth outside the core business of the company. As in the first merger wave, numerous prominent firms were formed during this wave, including General Motors, International Business Machines, and Union Carbide Corporation.

However, the anti-trust legislation shifted monopolistic industries to oligopolies (Stigler 1950). Congress had become concerned about the way monopolies abused the market and their power (Gaughan 2002). The Clayton Act was passed in 1914 to monitor the oligopolistic behaviour of firms. By using the Sherman Act and Clayton Act, the United States government was better equipped to control the anti-competitive behaviour of firms. Once the antitrust law had been enacted, it became an obstacle to forming monopolies. Consequently, there was a reduction in the number of monopolies but an increase in the number of oligopolies and vertical mergers. That is, market power was derived from 'oligopolistic' and no longer monopolistic rents (Stigler 1950). Firms ventured into massive regrouping in their search to upscale. Furthermore, there were two additional factors which prevented the firms obtaining monopolistic power in order to maintain their dominant position. These two factors were, first, the amount of assets required for the acquisition of competitors and for the restructuring of their assets, and, second, the increase in the number and size of competitors.

In addition, the stock market euphoria of the second half of the 1920's favoured the development of acquisitions of a speculative nature (from 1927 onwards, a substantial portion of mergers were initiated by speculators, particularly the banks). In this period, debt-financing was widely used to fund the transactions. This allowed a small group of investors to control big businesses with a relatively small amount of invested capital (Gaughan 2002). In contrast to the first merger wave, speculators and investment bankers played a more important role in the merger initiations. However, most of the speculative mergers which were initiated by these outside promoters with easy access to the capital market ended up in failure (Reid 1971). The second merger wave ended with the beginning of the critical economic slow down and stock market crash of the 29th of October- the so-called Black Thursday (Gaughan 2002).

Economic Performance of Mergers

To the best of my knowledge, there is only one empirical quantitative study based on the performance of mergers in the 1920's, recently accomplished by Borg, Borg, and Leeth (1989). In their study of 134 mergers, Borg et al. (1989) observed the evolution of an acquirer's stock returns for a period of seven years. The period includes the three years preceding the merger, the year of the legal consolidation and the three years following the consolidation. The results showed that post-merger returns were, on average, 16% lower than the pre-merger returns. As for the mergers launched in the service industries, their existence was generally short-lived in the sense that they essentially represented a means to federate, within the same body, firms in possession of local monopoly with no desire of achieving synergy.

1.3 The Third Merger Wave 1965-1973

The third merger wave stretched from the mid-1950s to 1969, and peaked during the boom of 1962-1969. Unlike the first (horizontal) and second (vertical and conglomerate) merger waves, the third merger wave was characterized by the formation of conglomerate mergers. A conglomerate merger occurs when firms in unrelated industries merge. According to the Federal Trade Commission report of 1977, 80% of mergers in the third merger wave were of a conglomerate nature. Medium-sized firms, often from the rapidly

expanding electronics industry or military contracting or both, “gobbled up” firms in unrelated industries.

Underlying Factors

The climax of the merger wave in the 1960's (1967-1969) was associated with intense economic development and strong stock market buoyancy. This wave came to an end with the onset of economic slow-down which, in this case, occurred in 1969.

The stability of the economic environment of the 1950's and 1960's led to the adoption of diversification as the strategic financial planning procedure most suitable for this kind of environment. During the conglomerate merger wave, firms continually sought to expand, while antitrust regulations from the Celler-Kefauver Act of 1950 were employed to strengthen those put in place by the Clayton Act of 1914. Anti-trust legislation strongly influenced the nature of mergers to the extent that the Celler-Kefauver Act of 1950 amended Section 7 of the Clayton Act of 1914. The Clayton Act prohibited mergers which significantly reduced the degree of competition within an industry. However, the law had a loop hole in that it did not prevent the anticompetitive acquisition of a firm's assets (Gaughan 2002). The Celler-Kefauver Act was written to close this loophole. Accordingly, if firms engaged in horizontal or vertical mergers in this time period, they were likely to close the transaction only at the price of costly legal confrontations. As a result, the attitude of investors was favourable to the development of conglomerate mergers.

Matsusaka (1990) demonstrated that in the 1960's, with the announcement of unrelated acquisitions, the stock value of the seller exhibited an average increase of USD 8 million whereas the value of these shares fell by USD 4 million with the announcement of a related acquisition. Weston et al. (2004) report that by 1967 and 1968, when merger activity was at its peak, horizontal and vertical mergers accounted for only 17% of the total number of mergers whereas the number of formation related conglomerate mergers had increased to nearly 83%. Most firms which engaged in conglomerate mergers were small or medium-sized firms. This formation of conglomerates makes the third merger

wave quite distinct from the two previous waves consisting of horizontal and vertical mergers.

The decrease in financial risk also constituted one of the principal motivations of conglomerate mergers. Weston and Mansinghka (1971) illustrated, from case studies, that firms diversified their activities into unrelated businesses in order to cope with the instability of demand and profits, the uncertain development of operations, the associated risks to technological obsolescence, and the uncertain evolution of the competitive environment. The consolidation of these firms also permitted the exploitation of financial synergies such as fiscal economies (tax credits in the event of the repurchase of unprofitable businesses), saving of borrowing costs or even the improvement of the capital structure of the buyer (Lintner 1971). The studies offered by Boyle (1970), Hogarty and Gort (1970), Halpern (1973), Stevens (1973), Conn (1973) and Melicher and Rush (1973) showed that acquired firms were, in general, more profitable and less indebted than the acquiring firms and their competitors. This gave the opportunity for the buyers to restore their capital or to increase their financial leverage effect by profiting from an idle borrowing capacity.

Furthermore, due to the bull market of the 1960s, the stock market index had increased dramatically. Investors were therefore interested in growth stocks. Potential acquirers realized they could raise earnings per share of their stock without experiencing high tax liabilities if they financed the acquisition by stocks (Gaughan 2002). As a result, stock-financing was the preferred form of acquisition in this period. Since the bull market contributed to a high price earnings ratio (P/E ratio), firms exploited the opportunity to play the price-earnings ratio game. P/E ratio is the ratio of the market price of a firm's stock divided by the earnings available to common stockholders on a per share basis. Since firms used high P/E ratios to justify their growth/expansory activities, investors were willing to pay for a firm with a high P/E ratio, as a result of their expectations about the firm's future earnings. During this period, the target's P/E ratio was lower compared to those of acquirers to the extent that investors in the 1960s, in the context of strong economic development and stock market vitality, allocated an even higher P/E ratio to

acquiring firms. This is because they considered the acquirer's aggressive acquisition policies as a promising growth prospect in the future. In contrast, investors assigned a lower P/E ratio to firms that were managed in a more traditional and cautious way. These firms were seen to offer limited growth potential. Mergers occurred by acquiring firms exploiting these opportunities to utilize their own higher P/E ratio to acquire a target firm with a lower P/E ratio, in a stock-financed acquisition, despite a lack of real value creation.

Additionally, in this period, lax accounting rules allowed acquirers to generate 'paper gains' on their financial statement when they acquired target firms whose assets' book value was lower than their market value. The gains were realized when an acquirer sold off the assets which then led to an increase in the acquirer's stock price. This accounting manipulation was widely used among conglomerates (Gaughan 2002). Beyond economic motivations, it should be mentioned that the manager's personal motivations should also be considered to account for the number of mergers of this wave, such as their eagerness to increase their power, prestige and financial gains in managing groups of a more substantial size (Marris 1964, Baumol 1959, and Mueller 1969).

In 1968, the market eventually began to see through these financial manipulations and the Attorney General announced plans to crack down on conglomerates. The Tax Reform Act of 1969 was introduced in order to prevent the used of convertible debt to finance acquisitions, putting an end to the playing of the price earnings ratio game and speculative accounting practices by corporations. The Tax Reform Act, along with the ensuing decline of the stock market, ended the conglomerate merger wave.

Economic Performance of Mergers

It was not until the wave of conglomerate mergers that researchers in finance became interested in mergers and acquisitions. They attempted to evaluate conglomerate merger performance not only according to their economic profitability, but also with regard to their ability to reduce the global financial risk of a new consolidated entity. In a study based on the analysis of book values, Weston and Mansinghka (1971) compared the profitability of a study sample composed of 63 conglomerates to that of a controlled

sample made up of selected firms chosen at random. They found that in 1958, the 63 firms of the first study sample exhibited a significantly weaker performance than those of the control group, prior to their external growth economic policy (their return on equity measuring 7.6% as compared to 12.6%). Conversely, 10 years later, after completing their acquisition programmes, these same firms recorded profits that were superior to the control group of firms (13.3% versus 12.4%) due to a very positive financial leverage effect (the conglomerate firms' leverage ratio was two times greater than that of the control group of firms).

While the research carried out by the Chicago School (Lev and Mandelker 1972, Halpern 1973, and Mandelker 1974) supported the results obtained by Weston and Mansinghka (1971), Reid's research (1971), in contrast, did not reach the same conclusions. In fact, by extending the analysis of conglomerate performances until 1970, Reid demonstrated that their market value had fallen by 45.6% between the end of 1968 and about mid-year 1970, while the Dow Jones Industrial Average had recorded a decrease of only 7.8% during the same period. An analysis of 48 of the 63 constituent conglomerates studied by Weston and Mansinghka (1971) and Reid (1971) came to contradictory results. Comparing market performances of these 48 conglomerates to those of the 50 investment funds selected at random, Weston, Smith and Schrieves (1972) demonstrated that conglomerates between 1950 and the beginning of 1969, displayed performances that were two times better than investment funds. These results confirmed Weston and Mansinghka's (1971) initial growth policies. Conversely, within a context marked by an economic slow-down which inevitably became less favourable to conglomerate diversification strategies (1969-1970), the opposite results found by Reid (1971) made logical sense. In addition, because of their high indebtedness, the conglomerates became more financially vulnerable than firms that had been managed in a more prudent fashion and in which people had much more confidence from 1970 onwards. The interpretation offered by Weston, Smith and Schrieves (1972) has been validated by research conducted, by Ravenscraft and Scherer (1987), from a large longitudinal study based on the first 15 conglomerates. This thesis has been questioned by Shleifer and Vishny (1991) who stipulate that the advantages of financial planning that the conglomerate firm

provides cannot, in any case, compensate for the associated inconveniences of the inadequate knowledge of different businesses of managers of such organizations. According to Shleifer and Vishny (1991), in the course of thirty years (1960s-1980s), American firms did not follow the paths driven by economic efficiency, so as to fundamentally by-pass constraints imposed by anti-trust legislation.

The empirical research carried out by financial researchers on conglomerate mergers also intended to evaluate the capability of conglomerates to reduce the risk of investment funds for shareholders. Subsequent research carried out by Lev and Mandelker (1972), Melicher and Rush (1973), Joehnk and Nielsen (1979), Ravencarft and Scherer (1987) reached similar conclusions, and challenged the capability of conglomerates' acquisitions to efficiently reduce financial risk.

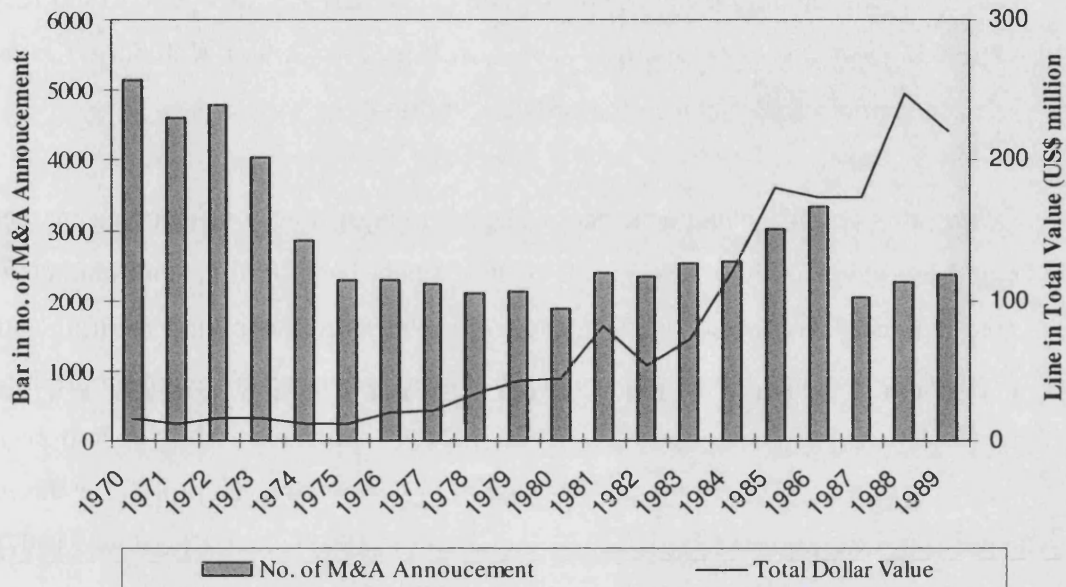
1.4 The Fourth Merger Wave 1981-1989

The fourth merger wave in the United States emerged from the recession of 1981-1982, which was a result of global competition revealing the weaknesses of traditional American centric industries. In this period, it was acceptable for a firm to gain corporate growth through a takeover, since it was a means of obtaining high profits in a short period of time (Gaughan 2002).

Underlying Factors

In this wave, changes in markets, technology, deregulation of airlines, trucking, telecommunications and banking, as well as also financial innovation brought sudden and dramatic change to many industries. The players had to adjust to the situation which ultimately resulted in corporate restructuring. This merger wave is distinguished from the previous three waves by the size and prominence of the merger targets. By the end of the wave, the average USD value of M&A activity increased by five times from the beginning. The average USD value had risen from USD 22.8 billion in the third wave (1970-1980) to USD 146.2 billion in this wave (1981-1989) (Megastat Review 2002). Figure 1.3 illustrates the value of M&A activity around the Fourth Merger Wave and shows that the average size of a merger transaction was relatively small in the 1970's.

Figure 1.3 : Merger Activity Around the Fourth Merger Wave, 1981-1989



Source: Gaughan 2002, p. 45

A rise in hostile takeover activities also made this wave distinct from the other waves. Its antecedents reach back to 1974 when the first major company hostile bid - a bid to acquire firms without the approval of the target's management - was made by Morgan Stanley on behalf of International Nickel Company (INCO) to takeover Electric Storage Board (ESB). This bid opened the door for the major investment banks to make hostile takeovers on behalf of their clients. In addition to hostile bids, this period was noted for 'junk bond' financing and the steadily increasing volume and size of leverage buy-outs (LBOs). LBOs are a unique form of corporate acquisition strategy developed during the 1980s, which differed from mergers and tender offers. LBO is mostly funded by debt financing as typically more than 50% of the transaction is financed via debt. Debt is secured by the assets of the target firm or based on the expected future cash flow. Most of this debt is usually rated by the bond rating agencies at ratings lower than investment grade (i.e. junk-bond). This strategy allowed a raider to takeover a target firm which was several times bigger than the acquirer. Although only half of all junk bonds issued were used to finance or refinance acquisition, the proportion of total financing raised via junk bonds had increased from 35% in 1985 to 65% in 1989. After the completion of the buy-

out, the target firms became a privately held corporation (Weston et al. 2004). If the LBO is initiated and managed by the target firm's incumbent management, the buy-out is called a management buy-out (MBO). The largest LBO in this period (and it is still one of the biggest buy-outs in history) occurred in 1988 when Kohlberg Kravis Roberts (KKR) acquired RJR Nabisco for USD 25.1 billion.

During this period, investment banks played a major role in influencing merger deals. It could therefore be said that the role of investment banks in financial markets developed greatly during this period. Their main incomes were from debt underwriting and advisory services. Once the competition among the investment banks became more intense, new services were provided as a result. These included securities trading operations and M&A advisory services, for example. These services generated large profits for the investment banks. It was reported by Brealey and Myers (1991), and Chernow (1997) that the combined advisory fees of all investment banks and law firms involved in the LBO of RJR Nabisco were more than USD 1 billion.

Changes in government policy toward business spurred the new generation of merger makers. The Carter administration deregulated airlines, trucking, natural gas, and banking. Additionally, the Reagan administration extended deregulation to the telephone industry and openly relaxed antitrust policies leading to further increases in hostile takeovers and leveraged buyouts. Sensing the lower likelihood of governmental challenge under the antitrust laws, firms carried out horizontal mergers that would have been impossible under previous administrations, reducing competition markedly in retailing, food and beverages and oil and international market.

The fourth merger wave ended in the late 1980s as the junk bond market collapsed, along with the introduction of Financial Institutions Reform, the Recovery and Enforcement

Act (1989)¹¹, and the serious loan portfolio and capital problems of the commercial banks. This collapse started what was to become a recession in the United States.

Economic Performance of Mergers

From various studies carried out by several researchers, the performance effects of the fourth merger wave seemed to generate significant gains to target firms but not to the acquiring firms. Ravenscraft and Scherer (1987)'s study measured the mergers and tender offer performances of acquisitions which occurred during 1975-1977 by using accounting data. They report a negative relationship between size and profitability for lines of business. The larger the line of business, the less profitable it was. They showed that the post-merger performance of the acquired business lines decreased. Only the mergers with partners of similar sizes show above-average profitability. They therefore concluded that the size of the target firms has a significant impact on the post-merger performance. Nevertheless, Healy et al. (1992) studied the 50 largest mergers of 1979-1984 and found that acquiring firms significantly outperformed their counterparts in the same industry. The findings of Healy et al. (1992) oppose that of Ravenscraft and Scherer (1987). Kirchmaier (2001) argue that the opposite findings could be due to the fact that the samples in both studies are from different time periods, or that the study of Ravenscraft and Scherer (1987) focused on the performance data of single business lines while Healy et al. (1992) investigated the aggregated performance.

However, Herman and Lowenstein (1988) claimed that using profitability of the merged firm as the basis for studying the effects of mergers and acquisitions is more reliable than using share price data. In their view, share price data offers a highly questionable basis for evaluating M&As. Nonetheless, the accounting measure suffers from at least two limitations. Firstly, using the accounting data as a measurement ignores the impact of changes in risk profiles on those in return profiles (Lubatkin 1983). It is possible that shareholders may not gain higher returns if the risk is also increased (Fama 1971). Secondly, measures derived from the accounting data cannot be used to isolate the effects

¹¹ Financial Institutions Reform, Recovery and Enforcement Act 1989 provide government funds to insolvent savings and loan institutions (S&Ls) from the Resolution Trust Corporation and incorporating sweeping changes in the examination and supervision of S&Ls, established.

of a specific event such as a merger (Lubatkin 1983). It might take years before a firm's profitability measures reflect the benefits of a merger (Biggadike 1979). As a result, other firm specific or market specific events could also have impacts on the change in profitability.

Therefore, there has been a marked shift away from profitability studies towards empirical studies where the focus is on the returns of shareholders. The returns are seen as providing reliable measures of asset and managerial worth. The so-called 'event study' is developed from the Capital Asset Pricing Model (CAPM). The fundamental assumption of this method is based on the use of stock market data to estimate the effects of mergers and acquisitions. The method also assumes that share prices reflect future profit and dividend streams. Any changes in future profit and dividend streams that an acquisition is expected to bring about are reflected in changes in the share prices and the returns of the firm's shares (Magenheim and Mueller 1988, and Herman and Lowenstein 1988). This method does not suffer from the same limitations as the accounting based measures. The model quantifies a firm's systematic risk. Consequently, the result from this model is adjusted for risk. By aggregating the abnormal returns cross-sectionally and over time, relative to an event such as a merger, the event may be systematically captured. Nevertheless, the abnormal return measurement has two limitations. Firstly, it is difficult to separate the results of the performance of the merger from other firm or market specific events. Secondly, stock market data will be reliable only if a capital market is efficient with respect to public information. The assumptions behind the event study clearly simplify the way that the financial market operates. In reality, the market is inefficient, thus the results from event study might not be accurate. In order to be clear about the effects of M&As, both integrated firms' profitability and stock market data should be used as measurements.

Table 1.1 presents the announcement returns of target firms during the 1970's and 1980's using stock market data as a performance measurement. All of the studies reported significant positive returns to target firms around the announcement date.

Table 1.1: Market Reactions to M&A Announcements for Targets in the 1980s

Study	Sample Period	Sample Size	Event Window	Average Target CAR
Franks, Harris, and Titman (1991)	1975-1984	1264	(-5,+5)	28.00%
Kang (1993)	1975-1988	191	(-20, +20)	12.40%
Smith and Kim (1994)	1980-1986	354	(-5, +5)	30.20%

Table 1.2 shows nine major studies analyzing the announcement and post-merger announcement returns of both acquiring shareholders and the target shareholders. The samples in these studies are the acquisitions in the period between the late 1970s and 1980s. It is shown that acquiring shareholders experienced significant negative announcement returns. The average return is -1.85% across all studies. Sirower (1997) reported that only 35% of all acquisition announcements received positive stock market reactions for the acquiring firms. However, once the long-term post-acquisition period is examined, there is no conclusive result. This is due to the fact that, under the assumption of efficient markets, expected gain from the acquisition should be fully reflected in the announcement abnormal returns. There are several findings which show that the 1980's acquiring shareholders experienced insignificant negative abnormal returns three to five years after the acquisition completion (Magenheim and Mueller 1988, Franks et al. 1991, Loderer and Martin 1992, Salinger 1992, Agrawal et al. 1992). Nonetheless, Leeth and Borg (1994) reported that acquiring shareholders of the 1980's acquisition gained significant 23.8% abnormal returns.

Table 1.2: Market Reaction to M&A Announcement for Acquirers in the 1980s

Study	Sample Period	Sample Size	Event Window	Average Acquirer CAR	% Acq
Sirower (1994)	1979-1990	168	(-1, +1)	-2.30% (t=-5.01)	35%
Byrd and Hickman (1992)	1980-1987	128	(-1, 0)	-1.20%(z=-6.78)	33%
Jennings and Mazzeo (1991)	1979-1985	352	(day 0)	-0.80% (z=-8.11)	37%
Servaes (1991)	1981-1987	366	(day 0, closing)	-3.35% (96% conf.)	
Morck, Shleifer and Vishny (1989)	1980-1987	172	(-1, +1)	-1.78% (t=-0.86)	37%
Bradley, Desai and Kim (1988)	1981-1984	52	(-5, +5)	-2.90% (99% conf)	35%
Asquith, Burner and Mullins (1987)	1973-1983	343	(-1, 0)	-0.85% (t=-8.42)	41%
Varaiya and Ferris (1987)	1974-1983	96	(-1, 0)	-2.15% (z=-8.67)	
You, Caves, Smith and Henry (1986)	1975-1984	133	(-1, +1)	-2.30% (n.a.)	33%

Source: Sirower 1997, p.147

According to these studies, it could be said that shareholders of target firms enjoy substantial immediate gains from the acquisition, and no disagreement exists on this point. The pattern of results, however, shows that the returns to acquiring firm shareholders have varied.

1.5 The Fifth Merger Wave 1992-2000

The fourth merger movement subsided during the recession of 1990-1991, but another boom began around 1992 and peaked in 1994. The boom was so large that it must be considered as the fifth wave. The recession in the early 1990's was short-lived and the mega-merger trend began to resurrect itself once again in 1992, mainly in drugs, medical supplies and equipment, banking and finance, broadcasting, insurance, and computer software supplies and services industries (Mergerstat Review, 1994). The number of mergers reported to the antitrust agencies under the Hart-Scott-Rodino ('HSR') Act increased dramatically from 1,529 filings in fiscal year 1991 to an estimated 4,500 in fiscal year 1998.

Its pattern could be said to be similar to that of the first merger wave in the 1890s but significantly different from the 'junk-bond' mergers of the 1980's. The first and the fifth waves were strongly motivated by fundamental developments in a rapidly changing economy and reflect more traditional corporate goals of efficiency and competitiveness. These important factors are the following; *globalization* of competition, *deregulation* of financial institutions and telecommunications, *privatization* of state-run enterprises on all

continents, *new technologies*, favourable public policy environment, and *financial market conditions*. If the first wave followed the emergence of a nationwide market for goods in the United States, the fifth rode on the globalization of the world economy. Due to technological changes and decreasing costs of collecting and processing information, cross-border acquisitions were facilitated and control of the process was feasible. A merger therefore increased a firm's ability to compete in foreign markets by providing rapid access to an established distribution system, knowledge of local markets, economies of scale, and complementary products. The global mergers brought about the concentration and centralization of firms on a global scale and the closer integration of the world capitalist system.

During this wave, many mergers took place in industries undergoing or anticipating deregulation. In the 1980's, the Federal Trade Commission reviewed a substantial number of mergers in the natural gas industry, which was then undergoing deregulation. In the 1990's, deregulatory changes took place in electricity, telecommunications, and banking and financial services. Deregulation often results in structural changes and more competition. Mergers may enable firms to quickly acquire assets and other capabilities needed to expand into new product or geographic markets. Deregulation also facilitates new market entrances across traditional industry lines. For example, banks seek to provide other financial services, and other firms seek to serve markets traditionally served by banks. Firms increasingly seek to provide a bundle of services that cross industry lines as regulatory constraints are lowered. This was seen in several deregulating industries such as financial services, telecommunications, and public utilities. Consequently, we can expect there to have been a number of cross-industry mergers.

Economic progress is often driven by innovation and technological change, and mergers may be a response to that change or a contribution to it. In a fast-moving, technology-driven economy, a merger may enable a firm to quickly acquire the technology or other capabilities to enter a new market or to be a stronger competitor. The communications industry is a good example. Other mergers may be driven by a desire to consolidate research and development resources to produce a greater research capability. Some pharmaceutical mergers fit that mould. Additionally, low interest and low inflation rates

produced a favourable climate for investment which was reflected in the booming stock market. One result of the above emphasis on strategic combinations is that relatively fewer mergers in the fifth merger wave were financed with cash or debt, as compared to the 1980's. In this wave, more companies financed mergers through exchanges of stock. To the extent that a company's improved performance is reflected in higher stock values, its managers may have been more willing to acquire another firm or be acquired by another firm through the exchange of stock.

It is fair to say that the recent merger wave is significantly different from the 'junk bond'-fueled mergers of the 1980's. Some of those mergers involved the acquisition of unrelated businesses that were targeted for their break-up value or designed to generate cash for corporate raiders. Mergers of the fifth wave were more likely to be motivated by fundamental developments in the rapidly changing economy and reflect more traditional corporate goals of efficiency and competitiveness.

Unlike those of the 1980s, the current mergers are financed primarily with corporate stock, not borrowed money, and firms are not being broken into pieces for sale but are merging to enlarge their size. In this wave, M&As are based on long-term strategic and economic motives rather than focusing on quick financial gains. This involves acquiring the scale and resources to compete at home and abroad, protecting and enlarging market share, reducing competition and attaining greater pricing power, in what large corporations see increasingly, and often primarily, as a global market. However, short-term gains are also given equal attention in a way similar to previous merger waves. Excess productive capacity is a recurrent feature of oligopoly, and it is growing on a worldwide basis, notably (but not exclusively) in banking, retailing and clothing, fast foods, automobiles, airlines, hotels, movie theatre chains, computers, telecommunications, and electrical appliances. Even when it does not create an oversupply of goods relative to consumer demand, it can prevent firms from raising prices, and during economic contractions may exert downward pressure on prices at the worst possible moment.

For the entire decade of the 1990s, the leading industries in M&A activity, in terms of transaction value, were banking, telecommunications, oil and gas, radio and TV stations with increasing ties developing between telecommunications and radio and TV. The pattern continued through 1998-2000, when eleven of the twenty five largest M&As were in telecommunications, the core industry of the 'New Economy', and six more were in the financial sector, including banking and insurance. Virtually all of the top twenty-five mergers were horizontal in nature, and although distinctions still existed among the three merger categories, they were becoming less clear-cut.

However, after the burst of telecommunications, media and technology mergers in 2000, we experienced a dramatic slow down in the telecommunications, media and technology sector, as well as in all mergers. The NASDAQ was down by more than 50% from its high, many internet, telecoms and technology stocks were also down by more than 50% (some as much as 98%), the junk bond market was almost nonexistent, recent merger announcements had not been well received in the equity markets, and banks tightened their lending standards despite the interest rate reductions by the Federal Reserve Board. This led to the end of the fifth merger wave.

Economic Performance of Mergers

Since the fifth merger wave finished, there has not been much academic research undertaken to measure acquisition performance in the 1990's. Stock payment increased dramatically during this period, and most of the academic studies focus on the different performances associated with different methods of payment. Fuller et al. (2002) examine 3,135 takeover activities which occurred between 1990 and 2000. They found that bidders gained significant -1.00% announcement returns if they acquired public targets. However, they gained significant 2.08% if they acquired private targets. When the method of payment was taken into account, their results show that, for cash bids, acquiring public targets created insignificant positive announcement effect abnormal returns to acquiring shareholders whereas, for stock bids, acquiring shareholders experienced significant -1.86% announcement abnormal returns. Their findings indicate

that for the 1990's takeover activity, bidding shareholders experience positive announcement returns when the bidding firm buys a private firm or a subsidiary of a public firm. However, the bidding shareholders lose when the bidder buys a public firm. Moreover, the gain or loss is greater in absolute value when the target is larger and when the bidder uses stock to make the purchase.

The study of Bouwman, Fuller and Nain (2003a) investigated the short-run and long-run performance of acquiring shareholders. The sample consists of 1,121 acquisitions announced between 1979 and 1998. They classify the market into high, neutral, or low-valuation periods based on the P/E ratio of the S&P 500 index. Their findings suggest that during the announcement date, high-valuation acquirers gained insignificantly positive abnormal returns whereas low-valuation acquirers experienced significantly negative abnormal returns. Interestingly, the result is reversed for the long-run. High-valuation acquirers perform significantly less well for the two years following the acquisitions while low-valuation acquirers earned insignificantly abnormal returns. Consistent with the finding of Fuller et al. (2002), their results show that during the announcement period, cash offers generated insignificant abnormal returns to acquiring shareholders, whereas stock offers made by acquiring shareholders experienced significant negative abnormal returns. For the combined method of payment, it generates significant positive returns to high- and neutral-acquiring shareholders but low-valuation acquirers experienced insignificant negative returns.

Since the US banking industry accounts for more merger activity than any other industry over the past decade (Andrade, Mitchell, and Stafford 2001, and Mulherin and Boone, 2000), Becher and Campbell (2005) studied 146 mergers among large US banks between 1990 and 1999. Consistent with studies in the 1990s, acquirers suffer a statistically significant announcement loss, with a mean (median) value of -1.2% (-2.4%) respectively. Martin H. Barnes, managing editor of *The Bank Credit Analyst*, stated that the consulting firm KPMG studied 700 of the highest-priced acquisition deals from 1996 to 1998 and found that 83% of mergers failed to create shareholder value. More than half of the transactions destroyed shareholders' value (Farrell 2000).

According to the above studies, it could be concluded that the merger waves in the 1990s created short-term value to acquiring shareholders, however, in the long-run, acquiring shareholders experienced zero or negative abnormal returns. Additionally, these studies have shown that the method of payment has significant effects on the acquisition performance. Cash-acquisitions seem to outperform stock-acquisitions.

Over the past 100 years, there have been five major merger waves. These waves were influenced by economic, technological, financial and legislative factors. In particular, it has been shown that each merger wave is positively correlated to economic prosperity. The first merger wave consisted of mainly horizontal combinations, whereas mergers in the second wave were mostly of a vertically integrated nature. The third merger wave was the so called 'conglomerate era'. Hostile takeovers, LBOs, debt financing, and the junk-bond market were the main characteristics of the fourth merger wave. The fifth merger wave focused on long-term strategy rather than short-term financial gains and the transactions were financed by equity rather than debt.

Chapter 2

Thai Merger History

After presenting the historic perspective of M&A activity in the US in Chapter 1, it can be shown that the merger phenomenon is driven both by factors that are common to most countries (such as economic and legislation factors) and by distinct characteristics (such as history and culture) of a particular country. It would be a rare case to be able to say that one factor alone had caused M&A activity; rather it is a set of factors that creates favourable or unfavourable conditions, eventually leading to a transaction. These factors are certainly not independent of each other. Similar to the US, UK, and other developed countries, M&A activities in Thailand have been driven by economic and financial factors, and major governmental policy changes. However, its distinct history and culture has also led to the unique nature of its M&A activities.

This chapter includes details and discussions on the issue of the history of the Thai stock market, distinct aspects of M&A experiences and corporate governance. This should assist in the understanding of the overall picture of M&A activities in Thailand.

2.1 History of the Thai Stock Market

The creation of Thailand's first officially validated and regulated securities market was initially proposed as part of the Second National Economic and Social Development Plan (1967-1971). The inception of the Thai stock market began as early as July 1962, when a private group established an organized stock exchange as a limited partnership. The group later became a limited company and changed its name to the 'Bangkok Stock Exchange Co., Ltd.' (BSE) in 1963. Despite its well-intended foundation, the BSE was rather inactive. Annual turnover value consisted of only USD6.4million (THB160million)¹² in 1968, and USD4.6million (THB114million) in 1969. Trading volumes continued to fall sharply thereafter to USD1.8million (THB46million) in 1970,

¹² The exchange rate was 25 baht= 1USD

and then USD1.12 million (THB28million) in 1971. The turnover in debentures¹³ reached USD3.48million (THB87million) in 1972, but stocks continued to perform poorly, with turnover hitting an all time low of only USD1.04million (THB26million). The BSE finally ceased operations in the early 1970s.

It is generally accepted that the BSE failed to succeed because of a lack of official governmental support and investors' limited understanding of the equity market. Despite the failure of the BSE, the concept of an orderly, officially supported securities market in Thailand had by then attracted considerable attention. In this regard, the Second National Economic and Social Development Plan (1967-1971) proposed, for the first time, a plan for the establishment of such a market, with appropriate facilities and procedures for securities trading.

In 1969, as recommended by the World Bank, the government acquired the services of Professor Sidney M. Robbins from Columbia University to study the development channels of the Thai capital market. Professor Robbins had previously served as Chief Economist at the United States Securities and Exchange Commission. In the same year, the Bank of Thailand also formed a Working Group on Capital Market Development, which was assigned the task of establishing the stock market.

In 1972, the Government took another step in this direction by amending the 'Announcement of the Executive Council No. 58 on the Control of Commercial Undertakings Affecting Public Safety and Welfare'. The changes extended Government control and regulation over the operations of finance and securities firms, which, until then, had operated rather freely. Following these amendments, legislation establishing 'The Securities Exchange of Thailand' (SET) was enacted in May 1974. This was followed by revisions to the Revenue Code at the end of the same year, allowing the investment of savings in the capital market. By 1975, the basic legislative framework was in place and on April 30, 1975, 'The Securities Exchange of Thailand' officially started

¹³ Debenture is an unsecured debt instrument or bond backed only by the general credit standing and earning capacity of the issuer. Debentures are used to obtain capital funds.

trading. On January 1, 1991, its name was formally changed to 'The Stock Exchange of Thailand' (SET).

2.2 Corporate Governance of Thai Firms

As demonstrated in the previous sections, there are many factors that can influence merger activities. These factors can include those such as economic, technological, and legislative factors and stock market conditions. In addition to all the external factors, internal factors such as the corporate governance of the firms have also played an important role in M&A activities. Corporate governance practices of Thai firms will be briefly discussed in this section in order to provide the complete picture of M&A activities in Thailand. The need for corporate governance exists because of the agency problem incurred by the separation of capital providers (shareholders and lenders) and management. Shleifer and Vishny (1997) noted that '*corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment*'. In order to ensure that the investors or other stakeholders are not being taken advantage of by the managers, especially for crucial decisions such as those related to M&A, good and reliable corporate governance is crucial in order to enforce the contract between capital providers and management. This leads to the efficiency of capital allocation in the economy. Several studies suggest that managers have enormous discretion concerning firms' decisions and may not act in the best interests of the owners (McConnell and Muscarella 1986, Lewellen, Loderer and Rosenfeld 1985, and Lang, Stulz, and Walkling 1991). Understanding and realizing the characteristics of corporate governance in Thailand will provide us with a better understanding of how and why Thai managers make M&A decisions.

Several factors have played an important role in shaping corporate governance and finance in Thailand. Firstly, most firms in Thailand started as family businesses and are still under the control of the founders or their relatives. Secondly, in the past, the government has been of crucial influence with regard to the development of certain industries, directing funds towards them and determining the degree of competition. Thirdly, Thailand has engaged in financial liberalization and capital market development in recent years. However, the capital markets are still in the development stage. In

comparison to those of the industrialised economies, stock markets in Thailand can be characterised by low liquidity, poor transparency and disclosure, a weak regulatory framework, and under-developed market infrastructures. Generally, public debt markets barely exist. These factors have a significant bearing on how companies are governed and financed.

Alba, Claessens and Djankov (1998) study the corporate financing and corporate governance structures of firms in Thailand. Using the data of firms listed on the Stock Exchange of Thailand (SET), they examine the structure of financing, the efficiency of investments, and the effectiveness of current corporate governance mechanisms and compare them with those in other countries. With respect to corporate governance, they suggest that there have been five interesting interrelated issues of Thai firms' corporate governance: **high ownership concentration; high level of diversification; weak market incentives; poor protection of minority shareholders; and poor accounting standards and practices.** These weaknesses in Thai corporate governance practices are examined in more detail in the following section.

2.2.1. High Ownership Concentration

Ownership structure is the most important factor in the shaping of the corporate governance system of any country. In particular, it determines the nature of the agency problem, otherwise known as the conflict between managers and shareholders. The ownership structure determines the distribution of power between its managers and shareholders. In the US and UK, the ownership concentration is relatively dispersed whereas ownership among Thai firms is more concentrated. Dispersed ownership of the firms in the US and UK has some advantages (Weston et al 2004). With relatively small investment, it provides investors with limited liability and the benefits of diversification. The most that an investor will lose is the amount of money that they have paid for the equity stock of a firm. Also, since investors invest relatively low amounts of funds in a number of firms, they reduce idiosyncratic risk associated with each firm, according to the asset pricing model, and can enjoy the risk-free rate plus a market risk premium weighted by systematic risk (ibid.). This implies that investors do not have to closely

monitor the operations of the individual firms. However, the separation of ownership and control can be disadvantageous. Even though managers are agents of owners, they could control the firm in their own interests. The divergence of interest between the manager and owner result in agency problems¹⁴. The Enron-type scandal is an example of the weakness of American corporate governance in this respect.

On the other hand, the fundamental advantage of concentrated ownership is its elimination of the agency problem. This is because large shareholders can easily assert control over a firm and improve the management efficiency. It has already been pointed out that one of the important features of the corporate sector in Thailand is the dominance of family control over business operations. Thai firms are generally held and managed by majority (family) interests. The Asian Development Bank (1999) reported that, on average, the largest shareholder owned 28.5% and the top five shareholders owned 56.6% of total outstanding shares of an average public company (PLC) in 1997. This pattern did not change significantly throughout the period 1990-2002. The ratios would be even higher if non-listed companies were to be included.

The ownership structure suggests that Thai firms are classified as family corporate holdings which indicate that owners will be interested in control benefits as well as profits. Family ownership is usually achieved through holding companies and/or nominee accounts. Financial institutions, in particular commercial banks, do not own significant proportions of non-financial firms. At the same time, the non-financial firm is also the largest shareholder group among the top five shareholders of an average PLC. In 1997, non-financial companies owned, on average, about 50% of the shares of public firms held by the top five shareholders. The rest were owned by individuals (35.2%), finance firms (9.9%), the government (2.5%), banks (2.2%) and others (0.6%)¹⁵. This concentrated ownership pattern reduces agency problems; however, it also leads to risk-taking behaviour and allows the large shareholders to abuse minority shareholder.

¹⁴ Agency problem is the conflict of interest between principal (e.g. shareholders) and agent (e.g. managers) in which agents have an incentive to act in their own self-interest because they bear less than the total costs of their actions (Weston et al 2004).

¹⁵ Asian Development Bank (ADB) reports 1999.

Empirical studies have found an inverted ‘U-shaped’ relationship between the degree of ownership concentration and corporate performance (measured by q-ratio) (Morck, Shleifer and Vishny 1989). In other words, as the concentration rises from a very low level, agency costs decrease due to increased shareholder monitoring and, hence, profitability rises. However, when ownership concentration rises to a certain limit, its costs may be higher than its benefits which then leads to a fall in profitability. La Porta et al. (1997, 1998) studied relationships between ownership concentration, leverage, and corporate profitability. It is found that ownership concentration was positively related to profitability in 1992 but this relationship had turned negative by 1996. The ADB survey of 43 listed non-financial companies in Thailand found that in 71.3% of the surveyed companies, the chairman of the board of directors was also a member of the top management team.

2.2.2 High Level of Diversification

In Thailand, Alba et al. (1998) found that the three largest shareholders between them own 45 per cent of the shares of the ten largest non-financial private firms. Due to these cross-ownership structures and other ownerships of members of a conglomerate, it could be said that the Thai private sector is dominated by diversified business groups. This pattern of ownership structure is also called ‘the parent-subsidiary’. The purpose of investing in other firms is to obtain strategic control, to facilitate supply contracts, and to obtain economies of scale through shared management and financing. However, this cross-holding structure is not common in the US due to the relative size of the economy and the stages of economic and financial market development.

Although many studies in developed countries reported the underperformance of the highly diversified or conglomerate firms (Lang and Stulz 1994, Scharfstein 2000, Rajan, Servaes and Zingales 2000, and Doukas and Lang 1998), Khanna and Palepu (1996) argue that this type of corporate governance could resolve capital scarcity problems. Due to the weak enforcement of institutional requirements in developing countries, such as Thailand, this form of corporate governance allows major shareholders to support internal trade, ensure close monitoring of management decisions and facilitate privileged access

to political favours, such as credit subsidies, favourable regulation and licensing, and access to strategic resources. However, as a result of such ownership structures, the role of corporate debt is presumably much weaker. The effect is likely to be troublesome for family-controlled firms in Thailand. These inter-relationships between firms, financial institutions and banks, could lead to risk-taking behaviour to the extent that parent companies borrow through subsidiaries to acquire other companies, resulting in high leverage.

Among family-controlled companies, there are a number of companies that are associated with business groups. Similar to the Japanese Keiretsu and Korean Chaebol (Fukao and Morita 1997), these business groups do dominate particular sectors of the economy. These business groups are namely Chirathiwat, Sophonphanit, Lamsam, Rattanak, Pornprapha, Phenchart, Chowicharn, Yip In Tsoi, Uachukiat, Photirattanangkun, Oasathanukhro, Chirathiwat, Kanasut, Askun, Darakanon, Liaophairat, Chock Wattana, Srifuengfung, Wiriyaprapaikit, Wattanawekin, and Sriwikorn. For example, the Chirathiwat family dominate retail sector whereas the Chokwattana family dominates consumer good sector in Thailand.

In Figure 2 (in Appendix 2), the ownership structure of International Cosmetics is shown. International Cosmetics is part of Saha-Pathanapibul group which is one of big Thai consumer good conglomerates. The founder of Saha-Phatanapibul group is the Chokwattana family. The Chokwattana family owns only 0.96% of International Cosmetics directly. However, the family controls 20.8% of International Cosmetics indirectly by using the group's privately held holding companies. The other two large shareholders of International Cosmetics are Sahapathana Inter-Holdings, and Saha-Pathanapibul and WACOAL. All are controlled by the Chokwattana family directly and indirectly. These three corporate shareholders are publicly traded. Therefore, the Chokwattana family owns more votes of International Cosmetics through pyramid companies namely WACOAL, Sahapathana Inter-Holdings, and Saha-Pathanapibul. In total, the Chokwattana family control 48.58% of Internatioanl Cosmetics. International

Cosmetics also holds 5.03% of Sahapathana Inter-Holdings and 4.44% of Saha-Pathanapibul. Hence this is also the case of cross-shareholdings.

2.2.3 Weak Market Incentives

The incentives to improve disclosure and governance, either at the individual level or at the country level, were not strong in Thailand during the early 1990s. Since many firms have close relationships with banks and other financial intermediaries, they were easily able to raise equity through new stock issues. With ample liquidity and weak market discipline, firms and insiders had little to gain from improving disclosure and corporate governance. Alba et al. (1998) stated that this lack of market discipline appears to have been due to the following five factors.

Firstly, the rapid boom in the early 1990s created a 'boom' mentality amongst equity investors. As a result, investors could simply ignore the importance of company disclosure and governance. Secondly, the interrelationships between financial intermediaries and firms greatly reduce market discipline. Since banks are the main source of funds and play the lead role in the monitoring of firms and given its high ratio of bank credit to the stock market capitalization, Thai corporate governance is categorised as a bank-centred model (Prowse 1994 and 1998). Bank-centred systems may have advantages in resolving informational asymmetries, and thus lead to less liquidity constraints in firms, particularly at times of distress (Aoki and Patrick 1994). However, the bank-centred system is more likely to lead to non-market based lending. This happens when firms have accumulated funds from their internal cash flow and do not need external funds anymore. Consequently, banks lose their disciplining influence over firms (Alba et al. 1998). The corporate governance in the US and UK, however, is categorised as a market-centred model. In this model, a broader range of investors plays a monitoring role through the pricing, trading and buying of the firm's securities. The market discipline is therefore much stronger than in Thailand.

Thirdly, in contrast to the US and the UK, government ownership of and contingent support (in terms of capital market activities) in the large infrastructure projects in

Thailand would lower the need of reassurance of the company disclosure. Fourthly, in Thailand, there have not been many domestic institutional investors, such as pension funds, who have the ability and size to reinforce corporate governance as they do in the US and the UK. For example, in 1996, trading by mutual funds in the SET only represented 6.8 per cent of the total trading volume.

Finally, market and regulatory institutions, which play an important role in industrial countries in facilitating and creating incentives for market discipline, are not yet fully developed in Thailand. For example, Thailand's single credit rating agency (TRIS) was only established in the 1990s and is still considered by the market to be in the early stages of developing its expertise. The nascent regulatory framework has further aggravated this lack of market institutions. A modern legislative regulatory framework was only promulgated in 1992, at the same time that the Securities and Exchange Commission was established. Although by 1997, Thailand had built the legal and regulatory basis for modern capital markets, the system has only developed gradually. During this transition period, capital markets did not necessarily perform their signaling and monitoring functions adequately.

Unlike other developed countries such as the US and the UK, the market for corporate control in Thailand does not work effectively, as implied by the relatively small number of takeover activities in Thailand. The total number of M&A in Thailand was 56 in 1995 and increased to 108 in 1999 whereas, in the US, it was 3,510 in 1995 and increased to 9,278 in 1999 (Weston et al. 2004). In the Thai market, an active market for corporate control is not easily used as a device for disciplining managers. However, it clearly works more effectively in the developed countries.

2.2.4 Poor Protection of Minority Shareholders

This problem in corporate governance is a result of the concentrated ownership pattern of Thai firms. The controlling shareholders may act in their own interest at the expense of minority shareholders and other investors. This could happen through the commitment of the firm to disadvantageous business relationships with other firms controlled by majority

shareholders, or by taking on excessively risky projects in as much as they share in the upside while the other investors, including creditors, bear the cost of failures (Capulong et al. 2000). Additionally, large family-controlled businesses have been too inadequately supervised or monitored by external shareholders, creditor banks or the market for corporate control.

In Thailand, majority shareholders can appoint board members through majority rule, without needing the approval of other small shareholders. Additionally, boards of directors often consist of friends and relatives of controlling shareholders who would not oppose the management, who, in most cases, are also appointed by large shareholders. Shareholders have the right to be elected as directors, to call a shareholder meeting, to vote by proxy, to use cumulative voting unless otherwise stipulated in the company charter, and to request an inspection of the company's affairs. Furthermore, the Public Company Act, the Securities Act and the Stock Exchange Listing Rules have several provisions for the protection of shareholders against unfair treatment in cases of transfer pricing, takeovers and insider trading. However, many small shareholders are unaware of their rights. Company information is not freely available in proxy solicitations and shareholder meeting notifications. Class action laws do not exist. Shareholder protection suffers from various barriers, including rules concerning minimum shareholdings required before shareholders are able to exercise their rights. For instance, the law requires that shareholders must hold an aggregate amount of at least 5 per cent of total shares outstanding in order to seek relief and compensation against a director who violates the articles of association or does not preserve the firm's interest.

A shareholder must hold at least one fifth of outstanding shares in order to hire an outsider to examine the firm's business operations and financial condition. To exercise their lawful right to call an extraordinary shareholder meeting, a group of at least 25 shareholders must gather at least one tenth of total outstanding shares. In practice, it is almost impossible for minority shareholders to meet these requirements. The country study by La Porta et al (1998) for Thailand found that managers often take business decisions without the approval of shareholders. The meeting agendas are often drafted

before the meeting and may take up to one year to be circulated. The protection of minority shareholder and creditor rights is also inadequate due to a weak judicial system. The quality of legal protection as reported by La Porta et al. (1997, 1998) indicates that the quality of judicial enforcement is weaker in Thailand than in Malaysia, India and four out of six Latin American countries. Moreover, the ADB survey of 43 listed firms found that, on average, only eight percent of shareholders attended the last annual general meetings, and these attendees represented 66% of total outstanding shares. An average of 82% of shareholders representing 28% of outstanding shares did not vote. Shareholders rarely reject proposals emanating from management during the AGMs. Due to the high ownership concentration of Thai firms, small shareholders are precluded from mustering enough shares to enable them to file for grievances.

2.2.5 Poor Accounting Standards and Practices

Since accounting data provides information to external investors on how efficiently the firm performs, accounting standards and practices are required in order to ensure everyone has the same levels of understanding and interpretation. It is reported by the International Financial Reporting Index, which was constructed by the Centre for International Analysis and Research, that the SEC Thailand has adopted several measures to improve the accountability of accounting and reporting standards to be consistent with those issued by the International Accounting Standards Committee during the 1990s, in order to enhance transparency and disclosure, and to ensure fairness to all shareholders (Alba et al. 1998).

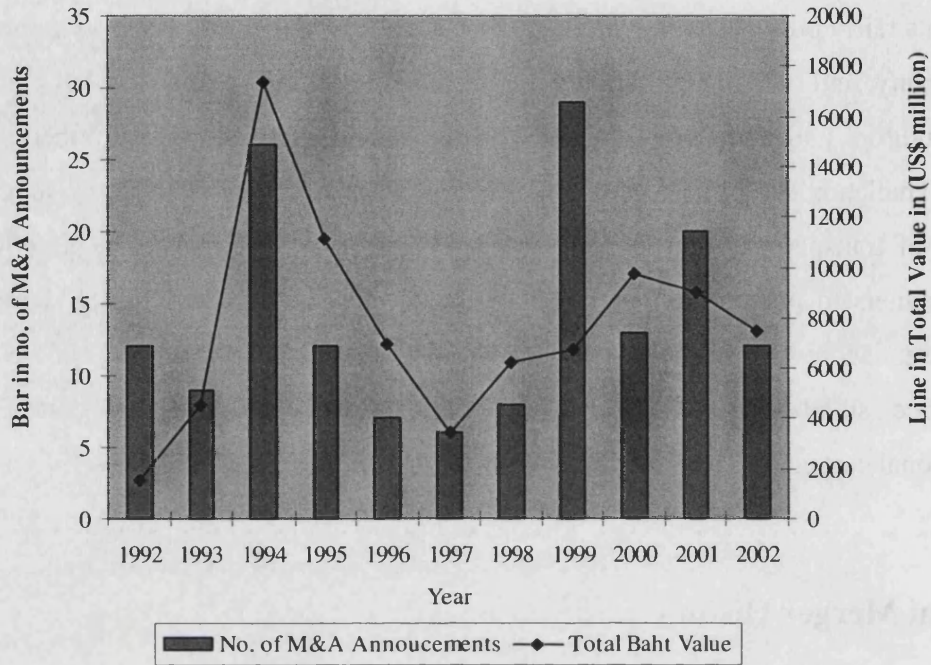
However, further improvements are still needed with regard to several issues. These issues include the standards for financial statement disclosures, asset classification, marketable securities, loss recognition and debt restructuring, and impairment assets (ibid.). Unlike the scenario in developed countries, these problems arise because there is no strong self-regulatory organisation in the auditing and accounting profession, as well as a shortage of well-qualified accountants and auditors, together with unnecessary statutory and mandatory requirements. For example, in the US, the Sarbanes-Oxley Act was mandated in 2002. It strengthens the role of the audit committee in US corporate

governance. The CEO of the firm must certify in a statement that accompanies the audit report regarding: the appropriateness of the financial statements and disclosures; that the statements fairly present, in all material respects, the operations and financial condition of the company; and that all significant deficiencies in internal controls have been disclosed to the auditors and audit committee. However, such certification requirements do not exist in Thailand. The lack of the international standards concerning these issues has led to lacks of transparency and in the disclosure of firms' performances. This allows the family owners to pursue their private interests at the expense of minority shareholders with ease. Moreover, Deminor (1997) found that markets with good corporate governance standards produce a lower market risk, and therefore, attract more international capital.

2.3 Thai Merger History

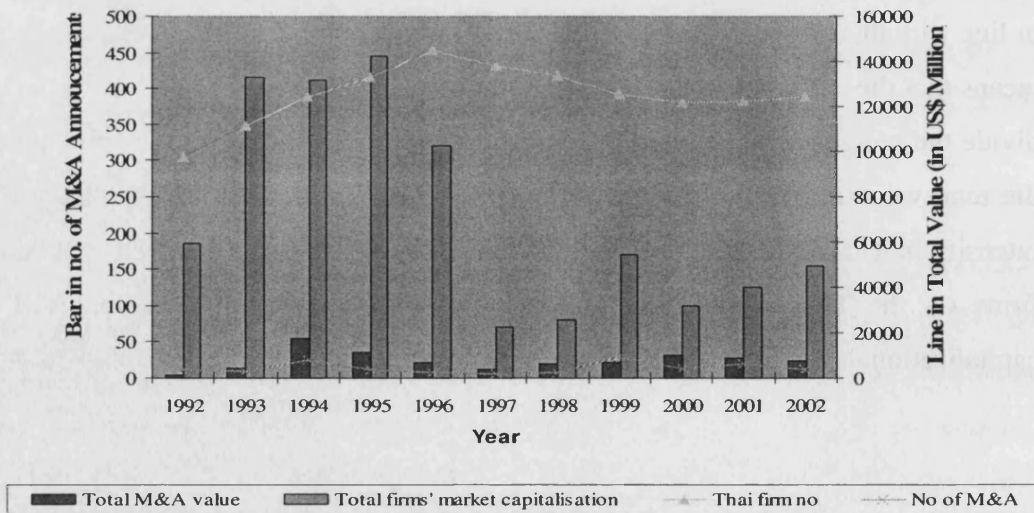
SET was formally enacted in 1974 and the SET began trading on the 30th of April 1975. Merger activity in Thailand started in 1977, coinciding with the middle of the third merger wave of the American economy. The number of M&A activities in the Thai economy is relatively small in comparison to that of the American economy, very much in line with their respective economy sizes. The low number of mergers and acquisitions means that the activities in Thailand can not be categorised as merger waves. I therefore divide the merger activities into three major periods. Figure 2.1 shows the numbers and the total value of M&A activities from 1992 to 2002. Figure 2.2 shows level of M&A intensity in Thailand by relating the number of merger announcements to the number of firms on the Thai market and the value of these transactions to the total market capitalization.

Figure 2.1: Merger Activity between 1992-2002



Source: SEC report

Figure 2.2 M&A Intensity in Thailand 1992-2002



Source: SEC report

2.3.1 First period: Prior to 1990

In this period, Thailand faced many problems including national political instability, an oil crisis and the instability of its financial organisations as well as the depreciation of the Thai Baht. Mergers and acquisitions, transacted during the period from 1977 to 1985, were due often to fraud by the management of those instable financial firms. These took the form of asset transfers from the firm to the management's personal accounts and through loans to their other holding companies. As a result, many commercial banks, security firms, brokerage firms and credit financiers eventually had to be closed down. Government policies then forced the more stable commercial banks to merge or acquire the problematic financial institutions. For example, in 1979, Siam Commercial Bank (SCB) acquired Capital Trust Securities (later renamed as the National Finance Public Company-NFS), and Krungthai Bank acquired Sakol Securities (later it was renamed as Krungthai Thanakit Public Company- KTT). Moreover, the government had established a mutual fund called the 'Lifeboat Scheme' on 4 April 1984 in order to acquire 25 security firms that had financial problems. It is shown that financial organisations, especially commercial banks, had important roles in both friendly and hostile M&A activities during the period between 1977 and 1985. The mergers and acquisitions in this period were mostly horizontal.

During the period from 1986 to 1989, the Thai macro-economy had improved significantly, especially in the financial sector. In order to increase their market share, financial institutions expanded their businesses horizontally by merging and acquiring security, insurance and real estate firms. For example, in 1986, Finance One Public Company (FIN-ONE) expanded into the real estate sector via the acquisition of Gold Hill Finance (later renamed Securities One Public Company – S-ONE). In 1987, it acquired Sri Thai Securities (later renamed First Asia Securities Public Company- FAS). FIN-ONE also acquired AST Securities (renamed JF Thanakom Securities) and Krungthong Securities (renamed Prime Finance and Securities Public Company- PRIME) in 1988 and 1989, respectively. These are examples of mergers and acquisitions in the financial sector by a single acquirer, which in this case is FIN-ONE. All the transactions were undertaken in order to expand its business horizontally with an intention to increase operating profits

and capital gains (Information sourced from the interview of Pin Jakkapak by the Bangkok Post, 1990).

2.3.2 Second period: 1990-1996

The period between 1990 and 1991 could be classified as the first merger and acquisition wave in Thailand. In the early 1990's, with Thailand eager for foreign investment inflows, the Bank of Thailand decided to liberalise Thailand's financial system, particularly in its relationships with the rest of the world. There were two important milestones in the liberalization of the foreign exchange system as noted by the Thailand Development Research Institute (TDRI 1997):

The first was Thailand's obligations under Article 8 of the international Monetary Fund (IMF) in 1990. This required the lifting of all controls on all foreign-exchange transactions on the current account, most of which had in fact been already removed.

The second was the opening of the Bangkok International Banking Facility (BIBF) in 1993, designed to make Bangkok a centre of financial services by encouraging foreign financial institutions to set up operations in Thailand. These financial institutions were to make loans both to borrowers in other countries in the region and to domestic borrowers.

These actions, in conjunction with a fixed exchange rate pegging Thai baht to the US dollar at a rate of 25 baht to one dollar, led to a flood of foreign capital in Thailand. Following the baht devaluation, the fixed exchange rate could be regarded as the main reason for Thailand's spectacular economic growth in this period. At the time, Asia as a whole was experiencing an inward flood of 'surplus' capital from the developed economies. The World Bank estimated that net inflows of long-term debt, foreign direct investment, and equity purchases into Asia and the Pacific grew from USD25billion in 1990 to more than USD110billion by 1996. Foreign money fueled growth. Billions of

dollars of cheap capital poured into Thailand following the 1993 liberalisation of the foreign exchange regime. Most of it flowed into speculative investments, such as the stock market and property development, which caused severe asset price inflation and a property bubble. As the economy was on the upturn, the competition amongst firms was very fierce. At the same time, a number of financial advisers, investment banks, and both domestic and foreign securities firms facilitated the process of mergers and acquisitions. This led to a sharp rise in the number of mergers and acquisitions.

The first acquisition transaction between two firms listed on the SET occurred in 1990 when Dhana Siam Financial Public Company (DS) acquired more than 10% of Sunshine Public Company (SS). This led to the acquisition of a majority stake in the following year. The number of takeover cases increased to 12 in 1992. The year also marked the first case of Greenmail in Thailand, in which a raider bought a majority of shares in Bangkok Commercial Bank and sold them at a premium to the board of the bank. In this year, the SEC launched Acts 246 to 259, which concern acquisitions of securities in business takeovers.

In 1993, there was not much upward movement of the stock market. This was due to internal political factors and world economic uncertainty. With the SEC launching new Acts, speculators were under investigation if they attempted to manipulate share prices. There were only 9 takeover cases in this year, in line with the relatively uncertain market sentiment.

The market became more active in 1994. The number of takeover cases rose to 31. This year was the first time in Thailand that the bidding process was applied. This landmark transaction took shape at Wilas Thai Steel (TTP) whose majority shareholders wanted to de-list the company from the market. The majority shareholders had to place offers to buy all shares from minority shareholders. However, there was a group of investors who believed that the offer price was too low. Consequently, they bid to buy the shares with a higher price. Although the majority shareholders succeeded with their bid, they had to increase the bidding price.

In 1995, the SEC changed the takeover law of 18 July 1992 in order to prevent back door listing and this led to a dramatic reduction in the number of M&As. There were 16 cases in this year. These cases were seen as vertical and horizontal acquisitions which had not happened in prior years. An example is the merger between Robinson Department Store (ROBINS) and Central Department Store (which is one of the firms under the control of Central Pattana Holding Company, CPP) which aimed to reduce distribution and delivery costs. This merger was achieved by the setting up of CR Holding Company to hold the shares of both the companies in order to avoid technical difficulties and high transaction related costs.

There was more variety in the reasons behind 1996 M&A activities, including diversification, the creation of conglomerates and backdoor listing. This is in contrast to the acquisitions of 1995 when most acquisitions were vertical and horizontal integrations. In conclusion, the main reasons for mergers and acquisitions during this period were:

2.3.2.1 Cost synergies and securing of demand/supply

This includes cost savings through economies of scale. For example, Chaophya Marble-Granite Public Company (CMG), a construction material producer, was acquired by Uninvest Land Public Company (UNIVES), a real estate developer, which gave UNIVES a source of material but more importantly, it secured a demand for CMG and a supply for UNIVES.

“Being acquired by Uninvest Land provided many benefits for us. We don’t have to worry who our customers will be anymore. Plus, we can reduce distribution costs because we don’t have to deliver our products to UNIVES, they will come and load it themselves”.

CFO of Chaophya Marble Granite

2.3.2.2 Increased efficiency in financial resources management

This kind of acquisition was undertaken when the acquired firm was facing financial problems. The acquirer, with a healthier / stronger financial condition, would acquire the

problematic firm and restructure its finance. An example is the consolidation of Dynasty Ceramic Public Company (DCC), which had financial problems at the time, and One Holding Company (ONE), which was able to help DCC financially.

2.3.2.3 Risk diversification

In order to reduce the amount of exposure to sector specific risks, the acquirer chose to acquire the target firm in a different sector. Juldis Development Public Company (JULDIS), a real estate developer, acquired Sikrin Public Company (SIKRIN) which was in the hospitality business. The Industrial Finance Corporation of Thailand (IFCT) acquired the Strong Pack Public Company (SP) a construction business.

“We were in the real estate business for years. Although we know our way around, there is always uncertainty. Investing in a new kind of business, like hospitality, gives us some assurance that we will have another business to rely on.”

MD of Juldis Development

2.3.2.4 Backdoor listing

Due to strict regulations and the amount of time required for the listing of a firm on the stock market, non-listed firms used mergers and acquisitions as a way to become listed and to open a new channel to raise capital. It can be said that these non-listed firms used a ‘back door listing’ strategy to ‘tip-toe’ around regulations with relatively lower opportunity costs. There were 11 cases in this period. 8 out of 11 cases can be classified as using a back door listing strategy. All the acquirers in these cases came from the real estate sector where a large amount of capital is required but they were unable to raise the capital from the market. However, acquiring a listed firm gave them an avenue through which they could raise a large amount of capital at low cost. (Khanthavit 1996).

2.3.3 Third Period: 1997-2005

In 1997, the Asian economy emerged. As economic conditions changed, with Thai industries becoming less competitive and exports fluctuating, Thai central bank officials were unable to see the necessity of changing the currency regime. The baht-dollar peg had led to the baht appreciating against other currencies as the dollar appreciated, thus making Thai exports less competitive. The fixed baht exchange rate maintained by the Bank of Thailand gave an illusion of security for large flows of foreign money both inwards and outwards. Thus, a large amount of money has flowed into Thailand since 1993 and an equally large outward movement of 'hot money' occurred in the first half of 1997. Currency speculators began to attack the baht, leading to fears of a baht devaluation. In their effort to maintain the fixed rate against the US dollar, the central bank spent most of its foreign reserves defending the rate. On the 2nd of July 1997, the Bank of Thailand was forced to float the currency which led to the baht experiencing a steep fall.

During the period of capital inflows (from the financial liberalization), the inflows were mostly invested in non-core business and properties. This was due to a belief held by Chinese-Thai businessmen that the fastest way to get rich was by investing the money in real estate. In addition, Thai businessmen misused the funds from the inflows by borrowing short-term loans to finance long-term projects. When the bubble burst and the value of the baht crashed (it decreased by 40 per cent against the US dollar a year later), the banks and finance companies were left with huge non-performing loans and practically worthless collateral which took the shape of property. This eventually resulted in the financial and economic crisis.

After the crisis, Thai firms that did not have strong financial resources or efficient management were under serious pressure. The Thai government had an important role in encouraging both Thai and foreign firms who had a strong and stable financial status to engage in mergers and acquisitions in order to rescue those problematic firms. Generally, the government strategy focused on the ongoing monitoring of the economic situation while allowing the private market the freedom to function and resolve difficulties. In

addition, the government passed certain key economic legislation in order to help Thai firms to recover from the effects of the 1997 crisis, to make them more responsive to the changing business environment, as well as to modernize Thailand's legal system, which in many crucial areas had not kept pace with the development of Thailand's business sector.

Opportunities for investment at that time lay in the investment bargains arising from the economic recession. Many firms sold off their non-core, non-performing assets (including fully operational subsidiary businesses) at bargain prices. To attract investment into these firms, the Thai government issued tax regulations granting relief on tax liabilities for parties involved in the debt restructuring process such as creditors, debtors, and shareholders. In addition to the economic advantages of getting strong assets at low prices, investments in Thailand also offered the chance for investors to gain a toehold in the Thai market. Such an opportunity proved to be attractive for certain investors.

As a result, unlike the other periods and the merger wave in the U.S., the economic downturn triggered an increase in the number of merger activities. Merger and acquisition is the strategy that a number of Thai firms chose to restructure themselves in order to survive after the economic crisis. These firms were convinced that mergers and acquisitions would create value for shareholders and exploited resources more efficiently, as one of the target firms said:

“The reason I merged with one of my competitors is because I believe that being together would reduce our costs and increase our market shares. These are the benefits that we are talking about.”

MD of one acquiring firm

“What can I do? We can’t pay off our debt. Being taken over by another firm is the best way out for me. I don’t have to worry about where to get the money from. These guys will pay for me, plus I will have some money left to start my new business.”

MD of the target firm

The number of M&A activities had increased from 7 in 1996 to 28 in 2002. Since the crisis, the Thai economy has improved consistently which means that investments made during the crisis were now putting those investors in a very favorable position to take advantage of any potential opportunities.

This chapter reviews and discusses the history of the stock market, merger activity, and corporate governance in Thailand. The Thai stock market is considered to be an emerging market and its trading volume is small. In addition, the distinct characteristics of the corporate governance of Thai firms, such as their highly concentrated ownership, high diversification of businesses and their being a bank-centred corporate governance model, provide us with an interesting case to examine. With these unique characteristics and environment, Thai merger history has shown that M&As in Thailand have been driven by similar factors as in the US. These factors are economic, financial, legislative, and technological.

It is found that the number of M&A activities is highly correlated with economic prosperity. However, it is very interesting to find that this relationship is reversed for Thailand in the third period between 1997 until the present. These circumstances are in contrast to other merger waves that occurred in the US, as the Thai M&A activities in this period were driven by an economic recession. After the crisis, M&A activity has been used by Thai firms as a way to survive despite their strong sense of ownership, derived from the fact that many owners had they built their business from the beginning. The M&A decisions therefore had to be thoroughly thought through (by the shareholders) and if the expected results were achieved, these transactions would have provided great

rewards to both acquiring and target shareholders. This provokes an interesting question of whether M&A activities influenced by different stock market conditions (or economic conditions) generate equal gains to acquiring and target shareholders. Investigating the acquisition performance of Thai firms during these periods will provide useful answers which can contribute to the existing literature.

Chapter 3

Stock Market-Driven Acquisitions and Acquirers' Post-Acquisition Performance

3.1 Introduction

Mergers and acquisitions (“M&As”) are widely seen as a way of surviving in the global market place. Questions remain, however, concerning whether M&A and takeover activities increase or decrease value for acquiring shareholders. Following previous studies, it seems that M&As do not create value for acquiring shareholders. Many studies have been undertaken to investigate the performance of M&As, both in terms of the short-term and long-term post-acquisition performance. Nonetheless these studies have reported that shareholders of acquiring firms experience value losses whereas target shareholders receive substantial gains following acquisitions (Servaes 1991, Kaplan and Weisbach 1992, Loughran and Vijh 1997, Rau and Vermaelen 1998, Mitchell and Stafford 2000, Mulherin and Boone 2000, and Andrade et al. 2001).

Most theoretical and empirical research has found that acquiring firms' performance depends on the mode of acquisition, the method of payment (cash versus stock), and the type of target (Agrawal, Jaffe, and Mandelker 1992, Loughran and Vijh 1997, Rau and Vermaelen 1998, Linn and Switzer 2001). However, more recent research has revealed that stock market valuation is an important driver of the M&A and takeover activities. There are very few studies that investigate the relationships between stock market valuation and M&A activities. The idea of market valuation impacting on M&A activities was initiated by Nelson (1959) who noted that mergers are highly concentrated in time. That is, they cluster during periods of high stock market valuations. As mentioned in Chapter 1, the US merger wave is positively correlated to economic prosperity. Jovanovic and Rousseau (2001)'s study presented a similar finding of a positive correlation between the number of merger activities and market valuations. Furthermore, Brealey and Myers

(2000) found that mistakes in valuations by the stock market could lead to merger and takeover waves. More recently, a stock-driven acquisition model introduced by Shleifer and Vishny (2003) illustrates the impact of market valuations on M&A decisions, the method of payment, the performance of acquirers, and the occurrence of merger waves as mentioned in the previous chapter. Rhodes-Kropf and Viswanathan (2004) also developed a model showing that merger waves could result from firm-specific and market-wide misvaluations.

As in the US merger wave, the merger wave in Thailand was also positively correlated to economic prosperity from 1992 until 1997. However, from 1998 to 2001, after the economic crisis in Asia, the number of M&A activities in Thailand increased dramatically whereas the country's GDP was falling¹⁶. After the crisis, Thai firms who did not have strong financial resources or efficient management were in serious financial difficulties. Many firms were forced to sell off their non-core, non-performing assets (including fully operational subsidiary businesses) at bargain prices. This led to an increase in the number of M&A activities. Unlike the other periods and the merger waves in the U.S., the economic downturn triggered an increase in the number of merger activities in this period. M&A was the strategy that Thai firms chose to restructure themselves in order to survive after the economic crisis. They were convinced that mergers and acquisitions would create value to shareholders and use their resources more efficiently.

As the previous studies have not taken stock market valuation or the implied economic conditions into account when examining the acquiring shareholders returns, this chapter seeks to contribute to the literature by investigating whether engaging in M&A activities during economic downturns did indeed generate gains to acquiring shareholders. To do so, the relationship between stock market valuations at the time the acquisition was initiated and the acquiring firm's subsequent performance will be examined.

¹⁶ Figure 2.1 in Chapter 2 illustrates this relationship

Using a sample of 34 cash-acquisitions in Thailand announced between 1 January 1992 and 31 December 2001, this chapter examines the announcement and long-term post-acquisition returns of acquiring shareholders. Since we want to examine the impact of stock market valuations, following the work of Bouwman, Fuller and Nain (2003b), the SET (Stock Exchange of Thailand) index is used as a proxy for market valuations. The market valuation is classified into high, neutral or low valuation periods based on the SET index. Each month is defined as high (low)-valuation when it lies in the top (bottom) half of months when SET index was above (below) the past five-year average. All other months are classified as neutral valuation. Acquirers initiating acquisitions during high-valuation, neutral-valuation and low-valuation markets will be referred to as high-valuation, neutral- and low-valuation acquirers, respectively.

Consistent with the previous studies, the results show that acquirers, on average, have significant negative three-day announcement returns. However, when the sample is partitioned by stock market valuation at the time the acquisitions were initiated, it is shown that, on average, high-valuation acquirers gained significant 0.94% positive announcement abnormal returns whereas low-valuation acquirers experienced -0.81% significant negative abnormal returns. That is, high-valuation acquirers significantly outperform low-valuation acquirers during the announcement periods. The results from multivariate regression also show that the differences between high- and low-valuation acquisitions' announcement returns are not only due to the stock market valuation but also to the level of industry relatedness between the acquirers and targets. In other words, in the short-run, if the acquirer and the target come from the same industry and the acquisitions are made in high-valuation periods, they are more welcomed by the investors than those completed in low-valuation periods and those between dissimilar industries.

On the other hand, the findings show that, on average, acquirers have insignificant negative abnormal returns three years in the long-run. Inconsistent with the findings in the short-run, it is found that low-valuation acquirer shareholders significantly outperform high-valuation acquirers by 8.76 %, as measured by three-year post-acquisition returns. Low-valuation acquirers, on average, gain significant 5.22 % three-

year post-acquisition abnormal returns while high-valuation acquirer shareholders gain -3.5% abnormal returns. This suggests that the state of market valuation at the time the acquisition was initiated also has impacts on acquiring shareholders' long-run post-acquisition gains. The multivariate regression also confirms this argument and shows that the relationship between stock market valuation and acquiring shareholders' abnormal return is non-linear, resembling a reverse J-shape which indicates that acquiring shareholders gain the highest three-year abnormal returns when the SET index is low. However, as the SET index increases, an acquirer's three-year abnormal returns will be adversely affected. Once the SET index crosses some threshold, the market valuation begins to have positive effects on the acquirer's three-year abnormal returns.

Since it is found that acquisitions that have occurred in different stock market valuations generated considerably different returns to acquiring shareholders in the long-run, I propose three possible explanations which can account for the underperformance of high-valuation acquirers. These three potential factors are target's valuation, the acquirer's financial constraint, and the acquisition premium. The impacts of these three variables are examined by implementing instrumental variable estimation techniques in order to control for the endogeneity problem (Campa and Kedia 2002). Since it is assumed that the acquisition premium is a function of an acquirer's financial constraint and of a target's leverage, applying this technique allows us to separate the influence of the acquisition premium on the acquirer's post-acquisition performance from the influence of the acquirer's financial constraint and the target's leverage.

The first explanation is based on the idea of information asymmetry in the financial market and its inefficiency. Targets in high-valuation periods could be valued by the market at levels substantially higher than in low-valuation periods. A high market-to-book ratio could be seen as a result of market misvaluation. Consequently, acquiring a target firm with high market-to-book ratio may be interpreted as an overpayment and lead to negative post-acquisition performance. The findings, however, show that acquiring a target with high market-to-book ratio (market value divided by book value) has a positive impact on the acquiring shareholders' abnormal returns. In other words, the high market-

to-book ratio of high-valuation targets does not indicate market misvaluation. Instead, the discrepancy between the target's market and book value reflects the target's growth opportunities and management quality, which cannot be captured in an accounting measurement. Therefore, acquiring high-valuation targets during high-valuation periods does not cause high-valuation acquirers to perform less well when compared to low-valuation acquirers.

The second possible explanation is the different levels of an acquirer's financial constraint in different market valuation periods. Firms are less financially constrained during periods of economic prosperity (Agung 2000). This constraint emphasizes the amount of funds that can be obtained, rather than the source of funds (Gelos and Werner 2002). That is, in high-valuation periods, firms can access capital and debt financing more easily than in low-valuation periods. With a high level of abundant cash in hand, according to the free-cash flow hypothesis, agency problems could encourage an acquiring manager to pursue his own interest rather than maximising the shareholders' value (Jensen 1986). In contrast, a low level of cash flow could be used as a tool to monitor a manager's hubristic behaviour. The smaller the amount of excess funds available to management and the possibly tighter control exerted by the shareholders, the less the potential there is for wasteful allocation of free cash flows. Accordingly, M&A transactions with a high level of financial constraint should show a better performance than those with a low level of financing constraints.

Although the findings show that high-valuation acquirers are less financially constrained than low-valuation acquirers, the results from two-stage regressions indicate that the acquirer's financial constraint does not have a significant direct impact on acquiring shareholders post-acquisition returns. Interestingly, it is found to have a significant indirect impact on acquirer's post-acquisition performance via acquisition premiums. That is, the acquirer's financial constraint is found to have a significant positive impact on the acquisition premium. The results are consistent with the study of Lang, Stulz, and Walkling (1989, 1991) in that the more free cash flow the firms have, the more aggressive they are toward M&A transactions and the higher premium the acquirer will

pay for the target. On the other hand, firms with low levels of cash flow will pay smaller premiums. This is because the premium paid by an acquirer is determined by agency factors (Lang, Stulz and Walkling 1991).

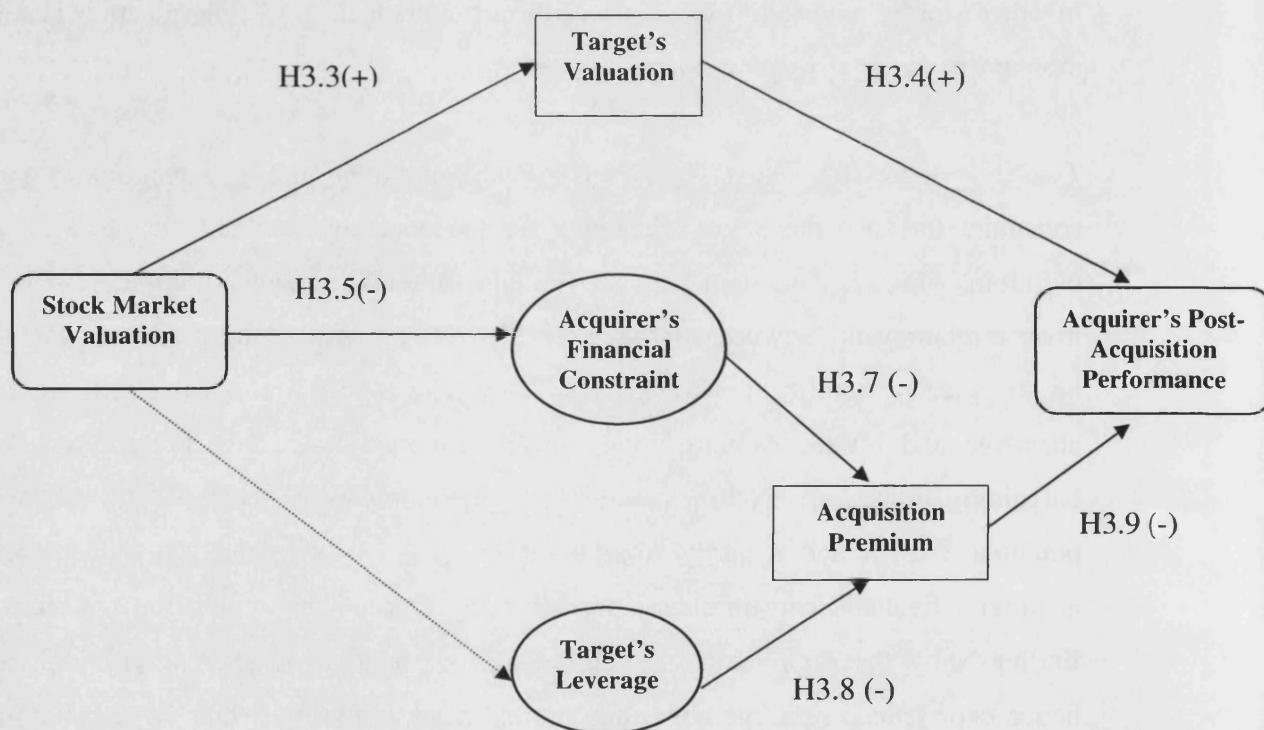
Finally, the underperformance of high-valuation acquisitions could be a result of an acquirer's overpayment on acquisition premiums. It is found that, on average, high-valuation targets received significantly higher acquisition premiums than low-valuation targets (128% and 12% for high-valuation and low valuation targets respectively). Univariate and multivariate analyses confirm that there is a significant negative relationship between acquisition premiums and acquiring shareholders' long-run returns. In other words, paying too much acquisition premium makes high-valuation acquirers more prone to negative abnormal returns.

Two-stage regression analysis allows us to discover that not only the acquirer's financial constraint but also the target's leverage are the main determinants of the acquisition premium, which is consistent with the findings of Walkling and Edminster (1985). The inverse relationship between a target's leverage and the acquisition premium is found to be statistically significant. Having a high leverage makes a low-valuation target less attractive and lowers its bargaining power with respect to an acquirer. With more bargaining power, an acquirer could pay a premium lower than the value of target's potential growth and synergy from the acquisition. Due to the joint effects of an acquirer's financial constraint and a target's leverage on the acquisition premium, the findings show that high-valuation acquirers had overpaid on the acquisition premium and hence experienced negative abnormal returns in the long-run. When these factors have less influence, acquirers can buy a target firm at a relatively cheap price in low-valuation periods.

In sum, the underperformance of the high-valuation acquirers is due to an overpayment of the acquisition premium which is determined by the acquirer's financial constraints and the target's leverage. Even though the high-valuation acquirer would enjoy the positive impact from acquiring target firms with a high market value, the expected strategic gains

are cancelled out with its overpayment of the acquisition premium. In other words, high-valuation acquirers underperform relative to low-valuation ones because of their higher agency costs and lower bargaining power relative to the targets' during the high-valuation periods. The relationships between these three possible factors of long-run post-acquisition performance are shown in Figure 3.1.

Figure 3.1: The relationships between a target's valuation, an acquirer's financial constraint and the target's leverage and the acquirer's long-run post-acquisition performance



The rest of the paper is organised as follows. Section 2 discusses related literature and develops a hypothesis. Data and Methodology is described in Section 3. Section 4 presents results. Section 5 discusses possible explanations for the results in section 4. The final section draws conclusions and discusses implications.

3.2 Theory and Hypotheses

3.2.1 Announcement Performance

Acquirers' announcement returns to acquisitions have been examined widely. The pattern of the results, however, shows that the returns to acquiring firm shareholders have varied. Jensen and Ruback (1983) summarised the empirical work presented in over 40 papers from the 1950s through to the 1970s. They concluded 'that corporate takeovers generate positive gains, that is target firm shareholders benefit, and that bidding firm shareholders do not lose'. Roll (1986) also summarised the available empirical results about takeover activity and concluded that takeovers provide substantial economic benefits to shareholders of target firms. However, there is more doubt regarding the idea that takeovers or acquisitions, on average, provide gains to the shareholders of bidding or acquiring firms. Mueller (1997) summarized the main findings of 35 studies from different countries and time periods; the studies reported positive gains to the target shareholders at the announcement date or one or two months before the announcements. However, the same information impact did not occur with regard to the acquirers' share prices. The acquiring shareholders gained only 0.001% or 0.1% around the announcement dates (ibid.). It could, therefore, be said that there is a mixed pattern to the acquirers' gains at the announcement dates. In other words, the merger announcements may not create gains to the acquiring shareholders (Mandelker 1974 and Mueller 1997). Acquiring shareholders tended to experience negative returns after the completion of the acquisitions.

In contrast to the evidence above, a more recent study by Mulherin and Boone (2000) shows that the acquisitions during the 1990s of Value Line firms create wealth for acquiring shareholders. Furthermore, Andrade et al. (2001) found that mergers, on average, do create shareholder value in a three-day period surrounding the merger announcement, even though the acquirer's abnormal returns decreased considerably when the observation period is extended. This finding is similar to the evidence in the studies of Firth (1980) and Malatesta (1983).

The mixed results of M&A announcements' effect on the acquiring abnormal returns are accounted for by many variables. The method of payment leads to different acquiring shareholders' abnormal returns. It is found that the abnormal returns at the time of the takeover announcement are higher for acquirers paying with cash than for those paying with stock (Asquith, Bruner, and Mullins 1983, Travlos 1987, Servaes 1991, McCabe and Yook 1997, Andrade et al. 2001, and Fuller, Netter and Stegemoller 2002). In addition, Bradley, Desai, and Kim (1988) found that bidders, in single-bidder contests, earned a positive announcement abnormal return whereas the bidders in multiple-bidder contests experience a negative announcement abnormal return. Fuller, Netter and Stegemoller (2002) found that bidders who engaged in multiple acquisitions in the 1990s earned statistically significant positive returns. This return was driven by the method of payment and target type (public, private or subsidiary target). There is also evidence showing that abnormal returns at the announcement periods for bidders in tender offers are significantly positive, whereas the abnormal returns of those engaging in mergers are mixed (Jensen and Ruback 1983, Jarrell and Poulsen 1989, Loderer and Martin 1990, and Schwert 1996).

3.2.2 Long-term Performance

Previously, most research on merger and acquisition performance has focused on stock returns surrounding announcement dates. The findings have revealed that there are large positive average abnormal returns to target firm's ("target") shareholders whereas there are only small or no abnormal returns to those of acquiring firms' ("acquirer") shareholders. More recently, in contrast to the market efficiency theory, researchers have now turned to investigate long-term stock performance. The evidence on the acquirers' long term post-acquisition returns is mixed. Studies by Asquith (1983), Agrawal, Jaffe and Mandelker (1992), and Loughran and Vijh (1997) find that acquiring shareholders have experienced statistically significant negative long term post-acquisition returns. Bradley and Jarrell (1988), and Franks, Harris and Titman (1991), on the other hand, reported that the abnormal long-run post-acquisition returns do not exist.

Contributing to the existing literature, many empirical studies have tried to find the determinants of the long term post-acquisition returns. These studies found that method of payment is one of the key determinants of long-term performance. A number of studies found that acquirers who pay cash earned positive long-run post-acquisition returns whereas acquirers who pay with stock experience negative long term post-acquisition returns (Loughran and Vijh 1997, Bradley and Jarrell 1988, Ghosh 2001, and Linn and Switzer 2001). The study by Loughran and Vijh (1997) also reports that acquirers of hostile acquisitions gain significantly higher returns than acquirers of friendly acquisitions in the long-run. Additionally, Rau and Vermaelen (1998) find that acquirers in tender offers perform better than acquirers in mergers three years after the completion dates.

3.2.3 The Impact of Stock Market Valuation on The Short-run and Long-run Acquiring Firm's Performance

In this chapter, I would like to contribute to the existing literature by introducing stock market valuation as another determinant to the acquiring shareholders' short-run and long-run post-acquisition returns.

In the existing literature, there are two main hypotheses competing for explanations of merger waves. These two competing explanations are the neoclassical and behavioural hypotheses. Coase (1937) and Gort (1969) were two of the earliest scholars to argue that technological change and economic disturbance can trigger M&A activities. Mitchell and Mulherin (1996) provide empirical evidence that M&A waves are linked to fundamental shocks to the economic environment. These ideas were developed further by Jovanovic and Rousseau (2001, 2002). In their work, Jovanovic and Rousseau (2001, 2002) develop the model for showing that technological change can lead to increased dispersion in Tobin's Q-ratio¹⁷. As a result, their empirical study shows that a firm with a high q-ratio is likely to take over a firm with a low q-ratio. More recently, Toxvaerd (2004) argues that merger waves are triggered by the interaction between competitive pressure and the

¹⁷ The Tobin's Q ratio is calculated as the market value of a firm's assets divided by the replacement value of the firm's assets.

irreversibility of mergers in an environment of uncertainty. The neoclassical hypothesis simply argues that when there is a technological, regulatory, or economic shock to an industry's environment, the collective reaction of firms inside and outside the industry is such that industry assets are reallocated through mergers and acquisitions. The prediction by the neoclassical hypothesis is that the acquirers' shareholders should gain after the completion of acquisition since mergers and acquisitions are seen as an efficiency-improving response to various industry shocks (Mitchell and Mulherin 1996, and Jovanovic and Rousseau 2002).

On the other hand, the behavioural hypothesis argues that stock market valuation is the main driver of M&A activities. Among others, Golbe and White (1988) found that there is a positive correlation between stock valuations and M&A activities. Shleifer and Vishny (2003) believe that bull markets encourage acquirers to use overvalued stock to be used as an acquisition currency. In their model, they documented that high levels of merger activities are associated with high dispersions in valuations. Most previous research studying merger waves found that, when there is high dispersion in valuations, it is likely for an acquiring manager to engage in non-value maximizing acquisitions. Target managers, in Shleifer and Vishny's (2003) model, accept acquirers' overvalued stock because they have short-term objectives whereas acquirers have longer term objectives. In contrast to this model, Rhodes-Kropf and Viswanathan's model (2004) suggests that target managers accept overvalued stock because they have private information about their own firm. In other words, they would accept an offer price that is higher than their perception of the firm's fundamental value. At the same time, they also have imperfect information regarding the potential synergies and would underestimate the amount of synergies to be gained and accept the offer.

Furthermore, recent research has theoretically and empirically explored the links between M&A activities and stock prices. They have found that stock market valuation is an important driver of M&A and takeover activities. Nelson (1959) stated that M&A activities are influenced by stock prices. Additionally, Jovanovic and Rousseau (2001) found that the number of M&A activities is correlated to the prevailing level of market

valuations. Also, Verter (2002) confirms that the level and dispersion of stock market valuations are correlated with merger activities. More recently, Shleifer and Vishny (2003), and Rhodes-Kropf and Viswanathan (2004) develop models which explain how market valuations influence acquisition decisions of both the acquirer and the target, and how it can lead to merger waves.

Since there is evidence showing that stock market valuations or economic conditions have influence on acquisition decisions, it raises the interesting question of whether stock market valuations at the time of acquisition have any impact on the acquirer's on both short-run and long-run post-acquisition performance. I would therefore like to test this statement in the following hypothesis;

Hypothesis 3.1: In the short-run, acquisitions initiated in different stock market valuation periods generate different gains to acquiring shareholders.

Hypothesis 3.2: In the long-run, acquisitions initiated in different stock market valuation periods generate different gains to acquiring shareholders.

3.3 Data and Methodology

3.3.1 Data

The sample is entirely made up from cash-acquisitions in Thailand completed between 1 January 1992 and 31 December 2001 which were obtained from the data files collected by the Security Exchange Commission (SEC). This study defines an M&A event as when the earliest public announcement was made. The M&A announcements were dated based on the SEC database. The stock return data is collected from Datastream. Since Datastream has limited accounting data for Thai firms prior to 1997, all the firms' accounting data is obtained from their financial reports which were submitted to the Stock Exchange of Thailand (SET).

To be included in the sample, a merger must meet a number of criteria. Firstly, the transactions must be completed within a specified announcement date and effective date.

Secondly, acquirers must acquire no less than 50% of the target firms. Although effective control may be achieved through a holding of less than 50% of a firm's outstanding shares, the constraint set will ensure that the transactions examined only include those with clear control of the target (Brown and Rosa 1998). Additionally, in order to ensure that the abnormal return observed is entirely due to the acquisition, neither acquirers nor targets engaged in acquisitions three years prior to the announcement date or three years after the announcement date were included. Fourthly, since this chapter is investigating the impact of stock market valuation on an acquirer's long-run performance, the acquirer needs to have a one-year period of stock prices and accounting data prior to the acquisitions and three-year period of stock prices post acquisition. Finally, target firms must have a one-year period of stock prices and accounting data prior to the acquisition in order to examine the impact of its characteristics on an acquirer's post acquisition performance. Firms that do not meet these requirements are excluded.

The total sample consisted of 88 acquisitions between 1 January 1992 and 31 December 2001. These acquisitions were made by 50 different acquirers and targets. There are 25 out of 88 acquisitions which engaged in sequential acquisitions. These acquisitions are therefore excluded from the observations. Additionally, there were 29 transactions where either acquiring or target firms had been de-listed shortly after the acquisitions. Since there is no adequate stock price and accounting data in these instances, they are excluded from the observations. Thus, there are only 34 transactions which are valid for this study. Although the observation size could be considered as small relative to other studies, they account for nearly half (39%) of the whole sample.

3.3.2 Method and Variables

This research uses event study methodology to study the impact of merger characteristics on long-term value creation. This methodology is widely accepted and has been used in a number of management research studies that investigate the effect of a firm's action, such as corporate acquisitions, on the firm's economic value. In order to calculate the effect of

an event, it is necessary to estimate what the return of the stock would have been if such an event had not occurred.

3.3.2.1 Dependent Variables

Announcement effect study methodology

In order to estimate the announcement effect on acquiring shareholders, the market model method is used. The return of the Stock Exchange of Thailand (SET) index is used as a return of the market in the model. To estimate the model parameters, a standard OLS-regression model is applied for each stock j with an estimation period between 45 and 15 trading days before the event date. The event date, t_0 , is defined as the day of the public announcement of the acquisition, according to the Stock Exchange Commission of Thailand (SEC) database. Applying the market model, the expected daily return is calculated as:

$$E(R_{jt}) = \alpha + \beta R_m \quad (3.1)$$

where R_{jt} is the expected return of the acquiring company's stock j at time t and R_m is the return on the market index at time t . α is an intercept term and β is a slope coefficient associated with the market return.

The abnormal return is calculated as the difference between actual return and expected return in the event window:

$$AR_{it} = R_{it} - E(R_{it}) \quad (3.2)$$

where AR_{it} is the daily abnormal return of stock i of the acquiring firm for event day t . R_{it} is the actual return and $E(R_{it})$ is the expected return of stock of i of the acquiring firm for event day t respectively.

For the event window, I use primarily the period from one trading day before the event to one trading day after, the $[-1; +1]$ interval. In addition, the abnormal returns for the intervals $[-15; 0]$ and $[-15; +5]$ are calculated in order to catch early stock price reactions induced by leakage of information and to detect potentially slow information processing

after the event. The cumulated abnormal returns (CAR) for the different event windows $[t_1;t_2]$ are calculated as follows:

$$CAR_{it} = \sum_{t=t_1}^{t_2} AR_{it} \quad (3.3)$$

Long run stock performance study methodology

Previous research in corporate takeovers has traditionally used CAR (Cumulated Abnormal Return) to calculate long-run abnormal returns. Fama (1998) argues that most long-term return anomalies are actually due to the methodologies used. Once the appropriate methodologies are employed, most of the anomalies will disappear. Loughran and Vijh (1997) started to use buy-and-hold abnormal return (BHAR). Barber and Lyon (1997) favour the use of BHAR since CAR does not reflect investors' experience for those who hold a security for a long post-event period. The main differences between CARs and BHARs are due to the effect of compounding. CARs ignore compounding while BHARs include the effect of compounding. Barber & Lyon (1997) advocate the use of BHAR returns instead of CARs because CARs are a biased prediction of long run BHARs i.e. CARs are subject to measurement bias. Furthermore, they believe that BHARs measure the underlying parameter of interest. Loughran and Ritter (1995) indicate that the BHAR method provides a sharper distinction between portfolios when classifying firms. Given this controversy, it seems that both CAR and BHAR have their own advantages and can be considered as complementary rather than competing approaches to calculating long-run abnormal stock returns. I therefore propose using both CAR and BHAR in this study.

Following Fama and French (1992, 1993), Barber and Lyon (1997), and Lyon, Barber, and Tsai (1999), this study uses an appropriate firm match (on size and book-to-market ratio) as a benchmark firm. The matching firms were selected (i.e., the expected returns) as follows:

- (1) In the month prior to the announcement date, the total market value of all the Stock Exchange of Thailand listed firms are used.

- (2) In December of year t-1, book-to-market ratios of all these firms are calculated.
- (3) Sample firms are matched to a control firm on the basis of size and book-to-market ratio, where t is the year of acquisition.

The return on the control firm is used as the expected return for each sample firm and the same control firm is used throughout the horizon of analysis (i.e., three years).

CAR

Most research on abnormal returns has used the sum of either daily or monthly abnormal returns over time. In a month t , R_{jt} is defined as the return on the control firm which was matched on size and book value-to-market value ratios. R_{jt} will be used as the expected return for the sample firm throughout the horizon of analysis. Therefore, $E(R_i) = R_{jt}$ and $AR_{it} = R_{it} - E(R_{jt})$ where AR_{it} is the abnormal return in month t . Cumulating across τ periods, the cumulative abnormal return (CAR) is:

$$CAR_{i\tau} = \sum_{t=1}^{\tau} AR_{it} \quad (3.4)$$

BHAR

On the other hand, the BHAR is the return on a buy-and-hold investment in the sample firm, less the return on a buy-and-hold investment in the control firm i.e. $E(R_i) = R_{jt}$. The cumulative benchmark-adjusted returns are defined as:

$$R_{i\tau} = \prod_{t=1}^{\tau} (1 + r_{it}) \quad (3.5)$$

Where τ is number of months and r_{it} is the raw return on firm i in event t . This measures the total return from a buy and hold strategy where a stock is purchased at the announcement date and held until year T after the acquisition. The holding period return on the benchmark during the corresponding period for firm i , $E(R_{it})$ is also calculated in a similar way. The buy-and-hold abnormal return (BHAR) is defined as follows:

$$BHAR_{i\tau} = \prod_{t=1}^{\tau} (1 + R_{it}) - \prod_{t=1}^{\tau} (1 + E(R_{it})) \quad (3.6)$$

Where $E(R_{it})$ is the return on the benchmark during the corresponding time period.

Benchmark Model

To assess whether a firm is performing unusually well or poorly, the expected performance in the absence of an event must be specified. We need a benchmark against which sample firms can be compared. The pre-event characteristics of firms can lead researchers to expect sample firms to experience above (below)-average operating performance, even before they consider the impact of the event under consideration. Following Barber and Lyon's (1997) work, results based on the following three benchmarks are reported in this paper: (1) Industry matched control portfolio, (2) Size and book value of equity to its market value (BEME) matched control portfolio, and (3) Industry, size and BEME matched firm (firm j). The universe of firms, to constitute benchmarks, are all the firms listed on the Stock Exchange of Thailand (SET).

Several constraints determine whether the universe of firms are included in the benchmark portfolios or considered as matching firms. Firstly, firms have to have valid characteristics of data in the effective month of the corresponding sample firm. For example, when forming size and BEME control portfolios, firms without positive market value of equity or positive book value of equity are excluded¹⁸. Secondly, firms have to have return data in the effective month of the corresponding sample firm. Thirdly, other sample acquirers with their acquisitions effective between -36 months and +36 months of the examined sample firms are excluded.

Industry matched control portfolios are formed based on the most detailed industry classification in the SET database. In each month, 31 portfolios are formed from the

¹⁸ Negative book value firms are not included in the samples of Fama and French (1992, 1993). The reason is that the interpretation of negative BEME is problematic. For the same market value, higher BE signifies a lack of growth opportunities but it is impossible to impose the same interpretation on the BEME ratio when the BE is negative.

universe of firms. Each sample firm is allocated to a benchmark portfolio based on the same four-digit SIC codes as the sample firm on its acquisition effective month. The average size of the benchmark portfolio is 6 firms, with a minimum of 5 firms and a maximum of 8 firms. For each sample firm, the benchmark portfolio is rebalanced once a year.

The size- and BEME- matched control portfolio approach is similar to previous studies such as Ikenberry, Lakonishok and Vermaelen (1995), Barber and Lyon (1997), Kothari and Warner (1997), Rau and Vermaelen (1998), and Lyon, Barber and Tsai (1999). Specifically, at the end of every month, 5 size quintiles are formed. Size is measured as the market value of equity of the universe firms. Each size quintile is later broken down into book-to-market quintiles which results in 25 size and BEME control portfolios. This procedure is repeated for every month between January 1992 and December 2001. In the next step, 25 portfolio returns are formed every month by averaging the monthly returns for the firms in each of the portfolios. In order to obtain the acquirer's abnormal return, each sample firm is matched to its appropriate portfolio. These returns are then used as benchmarks to calculate the abnormal performance. For each sample firm, the benchmark portfolio is rebalanced once a year.

The identification process of the industry-matched firm is similar to the size- and BEME-matched control portfolio approach. The difference is that industry classification is the first filter. The second is the size filter and the third is the BEME filter. Following Barber and Lyon (1997), the comparison firms are required to be of a similar size to the sample firm in question. Firm *i* is matched to other firms within the same industry, and with market value of equity within 70%-130% of firm *i*'s market value of equity (i.e. $\pm 30\%$ of firm *i*'s market value of equity) at the end of 2 months prior to the effective month¹⁹ or month -2 relative to the effective month 0. Finally, for firms that come through the industry and size filters, only the one with a BEME closest to the BEME of the sample firm at the month end of -2 month is chosen as the benchmark firm. If no benchmark firm

¹⁹ Barber and Lyon (1996) experimented with several alternative size filters (both tighter and looser). Size matching proves to be important only when firms are drawn from the smallest third of firm size and the top third of performance (measured by return on assets). Consequently, the 70%-130% size filter was selected.

is found, the industry filter is reset and the same process is repeated until a control firm is found.

Conventional parametric student t-test

The null hypothesis of zero mean cumulative abnormal returns (CARs) is assessed by:

$$t_{CAR} = \frac{\overline{CAR_{it}}}{\left(\sigma(CAR_{it})/\sqrt{n}\right)} \quad (3.7)$$

Where $\overline{CAR_{it}}$ is the sample averages and $\sigma(CAR_{it})$ is the cross-sectional sample standard deviations of abnormal returns for the sample of n firms. The disturbance term is assumed to be normally distributed.

The skewness-adjusted t-statistic

Lyon, Barber, and Tsai (1999) argue that since BHARs are positively skewed, conducting standard t-test measurements for statistical significance can produce misleading inferences. They recommend evaluating statistical significance using the skewness adjusted t -statistic. Following Lyon, Barber, and Tsai (1999), we employ a skewness-adjusted t -statistic to correct the negatively biased t -statistics and then assess statistical significance using critical values from standard t tables. In order to test the null hypothesis that the mean BHARs are equal to zero for a sample of n firms, the skewness-adjusted t -statistic is as follows:

$$t_{sa} = \sqrt{n} \left(S + \frac{1}{3} + \gamma S^2 + \frac{1}{6n} \hat{\gamma} \right) \quad (3.8)$$

where

$$S = \frac{\overline{BHAR}}{\sigma(BHAR_t)} \quad \text{and} \quad \hat{\gamma} = \frac{\sum_{i=1}^n (BHAR_{it} - \overline{BHAR_t})^3}{n\sigma(BHAR_t)^3} \quad (3.9)$$

3.3.2.2 Independent Variables

Stock market valuation

In order to specify whether the acquisition occurred during a high-, neutral- or low-valuation period, this study follows Bouwman, Fuller and Nain (2003b)'s empirical work on the performance of stock price driven acquisitions. The monthly SET index from 1987 to 2001 is used to capture price levels which existed in each month from January 1992 to December 2001. In order to classify each month into different valuation periods, it is necessary to de-trend the SET index by removing the best straight-line fit from the index of the month in question and the five preceding years. This is due to the fact that the SET index has an upward trend. If the trend is not removed, the more recent acquisitions will be classified as high-valuation acquisitions and the older acquisitions will be classified as low-valuation acquisitions. Each month is then classified as part of an above (below)-average group if the de-trended SET index of that month was above (below) the past five-year average. Next, the months are ranked in order of the de-trended SET index. The top half of the above-average months are classified as high-valuation months and the bottom half of the below-average months are classified as low-valuation months. All other months are classified as neutral valuation months.

3.3.2.3 Control Variables

Since there are some variables not considered in the hypothesis that may still influence the acquirer's long-term post-acquisition performance, I controlled for the following variables;

Acquirer size

Some studies argue that acquirer size is an important influence on acquisition gains. Large acquirers gain less than small acquirers since the asset base of the former is bigger and increasing its stock returns following acquisitions is more difficult than for small acquirers. I therefore include acquirer size as a control variable. The acquirer's size is the natural log of an acquirer's equity market value two months prior to the acquisition announcement.

Acquirer's Tobin's Q-ratio

The second control variable is the acquirer's Tobin's Q-ratio. Q is measured as the market value of the acquirer's equity as of the calendar year-end prior to the acquisition announcement, plus the book value of debt and preferred stock from the most recent financial statement prior to the announcement, divided by the sum of the book value of equity, debt and preferred stock as of the same date. This measure not only captures the future investment opportunities but also controls for the acquirer's management quality.

Relative size of acquirer and target

Since the integration of larger targets into the acquiring firm is likely to generate agency cost reductions in value, the control variable *RELSIZE* is used. Rajan, Servaes, and Zingales (2000) show that as a firm becomes more diverse (measured empirically as the deviation in size across all firm subdivisions), internal capital may be misallocated within the firm due to inefficiencies as a result of the battle between competing divisions for scarce capital resources. Since the integration of a relatively large target in the course of a merger is likely to accentuate the internal power struggle over capital allocation, we expect a negative relationship between *RELSIZE* and abnormal returns. The relative size of acquirer and target is defined as the acquirer's equity market value 30 days prior to the announcement date divided by the target's equity market value 30 days prior to the announcement date.

Industry relatedness

Mitchell and Mulherin (1996) and Andrade et al. (2001) argue that industry factors are an important determinant of takeover activity and should be controlled for in empirical research on acquisition. An acquirer acquiring a target in a similar business may have a better understanding of the target's business and this may effect acquisition integration and performance. If the acquirer acquired the target in the same two-digit SIC code, this dummy variable is equal to 1 or 0 otherwise.

3.4 Empirical Results

3.4.1 Sample Description

Table 3.1 shows the distribution of M&A activities in Thailand from 1992 to 2001. Column 2 shows the annual breakdown of the initial sample. However, there is a clustering problem in the initial sample. Clustering problems happen when the event windows of individual acquisitions overlap (Campbell, Lo and MacKinlay 1997). Some acquirers had engaged in sequential acquisitions. The clustering may contaminate the statistic inference as the transaction is not independent from other acquisitions. In order to mitigate this problem, the initial sample is filtered by imposing the constraint that the distance between two acquisition effective dates by the same acquirer is no less than 3 years apart. If the same acquirer undertakes more than one acquisition within 3 years, only the last one is included in the sample. This leads to the restricted sample. Column 3 shows the restricted sample distribution. The sample size was reduced from 88 in the initial sample to 34 in the restricted sample. That is, there were 13 (28%) acquisitions in both low- and neutral-valuation periods whereas 8 (25%) acquisitions occurred during the high-valuation period.

Statistical summaries of the independent variables used in the analysis are presented in Table 3.2. The lists of independent variables are presented in column 1 while the number of the sample size is presented in column 4. The variables' means and medians are similar between initial sample and restricted sample. Although the means of an acquirer's Q-ratio and size ratio are different, the medians are similar. Given the statistical inference problem with the initial sample, the following analysis is based on the restricted sample.

In the restricted sample, the average acquirer market capitalization is £271million (figures are rounded up) while the average target market capitalization is £22million. The median acquirer and target market value are £121 and £13 million, respectively. It is worth noting that both medians are lower than the means. In other words, the restricted data is positively skewed. The average Q-ratio of the acquirer is 1.52. Moreover,

acquirers' sizes, on average, are 18.5 times bigger than those of their targets (median 5.74).

3.4.2 Univariate Analysis

3.4.2.1 Announcement Effect

The results in Table 3.3 show that all acquisitions in the sample experience statistically negative abnormal returns of -0.67% over the three-day periods surrounding the announcement of the acquisitions [-1; +1]. Additionally, when the event window is expanded to begin 15 days prior to the acquisition announcement and end at the announcement date [-15; 0] or 5 days after the announcement date [-15; +5], the acquiring shareholders experience insignificant negative abnormal returns of -0.41% and -1.45 % respectively. For all acquisitions in the sample, the evidence in Table 3.3 also shows that CARs, for all event periods close to the announcement date, are significantly negative. These results indicate that the longer the period in the event window prior to the announcement date, the better the abnormal performance experienced by acquiring shareholders. Furthermore, they also suggest that, overall, acquisitions destroy value for shareholders.

When the sample is partitioned by the stock market valuation at the time the acquisition occurred, the results indicate that acquirers in high-valuation periods have a significant positive abnormal performance of 0.94 % CARs over the three-day period surrounding the announcement [-1; +1]. However, acquiring shareholders in neutral- and low-valuation periods gain statistically significant negative -1.54% and -0.81% CARs, respectively. The abnormal CARs over the three day period of high-valuation acquirers are significantly higher than those of low-valuation acquirers. When the event window is extended to begin 15 days prior to the acquisition announcement and end at the announcement date [-15; 0] or 5 days after the announcement date [-15; +5], high valuation acquirers experienced statistically significant positive abnormal returns of 3.48% and 4.82%. On the other hand, the abnormal returns of low-valuation acquirers for [-15; 0] and [-15; +5] periods are significantly negative: -1.46 % and -2.19% respectively.

These differences between the abnormal returns of acquirers in high- and low-valuation periods are statistically significant. The results suggest a trend of abnormal returns for the announcement day being significantly positive for high-valuation acquirers while being negative for low-valuation acquirers. Neutral-valuation acquirers suffer the most from the acquisitions. Moreover, the abnormal returns for these neutral valuation acquirers are worse after the announcement date.

In summary, on average, all acquisitions in the sample destroy value to acquiring shareholders over the announcement periods. However, once the market valuation at the time of the acquisitions has been taken into account, high-valuation acquiring shareholders gained the most, whereas neutral- and low-valuation acquiring shareholders lost. At this stage, it could therefore be interpreted that, around the announcement period, high-valuation acquisitions seem to create value to acquiring shareholders.

3.4.2.2 Long-run Post-acquisition Study

In this section, the three-year post acquisition abnormal returns for 34 acquirers in the restricted sample from 1992 to 2001 are examined. Three benchmarking approaches are used: (1) industry-matched control portfolio, (2) size and BEME-matched control portfolio, and (3) industry, size and BEME-matched firm. BHAR1 (CAR1), BHAR2 (CAR2), and BHAR3 (CAR3) are the acquiring abnormal returns that result from the comparison with the above benchmark portfolios, respectively.

Similar to previous studies, Column 2 in Table 3.4 shows that the returns for all acquisitions in the sample are inconclusive and none of them are statistically significant. However, when the sample is divided based on the market valuation, conclusive evidence emerged that the stock market valuation at the time of the acquisitions does have a significant impact on the acquirer's long-term post-acquisition performance. It is shown that high-valuation acquirers have significant negative three-year CARs and BHARs relative to industry-matched, size and BEME-matched, and industry, size and BEME size-matched control portfolios. The findings show the same pattern with the majority of

studies in the US and UK²⁰, which have reported a pattern of significant negative abnormal returns to the acquiring shareholders for a period of up to five years after the completion of the acquisitions. However, low-valuation acquisitions have significant positive post-acquisition abnormal returns. More interestingly, the last column in Table 3.4 shows that high valuation acquisitions on average perform significantly less well compared to low-valuation acquisitions by 9.3% for CAR₃ and 8.76% for BHAR₃. The findings confirm the impact of market valuations on an acquirer's post-acquisition returns. That is, high-valuation acquirers' shareholders have gained significant negative three-year abnormal returns whereas low-valuation acquirers' shareholders have gained positive three-year abnormal returns.

3.4.3 Multivariate Analysis

Univariate analysis so far shows that market valuation does affect the acquiring shareholders' announcement and post-acquisition returns. That is, high-valuation acquirers experienced positive three-day announcement abnormal returns but they experienced negative abnormal returns three years post acquisition. In contrast, low-valuation acquirers experienced negative three-day announcement abnormal returns, whereas they gained significantly positive abnormal returns three year after the acquisitions.

Since there may be other factors that could have impacts on the acquirer's abnormal returns, multivariate regression is used to examine the effects of other variables on acquisition related value gains. Three day announcement [-1; +1] and twenty day announcement [-15; +5] CARs will be used as dependent variables for announcement effect. Three-year CARs and BHARs of the acquiring firm compared to industry, size and BEME control firms are used as dependent variables in long-run study because they

²⁰ In the US are: Asquith (1983), Malatesta (1983), Jensen and Ruback (1983), Magenheim and Mueller (1988), Agrawal, Jaffe, and Mandelker (1992), Loughran and Vijh (1997), and Rau and Vermaelen (1998). In the UK are: Firth (1979), Franks and Harris (1989), Limmack (1991), Kennedy and Limmack (1996), and Gregory (1997).

compare the returns with control firms in the same industry and with similar size and characteristics.

Previous research found that acquirer's size, acquirer's Tobin's Q-ratio, relative size of acquiring and target firms, and industry relatedness have an impact on the abnormal returns to the acquiring firm. The interaction term between stock market valuation and industry relatedness is also included. Function of CARs is:

CARs (BHARs) = f (market valuation, acquirer size, acquirer's Tobin's Q-ratio, relative size of acquiring and target firm, industry relatedness, stock market valuation*industry relatedness)

3.4.3.1 Announcement Effect

The results from the multivariate analysis are not consistent with the findings from the univariate analysis. It is shown in Panel A Table 3.5 that the stock market valuation at the time the acquisitions were initiated does not have a significant impact on the acquiring shareholders' three-day announcement abnormal returns. In contrast to the results from the univariate analysis, the acquisitions that occurred during the high-valuation periods would likely generate negative CARs, whereas those that occurred during the low-valuation periods would likely generate positive CARs for acquiring shareholders. When the SET index is used as an independent variable in order to explore the true relationship between the stock market valuation and the acquirer's announcement return, the results demonstrate that there is no significant relationship between them, as shown in Panel B.

Interestingly, the results in Panels A and B show that industry relatedness has a significant positive impact on the three-day announcement abnormal returns at 1%. Furthermore, the findings show that acquiring a target in the same industry during high-valuation periods has a significant positive impact on three-day announcement returns, whereas there is an insignificant impact for low-valuation acquirers. These results

indicate that during the high-valuation period, the acquisitions completed by the firms within the same industry are shown to be value-creating acquisitions. On the other hand, it is seen to be value-destroying with regard to low-valuation acquisitions. As a result, Hypothesis 3.1 indicates that the stock market valuation at the time the acquisitions were initiated led to different levels of performance. However, this effect is not purely from the stock market valuation but also from the industry relatedness between an acquirer and a target.

Although the results from the univariate analysis suggest that stock market valuation might lead to different performances around the announcement period, the findings from multivariate analysis indicate that the different performances are not only due to the stock market valuation but also to the impact from the industry relatedness between the acquirer and its target. However, this joint effect between the stock market and the industry relatedness does not exist in the low-valuation periods.

3.4.3.2 Long-run Post-acquisition Study

The multivariate results confirm previous findings. As shown in Panel A Table 3.6, three-year BHARs of low-valuation acquirers are significantly positive at 5% whereas BHARs of high-valuation acquirers are insignificantly negative. Although the results in Panel A show an insignificant relationship between market valuation and an acquirer's CARs, a consistent pattern of insignificant negative CARs for high-valuation acquirers and insignificant positive CARs for low-valuation acquirers still exist. In addition, in Panel B and D, the SET index itself is also used as an independent variable in order to explore the true relationship between the stock market valuation and an acquirer's three-year post-acquisition returns. As shown in Panel B and D, there is a significant negative relationship between the SET index and three-year CARs and BHARs. However, the relationship between the SET index and the acquirer's long-run performance is non-linear, resembling a reverse J-shape. This means that acquiring shareholders' gains are adversely affected by the SET index. However, once the SET index crosses some threshold, the market valuation begins to have positive effects on an acquirer's three-year

abnormal returns. Accordingly, Hypothesis 3.2, indicating that acquisitions initiated in different stock market valuation periods generate different gains to acquiring shareholders in the long-run, is proved to be valid. Acquirer's size, acquirer's Tobin's Q-ratio, and the industry relatedness are not significant across all models.

The results from univariate and multivariate analysis indicate that market valuation at the time an acquisition is initiated has an impact on the long-run performance of the acquiring shareholders. The findings show that low-valuation acquisitions generate positive three-year abnormal returns to shareholders, whereas a high-valuation acquisition is likely to generate negative three-year abnormal returns.

3.5 Possible explanations for the impact of the stock market valuations on long-run post-acquisition returns of acquiring shareholders

The previous findings show that high-valuation acquisitions performed less well than low-valuation acquisitions. In this section, three possible factors are investigated to explain why this is so. One possible explanation for the different performance of high-valuation and low-valuation acquisitions is the impact of the different levels of a target's overvaluation. Secondly, the relative lack of high-valuation acquirers' financial constraint could drive them to make unprofitable acquisitions. Finally, it is possible that the high-valuation acquirers could overpay for the targets. Different levels of acquisition premiums paid to target firms could have crucial impacts on acquirers' long-run post-acquisition returns. This chapter will contribute to the existing literature by examining the impacts of these three factors and whether one or more factors influence acquiring shareholders' long-term returns if the acquisition occurred in different stock market valuation periods.

3.5.1 Target's Valuation

The behavioural hypothesis assumes that market misvaluation is an important driver of the M&A and takeover activities. Brealey and Myers (2000) found that mistakes in valuations by the stock market could lead to merger and takeover waves. Shleifer and

Vishny (2003) introduced the stock-driven acquisition model. The model illustrates the impact of market valuations on the M&A decision, the method of payment (cash versus stock), the performance of acquirers, and the occurrence of merger waves. More recently, Rhodes-Kropf and Viswanathan (2004) also develop a model showing that merger waves could be a result of firm-specific and market-wide misvaluations.

Since valuations of target firms impact the offering price and ultimately the post-acquisition performance, acquirers could overpay for an overvalued target and this excess payment could cancel out the expected synergy from the acquisition. Alternatively, an acquirer could underpay for an undervalued target and consequently earn positive abnormal returns. These abnormal returns, however, may not reflect the true strategic gains from the acquisitions but rather the gains and losses from the market misvaluation. It is, therefore, an important issue for an acquirer to determine whether the target's value reflects its real fundamental value and growth opportunities.

Following the behavioural hypothesis, the fundamental assumption of the overvaluation hypothesis is that financial markets are inefficient and firms are often valued incorrectly. Market values can deviate from fundamental values on both acquiring and target sides and this could lead to wrong decisions. In an efficient market, high market value is an indication that a firm is performing well or has good business opportunities. At the same time, market valuations are also used as proxies for the growth opportunities of targets. However, in an inefficient market, high market valuations might not reflect the real growth opportunities of the targets. In other words, the market could overvalue or undervalue the targets. As a manager is assumed to be boundedly rational, acquiring managers may not realise this phenomenon of misvaluation. De Long, Shleifer, Summers, and Waldmann (1989) argue that it is rational for managers to let misvaluation influence investment decisions because firms must pre-commit to their investment plans. However, this market misvaluation could lead to false expectations of potential synergies, target companies' growth and future profitability.

At different stock market valuation periods, the market has different expectations of the future growth of targets. During the prosperous period, the market is likely to be more optimistic regarding the targets' growth opportunities and synergies, whereas the market tends to be more pessimistic during economic downturns. These different expectations will be reflected in the market value of the target (and of the acquirer). Since high market valuations could be purely due to market misvaluations, without reflecting any real growth opportunities, the dispersion between the market value of a target and its fundamental values are likely to be highly overvalued during the high-valuation period. Additionally, rising stock prices encourage managers to be overly optimistic about the future and investments, which systematically leads to over-optimism in their valuation of targets (Roll 1986). As a result, targets tend to be overvalued rather than undervalued in the high-valuation periods. An acquiring manager is therefore likely to acquire an overvalued target.

However, under this circumstance, it is easy for strategy and resource allocation to become highly distorted. In other words, market misvaluations of a target's fundamental value and synergy potentials can provoke poor investment decisions, such as acquiring an overvalued target, which can lead to the misallocation of resources between firms. Therefore, an investment decision, such as an M&A, if made during the high-valuation period, is not likely to create profits for the acquiring shareholders as expected. The overpricing of the target's market value could cancel out the expected gains from the acquisition. Alternatively, synergies may not reach the expected levels. Nevertheless, the mis-pricing will be corrected and converged to the true value in the long-run. This implies that acquirers who acquired targets during the high-valuation periods will, on average, experience negative performance.

During low-valuation periods, an acquiring manager tends to be more pessimistic regarding the target's growth opportunities and synergies than during high-valuation periods. As market valuations are the combinations of the target's fundamental values and its expected future growth, the pessimism concerning the target growth opportunities would lead to a relatively lower market value. Therefore, the market misvaluation of low-

valuation targets is likely to be more limited than that of the high-valuation targets. As a result, low-valuation acquisitions stand a better chance of returning a good performance than those that occurred during the high-valuation periods. This is simply because they bought the targets at a similar price to the target's fundamental values.

Relative to other developed markets, the Securities Exchange of Thailand was officially established in 1975. Thus, the Thai stock market is classified as an emerging market where the market does not operate efficiently. Consequently, the impact of the target's valuation on the acquiring shareholders' value is expected to be more severe than other developed markets.

Under the assumption that the market is inefficient, acquiring overvalued targets could be a possible explanation of why high-valuation acquirers performed worse than low-valuation acquirers. Acquiring an overvalued target during high-valuation periods will lead to zero or negative abnormal returns because an acquirer pays more than the target's fundamental value. The expected gain from the acquisition will be cancelled out by the high payment. On the other hand, acquiring an undervalued target during the low-valuation periods, acquirers will have positive gains simply because they pay less than the target's fundamental value. This leads to the following hypothesis;

Hypothesis 3.3: High-valuation targets are more overvalued than low-valuation targets.

Hypothesis 3.4: Overvaluation of the target has a negative impact on acquiring shareholders' long-run post-acquisition returns.

3.5.2 Acquirer's Financial Constraint

One of the factors that could lead to different long-term shareholders' gains between high-valuation acquisitions and low-valuation acquisitions is the level of acquirers' financial constraint. Financial constraints emphasize the amount of funds that can be obtained, rather than the source of funds (Gelos and Werner 2002). Firms are less financially constrained and have easier access to capital markets in a prosperous period (Laeven 2001, Gelos and Werner 2002, Agung 2000). It is also argued that high market

valuations lessen financing constraints (Eisfeldt and Rampini 2003, Jermann and Quadrini 2003, and Harford 2005). Overvaluations during the high-valuation periods lower the financing costs and relax financial constraint for firms and, hence, lead to more incentives for investments. In contrast to the high-valuation periods, it is more difficult for a firm to gain access to external financial sources in an economic downturn (Laeven 2001, Gelos and Werner 2002, Agung 2000). Due to the inverse relationship between stock market valuations and financing constraints (Eisfeldt and Rampini 2003, and Harford 2005), an absence of high market valuations and overvaluation in the low-valuation period should lead to a greater degree of acquirer's financial constraint and hence lower levels of free cash flows.

Since Thai corporate governance is categorised as a bank-centred model (Prowse 1994 and 1998), many Thai firms have close relationships with banks and other financial intermediaries. These interrelationships between financial intermediaries and firms had greatly reduced market discipline. Banks are the main source of funds and play the lead role in the monitoring of firms and given its high ratio of bank credit to the stock market capitalization. However, the bank-centred system is more likely to lead to non-market based lending especially during the boom market where most market participants are more likely to be optimistic about future which results in high level of the firms' cash flow.

Many studies have found that there is a negative relationship between acquirers' free cash flows and acquiring firms' performances (Jensen 1986, Lang, Stulz and Walkling 1989, 1991, Smith and Kim 1994). Ideally, in order to maximize value for shareholders, the free cash flow must be paid out to shareholders (ibid). However, if the cash flow is not paid out to shareholders, it could lead to an agency problem. That is, the acquiring managers are likely to pursue their own goals rather than maximising the shareholders' interest such as size enhancing rather than value maximizing acquisitions (Jensen 1986). An acquirer's financial constraint is thus believed to have impacts on M&A decision making because the different level of financing constraint will lead to a different level of cash

flow to the acquiring managers. This consequently influences the manager's investment decision making. I therefore hypothesize;

Hypothesis 3.5: High-valuation acquirers are less financially constrained than low-valuation acquirers.

In high-valuation periods, acquirers with low levels of financial constraints can engage in a spree of excessive or speculative spending and investments as witnessed in the 1990's, when many telecommunications and media firms engaged in aggressive M&A strategies. Due to their overinvestment problems, as noted by Smith and Kim (1994), these firms suffer from investing in negative net present value (NPV) acquisitions and hence gained negative abnormal returns. Similar to the prediction of the free cash flow hypothesis, during the high-valuation periods, an acquiring firm would likely have low financial constraints and thus may engage in value-destroying acquisitions.

On the other hand, the high level of financial constraint of low-valuation acquirers acts as a tool to monitor a manager's behaviour and reduce the agency cost. The smaller the amount of excess cash flows available to low-valuation acquiring management, the tighter the shareholders can exert their control. Thus, there is less potential for wasteful allocation of free cash flows or value-reducing acquisitions. On average, low-valuation acquisitions are more likely to be value-enhancing acquisitions because of high degrees of financial constraints.

The stock market valuation affects the level of a firm's financial constraint and hence the amount of cash a firm can invest. High-valuation acquirers are likely to have less financial constraint than those of low-valuation acquirers. An acquirer with excess free cash flows is more likely to engage in value-destroying acquisitions whereas one with less free cash flows is more likely to engage in value-enhancing acquisitions. Parallel predictions with the free cash flow hypothesis, with the low level of financial constraint, high-valuation acquirers are more likely to engage in value-destroying acquisitions. In contrast, low-valuation acquirers who have a high level of financial constraint are more likely to engage in value creating acquisitions. This leads to the following hypothesis;

Hypothesis 3.6: Due to different levels of financial constraints between high- and low-valuation periods, low-valuation acquirers outperform high-valuation acquirers in the long-run.

3.5.3 Overpayment Hypothesis: The Acquisition Premium and Its Determinants

Since acquisition premiums could have a direct impact on acquiring shareholders' post-acquisition returns, it is worth investigating whether high-valuation acquirers had paid high premiums and consequently, underperformed relative to low-valuation acquirers. In this section, the determinants of acquisition premiums will also be examined.

Previous studies have found that an acquirer's and a target's characteristics can influence the level of acquisition premiums paid to target shareholders. There are two main factors that could have crucial impacts on acquisition premiums and hence the acquiring shareholders' long-run returns. These two factors are the acquirer's financial constraint and the target's leverage.

3.5.3.1 Acquirer's Financial Constraint

Lang, Stulz and Walkling (1989, 1991) argue that the premium paid by an acquirer could be determined by agency factors. According to the free cash flow hypothesis, managers with access to free cash flow are more likely to pursue size enhancing rather than value maximizing acquisitions. Additionally, in their studies, Lang, Stulz and Walkling (1989, 1991) found that, due to the agency problem, the more free the cash flow the firms have, the more aggressive they are towards M&A transactions and the higher the premium acquirers pay for the target. In contrast, firms with low levels of free cash flows pay relatively smaller premiums. I therefore hypothesize;

Hypothesis 3.7: Acquirer's with a low level of financial constraint pay a higher acquisition premium to target shareholders.

3.5.3.2 Target's Leverage

Gaughan (2002) contends that the price acquirers are willing to pay for a corporate acquisition is partially influenced by the bidder's estimate of the gains likely from the merger. The magnitude of these expected merger gains are driven by factors such as the target's growth potential, profitability, and strategic fit with the acquirer. A target's financial leverage or debt-to-equity ratio is a measure of the expenses and liability payback that will be charged against a firm's cash flow and hence reduce a firm's free cash flows (Jensen 1986, Stulz 1990 and Lamont 1995). As cash flow is a proxy for a firm's growth opportunities, leverage is thus expected to be negatively related to the target's growth opportunities but positively related to default risks (Jensen and Meckling 1976 and Stulz 1990). Thus, it is likely that the target's leverage could have influence on the amount of acquisition premium paid to the target. Walkling and Edminster (1985) find a direct link between a target's leverage ratio and the acquisition premium. Their findings show a negative relationship between tender offer premiums and the target's debt to asset ratio for a sample of tender offers. The higher the leverage a target has, the less attractive it is to an acquirer and therefore the lower premium they will receive. I therefore hypothesize;

Hypothesis 3.8: There is a negative relationship between a target's leverage ratio and acquisition premiums.

Due to the influence of both the acquirer's and the target's characteristics on acquisition premium, the differences of these factors in different market valuations could lead to the difference in the acquirer's performance. Since acquisition premium is considered to be part of acquisition cost, the amount of acquisition premium paid to the target will affect the acquiring shareholders' gains. If the acquirer overpays (underpays) on the acquisition premium due to the influence of its financial constraints and the target's leverage rather than the actual synergy generated from the acquisition, such acquisition would tend to generate negative (positive) returns for acquiring shareholders. This leads to the following hypothesis;

Hypothesis 3.9: Acquisition premium has a negative impact on acquiring shareholders' post-acquisition returns.

3.6. Results of the three possible explanations

3.6.1 Univariate Analysis

3.6.1.1 Target's Valuation

In the asset pricing literature, book-to-market (BE/ME) ratio has been widely used as the proxy for mispricing (La Porta, Lakonishok, Shleifer, and Vishny 1997). However, it has been argued that book value reflects only historical costs rather than forward looking prospects. Consequently, BE/ME is used not just for misvaluation, but for firm growth opportunities or managerial effectiveness. The residual income model (RIM) has become popular as a forward-looking measure of fundamental valuation method in the accounting literature (Feltham and Ohlson 1995, and Ohlson 1995). RIM expresses the intrinsic value of the firm's equity as the current book value of equity plus the present value of an infinite series of expected residual incomes (Ohlson 1995). RIV/P is the ratio of residual income value to share price.

RIM's superior predictive ability is often attributed to its lower sensitivity to input measurement error and assumptions inherent in other valuation models (Penman 2001). Residual income value reflects expected future performance by incorporating analysts' forecasts of future earnings in addition to book value. Since the numerator of RIV captures future earnings prospects, RIV/P filters out the extraneous information about growth and managerial agency problems much better than BE/ME. The comparative advantages of RIM have stimulated interest in using RIM to measure misvaluation.

However, it is unlikely that analyst forecasts *perfectly* filter information about growth from the market price. In order to control for growth, Dong et al. (2006) further examine the effects of bidder and target RIV/P ratio after controlling for bidder and target BE/ME ratio. They argue that market values reflect mispricing, risk, and differences in true unconditional expected cash flows whereas book value can help filter out irrelevant scale differences. The following evidence from past literature suggests that BE/ME ratio is informative about misvaluation. For example, Graham and Harvey (2001) find that managers use the BE/ME ratio as an important factor in the decision to issue equity. Psychology-based theoretical models imply that market-to-book ratio (ME/BE) is a proxy

for misvaluation, and thus predict subsequent abnormal returns (Barberis and Huang 2001, Daniel, Hirshleifer, and Subrahmanyam 2001, and Daniel, Hirshleifer, and Teoh 2002) Thus, market-to-book ratio can provide a less noisy measure of mispricing.

Following the work by Dong et al. (2006), the ME/BE is calculated as the 12-month average of the market value of equity and the book value of equity. Market value of equity is measured at the end of the month. According to Baker and Wurgler (2002), book equity is measured at the end of the prior fiscal year for each stock and for each month. With a positive book value, a firm's market-to-book ratio (ME/BE) is a positive measure of valuation and increasing in price. However, when a firm has a negative book value of equity, the market-to-book ratio is negative and is decreasing in price. It therefore becomes an inverse measure of valuation (Dong et al. 2006). Following Dong et al. (2006), a firm with negative market-to-book ratio (positive market value but negative book value) should be classified as having a high valuation. The intuition behind the measure is that a high price relative to book value indicates greater relative valuations. In this paper, firms with negative market-to-book ratio are replaced with the maximum value of the ME/BE ratio in the sample (after winsorizing P/B at 1% and 99%).

The summary of descriptive analysis in Table 3.7 shows that the average ME/BE ratio of high-valuation target firms is 3.44 and only 2.02 for low-valuation targets. In addition, the ME/BE ratio of high-valuation targets is 1.41; this is significantly higher than the ME/BE ratio of the low-valuation targets. The results confirm Hypothesis 3.3 that the gap between market value and book value of high-valuation targets is higher than that of low-valuation targets. Additionally, the univariate analysis in Table 3.8 shows that acquiring a target with a low ME/BE ratio on average generates 3.87% three-year BHARs (significant at 5%). Although acquiring a target with a high-MEBE ratio does not show significant CARs or BHARs, it is worth noting that a consistent pattern still exists: that acquiring a target with a low MEBE ratio is likely to generate positive long-run abnormal returns to acquiring shareholders, whereas, when acquiring a target with a high MEBE ratio, acquiring shareholders tend to experience negative long-run abnormal returns. However, the findings are not strong enough to prove that Hypothesis 3.4, which states

that market to book ratio of target firms has a negative impact on acquiring shareholders' abnormal returns, is valid. I therefore carry out a multivariate regression analysis to examine the impact of market misvaluation on acquiring shareholders' long-run post-acquisition returns in section 3.6.2.

3.6.1.2 Acquirer's Financial Constraint

In order to examine Hypothesis 3.5 and 3.6, FIN is defined as a variable indicating the level of acquiring firms' financial constraints when they make M&A decisions. High FIN indicates a low level of a firm's financial constraint while low FIN indicates a high level of a firm's financial constraint. As financial constraints emphasize the amount of funds that can be obtained, rather than the source of funds (Gelos and Werner 2002), ideally the flow of fund statement is used. However, only a handful of listed firms have a complete series of these statements. Therefore, it is necessary to calculate flow of funds directly from a firm's profit and loss account and balance sheet. A firm can obtain funds from two main sources, namely, operating cash flow and liabilities.

Firstly, the operating cash flows of the firms are calculated. Operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends is used as a measure of cash flow (Lehn and Poulsen 1989, and Lang, Stulz, and Walking 1991). The cash flow measures are normalized by the book value of assets. This is because the same dollar of cash flow has different implications for firms of different sizes (Lang et al. 1991).

Secondly, liabilities are calculated directly from the firms' balance sheet. For short term liabilities, flows and the stock of liabilities are essentially the same by definition. For long-term components, the flow of this year is the difference between this year's and the previous year's stock. The stock of long-term loans will include the current portion of loans due this year because it would reflect how much in loans a firm actually obtains. The stock value of equity will be the sum of newly issued equity and a change in paid-in capital, net of dividends. The rest of the long-term components will simply be the difference between the current and last year's book values. Additionally, we need to

account for special cases, which necessitate crosschecking firm by firm. For instance, this would include firms in default or engaging in debt restructuring, as well as those facing sharp depreciation due to a shift in exchange-rate regime from fixed to floating. Furthermore, firms can also change their capital structure by issuing new equity and then retiring their existing debt contracts simultaneously. In other words, there is no new financing. Lastly, any negative flows are replaced with zero since we are only interested in net new financing.

The results in Table 3.7 show that, on average, high-valuation acquirers have 0.76 of cash flows available to invest whereas low-valuation acquirers have only 0.17. The difference is statistically significant. In other words, high-valuation acquirers have lower financial constraints than low-valuation acquirers. Therefore, hypothesis 3.5 is proved to be true. Furthermore, the results in Panel B Table 3.8 report that acquirers with high financial constraints gained significant 3.81% and 8.47% three-year CARs and BHARs respectively. In contrast, acquirers with low financial constraints experience significantly negative abnormal returns (-4.28% for CARs and -5.55% for BHARs). It could therefore be said that there seems to be a negative relationship between an acquirer's financial constraint and their post-acquisition returns.

3.6.1.3 Acquisition Premiums

Following previous studies such as Varaiya and Ferris (1987), Barclay and Warner (1993), and Schwert (1996), an acquisition premium is calculated as the percentage difference between the final price per share paid to the target and the target's share price 60 days prior to the acquisition announcement date. The results in Table 3.7 show that, on average, the acquisition premium is 128.27% for high-valuation targets while it is only 11.75% for low-valuation targets. In other words, high-valuation targets received a higher acquisition premium than low-valuation targets. The difference is 116% (significant at 1%). Interestingly, Panel D in Table 3.8 shows that acquiring firms who paid low acquisition premiums gain significant positive abnormal returns (4.38% for CARs and 7.59% for BHARs) whereas acquirers who paid high acquisition premiums experienced significant negative abnormal returns (-4.86% for CARs and -4.67% for BHARs). These

findings suggest that the underperformance of high-valuation acquisitions could be due to the overpayment of acquisition premiums to target firms.

Since a target's leverage is believed to be one of the main determinants of the acquisition premium, it is worth investigating its impact on the acquiring shareholders' post-acquisition returns. A measure of a firm's leverage is calculated by dividing long-term debt by common shareholders' equity using the data from the previous fiscal year i.e. $t-1$. Sometimes, long-term debt plus preferred shareholder's equity is divided by common shareholders' equity, since preferred stock can be viewed as a form of debt. In this study, the leverage measure (liabilities to equity ratio) incorporates book values of current liabilities, long term debt, preferred stock, and other long term liabilities (Billett and Ryngaert 1997). The market value of equity is calculated by taking the number of shares outstanding reported in the SET database and multiplying it by the share price of the target's stock 30 days prior to the announcement date (ibid.). All figures are adjusted for stock splits, new equity issues, stock repurchases and (where possible) acquisitions or divestitures that occur between the -30 days and +10 date and the first corporate control announcement.

$$LEV = \frac{Liability_{t-1}}{MVequity} \quad (3.10)$$

The findings in Table 3.7 show that leverage ratio of a high-valuation target is 0.63 whereas that of a low-valuation target is 1.89. It is also shown that the leverage ratio of low-valuation targets is significantly 1.26 higher than those of high-valuation targets. Furthermore, the results in Panel C Table 3.8 show that acquiring a target with low leverage ratio, on average, generates significant negative abnormal returns to acquiring shareholders (-2.61% for CARs -2.58% for BHARs). In contrast, acquiring shareholders who acquired a target with high-leverage ratio experience significantly positive abnormal returns (2.13% for CARs and 5.50% for BHARs).

3.6.2 Multivariate Analysis

Univariate analysis so far shows that only an acquirer's financial constraint and acquisition premiums are likely to have a significant impact on acquiring shareholders' three-year post-acquisition returns. A multivariate regression analysis is therefore used to examine the combined effects of other explanatory variables on acquisition related value gains. Three-year BHARs of the acquiring firm compared to industry, size and BEME control firms are used as dependent variables because they compare the returns with control firms in the same industry and with similar size and characteristics. The function of BHAR is:

BHAR = f [stock market valuation, overvaluation on target, acquirer's financial constraint, acquisition premium, control variables (acquirer size, acquirer's Tobin's Q-ratio, and industry relatedness)]

According to section 3.5.3, it is assumed that acquisition premium could be a function of both an acquirer's financial constraint and a target's leverage. That is, the amount of the acquisition premium paid to the target is the endogeneous outcome of these two factors. Therefore, the estimations from OLS are biased and endogeneity should be controlled. Following the methodology proposed by Campa and Kedia (2002), an instrumental variable estimation technique is applied.

Since an acquirer's financial constraints could have a direct impact on the acquiring shareholders' abnormal returns, it might violate the first condition of the instrument variable. That is, it might be correlated with the acquirer's post-acquisition returns. Therefore, at this stage, the acquisition premium is instrumented with only the target's leverage. The first stage of estimation is the following:

$$PREM'_{it} = \alpha + \beta_1 LEV_{it} + r_{it} \quad (3.11)$$

where $PREM'_{it}$ is the acquisition premium, LEV_{it} is the target's leverage ratio and r_{it} represents the error terms. In the second stage, the fitted values of the acquisition

premium, $PREM_{it}'$, from equation (3.11), are used as an independent variable in the estimation of acquiring shareholders' abnormal returns:

$$BHAR_{it} = \delta + \beta_2 HIGH + \beta_3 LOW + \beta_4 MEBE_{it} + \beta_5 FIN + \beta_6 PREM_{it}' + \beta_7 X_{it} + e_{it} \quad (3.12)$$

where $BHAR_{it}$ is the three-year BHARs adjusted by industry, size and BEME. $HIGH$ and LOW are the market valuation dummies. $MEBE_{it}$ indicates the level of a target's overvaluation. FIN_{it} is the acquirer's financial constraint, X_{it} is the set of control variables and e_{it} represents the error terms.

The results of the instrumental variable estimation are presented in Table 3.9. In the first stage regression, the acquisition premium is regressed on the target's leverage. The negative coefficient of the target's leverage is highly significant. In the second-stage regression, the overvaluation of the target and the industry relatedness dummy has significant positive impact whereas a high-stock market valuation and acquisition premiums has significant negative impacts on an acquirer's abnormal returns. However, the results show that an acquirer's financial constraint has insignificant positive impact on the acquirer's three-year abnormal returns, which is contrast to the univariate results. The findings suggest that an acquirer's financial constraint has no significant direct affect on acquiring shareholders' long-term post-acquisition returns.

Since an acquirer's financial constraint does not have a significant direct impact on the acquirer's three-year abnormal returns, it is used as another instrument variable as well as the target's leverage for acquisition premiums in order to test Hypothesis 3.7 and 3.8. The first stage of estimation is the following:

$$PREM_{it}' = \alpha + \beta_1 LEV_{it} + \beta_2 FIN + r_{it} \quad (3.13)$$

where $PREM_{it}'$ is the acquisition premium, LEV_{it} is the target's leverage ratio, FIN_{it} is the acquirer's financial constraint and r_{it} represents the error terms. In the second stage, the fitted values of the acquisition premium, $PREM_{it}'$, from equation (3.13), are used as an independent variable in the estimation of the acquiring shareholders' abnormal returns:

$$BHAR_{it} = \delta + \beta_3 HIGH + \beta_4 LOW + \beta_5 MEBE_{it} + \beta_6 PREM'_{it} + \beta_7 X_{it} + e_{it} \quad (3.14)$$

where $BHAR_{it}$ is the three-year BHARs adjusted by industry, size and BEME. $HIGH$ and LOW are the market valuation dummies. $MEBE_{it}$ indicates the level of a target's overvaluation. X_{it} is the set of control variables and e_{it} represents the error terms.

The results of the instrument variables are presented in Table 3.10. The two-stage regressions in Table 3.10 show better fitted models than those in Table 3.9 since the adjusted R^2 increased from 0.35 in the first-stage regression to 0.53 and from 0.54 in the second-stage regression to 0.70 respectively. In the first stage regression, the acquisition premium is regressed on the acquirer's financial constraint and the target's leverage. It is shown that both the acquirer's financial constraint and the target's leverage are highly correlated to the acquisition premium. This satisfied the condition for instrument variables as a good instrument is highly correlated with the acquisition premium.

The findings also suggest that the acquirer's financial constraint and the target's leverage are determinants of acquisition premiums. It is shown that the acquirer's financial constraint has a significant positive impact on the acquisition premium. In other words, the less financial constraint an acquirer has, the higher the premium they pay to a target. The finding is consistent with the findings of Lang, Stulz and Waling (1989, 1991) that the more free cash flow the firms have, the more aggressive they are toward M&A transactions and the higher the premium the acquirer is willing to pay. Hypothesis 3.7 is therefore valid.

Furthermore, in the first-stage regression, consistent with the findings by Walkling and Edminster (1985), the target's leverage is found to have a significant negative impact on the acquisition premium. Since leverage is negatively related to the target's growth opportunities, a target with a high leverage ratio is less attractive to an acquirer and has less bargaining power, and hence receives a low acquisition premium. It could therefore be said that both the acquirer's financial constraint and the target's leverage significantly determine the amount of acquisition premium paid to targets.

In the second-stage regression, consistent with the prior findings in the univariate analysis, high-stock market valuation has a significant negative impact on acquiring shareholders' abnormal returns. Interestingly, the findings show that there is a significant positive relationship between the target's overvaluation and the acquiring shareholders' abnormal returns at the 10% level. The results suggest that an increase in 1 unit of the target MEBE ratio will lead to an 18% increase in the acquirer's abnormal returns. This is in contrast to the expected results in Hypothesis 3.4. Since the market-to-book ratio is also widely used as a proxy for the ability of the firm to generate high returns, firm growth opportunities and managerial effectiveness (Dong et al. 2006), acquiring a firm with a high MEBE ratio means acquiring a firm with good performance and therefore leads to a positive impact on the post-acquisition performance. It also suggests that a target with a high MEBE ratio is not a result of the market overvaluing the target. However, it shows that a high market value reflects the target's growth opportunities and management effectiveness which cannot be captured by accounting data. Since the univariate results find that high-valuation targets have a significantly higher MEBE ratio, after controlling for other variables, high-valuation acquirers should outperform low-valuation acquirers. The findings therefore do not support the notion that the underperformance of high-valuation acquirers is due to their acquisitions of overvalued targets.

Furthermore, the second-stage regression shows that the acquisition premium has a significant negative affect on acquiring shareholders' three-year abnormal returns which proves that Hypothesis 3.9 is valid. This could be interpreted to mean that an increase in 1% of the acquisition premium paid to target shareholders reduces 44% of the acquiring shareholders' long-run post-acquisition gains. Although acquiring a target with high growth opportunities generates positive gains to high-valuation acquirers, the impact is smaller than the negative impacts from the acquisition premium (+18% and -44% respectively). Consequently, the expected strategic gains are cancelled out by the overpayment on acquisition premiums. This explains why high-valuation acquirers perform less well compared to low-valuation acquirers. For the control variables, only industry relatedness has a statistically significant positive correlation with the post-

acquisition performance as other control variables do not have any significant impact on the acquirer's abnormal returns.

3.7 Robustness Tests

3.7.1 Different Dependent Variables

Different dependent variables (i.e. abnormal returns measured by different methods and benchmarks) are used as a robustness test to establish the relationship between the different variables. Cumulative abnormal return (CAR) and buy-and-hold abnormal return (BHAR) have their own advantages and they can be measured by different benchmarks. The acquiring abnormal returns are compared against three different portfolios, as mentioned in the methodology section: (1) Industry matched control portfolio (CAR₁ and BHAR₁), (2) Size and book value of equity to its market value (BEME) (CAR₂ and BHAR₂), (3) Industry, size and BEME matched firm (CAR₃ and BHAR₃). Since BHAR₃ is used as a dependent in the main analysis, it is replaced by CAR₁ (BHAR₁), CAR₂ (BHAR₂) and CAR₃ in equation (9) in order to test for the robustness of earlier conclusions.

The results in Table 3.11, 3.12, 3.13, 3.14, and 3.15 confirm the relationships between the acquirer's financing constraint, the target's leverage, and the acquisition premium. The relationship is that the acquirer's financing constraint has a significant positive impact on the acquisition premium whereas the target's leverage has a significant negative impact on the acquisition premium. Consistent with the previous finding where BHAR₃ was used as a dependent variable, the stock market valuation and the acquisition premium are found to have a significant impact on acquiring shareholders' post-acquisition returns. High-valuation acquirers perform significantly less well than neutral- and low-valuation acquirers for all dependent variables (CAR₁ CAR₂ CAR₃ BHAR₂ and BHAR₃).

Since CARs and BHARs are calculated from acquirers' stock returns, which have several potential biases (i.e. skewed abnormal returns, new-listing bias, and rebalancing bias etc.), acquirers' accounting performance is examined in order to confirm the robustness

of the results. Following Bouwman, Fuller, and Nain (2003b), the abnormal operating performance (ROOI) and return on shareholders' equity (ROE) are examined and used as dependent variables in equation (3.14).

In order to confirm the results, an acquirer's operating performance is compared against that of its industry, size and BEME matched control portfolios as it is used for calculating CAR_3 and $BHAR_3$. The selection criteria of the benchmark firms are the same as that previously applied with CAR_3 and $BHAR_3$. Consistent with the stock abnormal returns findings, the results in Table 3.16 show undeniably that the stock market valuation has a significant impact on the acquirer's post-acquisition performance. High-valuation acquirers experienced negative abnormal ROOI and ROE three years after the completion of the acquisition (-8.72 and -29.4, respectively and significant at the 1% level) whereas low-valuation acquirers experienced positive abnormal ROOI and ROE (6.21 and 11.09, respectively and significant at the 1% level). These results can be interpreted to mean that, post acquisition, high-valuation acquirers perform less well compared to their counterparts within the same industry, size and BEME ratio whereas low-valuation acquirers outperform their counterparts. In accordance with the previous findings, both high-valuation acquirers' ROOI and ROE are found to be significantly lower than those of low-valuation acquirers at the 1% level (-14.94 and -40.49, respectively). These results are in line with the findings of Healy, Palepu, and Ruback (1992), and Bouwman, Fuller, and Nain (2003b).

In addition, both acquirers' ROOI and ROE are used as dependent variables in equation (3.14). Consistent with the findings when $BHAR_3$ is used as a dependent variable, Tables 3.17 and 3.18 show that high-valuation acquirers experienced significantly lower ROOI and ROE in comparison to neutral- and low-valuation acquirers. Although it is found that a low-market valuation is found to have a positive impact on acquirers abnormal ROOI and ROE, its impact is not statistically significant. Moreover, the acquisition premium is also found to have a significant negative impact on an acquirer's abnormal ROOI and ROE.

The robustness tests of different measurements of an acquirer's performance indicate that stock market valuation has a significant impact on the acquirer's post-acquisition performance. High-valuation acquirers perform significantly less well in comparison to low-valuation acquirers. The underperformance is due to the higher acquisition premium paid by the high-valuation acquirers.

3.7.2 Price Reversals

Jegadeesh and Titman (1993), and Bouwman, Fuller, and Nain (2003b) suggested that high (low)-valuation acquirers gained positive (negative) abnormal returns during the announcement periods but experienced negative (positive) abnormal returns in the long-run after the acquisitions. This could be a result of short-term momentum in returns and then long-term reversals. According to Daniel, Hirshleifer and Subrahmanyam (1998), momentum occurs because traders overreact to prior information when new information confirms it. This would lead to a temporary price increase and hence, short term gain. Long-term reversals occur when the share price drops as the overreaction is corrected in the long- run.

Following Bouwman, Fuller, and Nain (2003b), it is important to demonstrate that the findings are due to the failure or success of the acquisitions rather than long-run stock price reversals. Firstly, I calculate the pre- announcement (pre-event) performance of each high- and low-valuation acquirer. The acquirer's six month buy-and-hold returns preceding the announcement date are calculated. High-valuation acquirers are ranked in order of their pre-event buy-and-hold returns and placed into quintiles. This process is repeated for the low-valuation acquirers. The acquirers in the extreme quintiles, i.e. the top and bottom quintiles of pre-event buy-and-hold returns, are investigated. This is due to the fact that examining these groups of acquirers who experience extremely high or low pre-event returns will provide us with the most obvious evidence to support or contradict our previous interpretation. The acquirers are, therefore, divided into four different categories: (i) high-valuation acquirers who experienced the highest pre-event returns, (ii) high-valuation acquirers who experienced the lowest pre-event returns, (iii)

low-valuation acquirers who experienced the highest pre-event returns, and (iv) low-valuation acquirers who experienced the lowest pre-event returns.

Table 3.19 reports the results for this analysis. It is shown that high-valuation acquirers who experienced high pre-event returns have three-year post-acquisition BHARs of -4.03%. This finding is consistent with the long-term return reversal suggested by Jegadeesh and Titman (1993) but it is difficult to separate the effects of return reversals or the quality of the acquisition on these negative abnormal returns. However, high-valuation acquirers who experienced negative pre-event returns continue to have negative abnormal returns in the long-run of -7.78%. Furthermore, low-valuation acquirers who earned extremely high positive pre-event returns and extremely low positive pre-event returns maintain to gain positive abnormal returns post-acquisition, 11.49% and 3.00%, respectively. These results contradict price reversals. It could therefore be said that the underperformance of the high-valuation acquirers are not due to the price reversals but rather due to the poor decision making on acquisition by high-valuation acquiring managers.

3.8 Conclusion and Implications

Recent literature on M&A activities explains how stock market valuations could influence M&A decisions. These studies have found a positive correlation between stock market valuation and the number of M&A activities. This raises the interesting question of whether the levels of stock market valuation affect acquiring shareholders' short-term and long-term gains. The main finding is that the market valuation at the time of acquisition affects acquiring shareholders' announcement and post-acquisition returns but its impact on these two performance parameters is different. For the announcement returns, although the impact of the stock market valuation is not statistically significant, its joint impact with industry relatedness leads to high-valuation acquirers outperforming low-valuation acquirers in the short-run. It is shown that, during the high valuation periods, the market welcomes the acquisitions made within related industries more than those within diversified industries. Interestingly, the finding is reversed for the long-run,

with low-valuation acquirers significantly outperforming high-valuation ones. The findings also show that there is a strong negative correlation between the level of the stock market valuation at the time of acquisition and the acquiring shareholders' post-acquisition performance.

The findings of this chapter are consistent with recent evidence that stock market valuation affects corporate decision making, especially on acquisition decisions and hence affects post-acquisition performance. The results strongly suggest that acquisitions that were made during the high-valuation periods perform less well than those made during the low-valuation periods in the long-run. It has been shown that the underperformance of high-valuation acquirers is due to the overpayment of acquisition premiums. Since many Thai firms have close relationships with banks and other financial intermediaries, they easily access to the source of fund. The high agency costs that result from being less financially constrained and the high bargaining power of target firms during the high-valuation periods make high-valuation acquirers pay significantly higher premiums than low-valuation acquirers. However, the impact of financial constraint might be lesser if such relationship does not exist. For example, in the developed markets, such as in the US and UK, the corporate governance is categorised as a market-centred model. In this model, a broader range of investors plays a monitoring role through the pricing, trading and buying of the firm's securities. The market discipline is therefore much stronger than in Thailand.

Even though acquiring target firms with higher growth opportunities and performance should create positive gains to high-valuation acquirers, this positive impact is smaller than the negative impact of the overpayment. As a result, the expected strategic gains from the acquisitions are cancelled out by the overpayment on acquisition premium and result in value-destroying acquisitions.

Chapter 4

Toehold Acquisitions and Acquirers'

Post-Acquisition Performance

4.1 Introduction

Toehold acquisitions have been widely studied in a number of theoretical papers. A toehold is defined by Betton and Eckbo (2000) as a pre-takeover ownership stake in a target firm. Making prior open market purchases of the target shares is considered a common and profitable bidding strategy for acquirers. It has been discussed at considerable length and it is commonly suggested that toeholds can be used as a strategy for a potential acquirer to purchase a target's shares at relatively cheap prices leading to a profitable acquisition (Grossman and Hart 1980, Shleifer and Vishny 1986, Hirshleifer and Titman 1990, Kyle and Vila 1991, Chowdhry and Jegadeesh 1994, Burkart 1995, Bagnoli and Lipman 1996 Singh 1998, and Bulow, Huang and Klemperer 1999). However, some theoretical models predict that accumulating toeholds will give out signals to and attract rival bidders and, as a result, increase the market share price of potential target firms (Choi 1991, Ravid and Spiegel 1999, and Bris 2001). This would, in turn, lead to an increase in the bid premium and an overpayment to the potential targets.

From the empirical evidence, the fact that only half of the acquirers utilise this strategy seems strange, if it is true that a toehold acquisition really is a certain way of creating gains for an acquirer. Bradley et al. (1988) find that less than half of the firms in their sample acquired target shares prior to making a tender offer. Similarly, Jarrell and Poulsen (1986b) report that 40% of their firm sample had no toeholds. Most of the firms in the sample collected by Jennings and Mazzeo (1993) did not purchase any toehold shares either (although they explicitly excluded firms that had initial toeholds of more than 50%).

Due to the divergence between most of the theoretical prediction and empirical evidence on toehold acquisitions, it is interesting to investigate whether toehold acquisition is a profitable strategy for acquirers. Although several papers have empirically examined the impact of toeholds on the target's share price, acquisition premium, takeover success and also on the wealth of the target's shareholders, to the best of my knowledge, there is no study which has empirically examined the effect of toeholds on the acquirer's post-acquisition performance. This chapter therefore contributes to the existing literature by investigating this issue. To do so, the impact of toeholds on a target's stock price run-up²¹ and on the acquisition premium as well as their impact on acquirers' post-acquisition performance will be investigated.

Since half of the acquisition transactions in Thailand are classified as toehold acquisitions (i.e. an acquirer owns initial stakes in the target firm prior to the announcement date²²), these transactions are ideally suited to the purpose of this study. In order to examine whether toehold acquisition is a value-creating strategy for Thai acquirers in the long-run, I apply three-stage least squares, as much of the theoretical literature suggests that the size of toehold, stock price run-up, and acquisition premiums are endogenously determined and might have reciprocal relationships (Walkling and Edminster 1985, Shleifer and Vishny 1986, Hirshleifer and Titman's 1990, Choi 1991, Chowdhry and Jegadeesh 1994, Schwert 1996, and Ravid and Spiegel 1999). This study analyses 59 cash acquisitions (both toehold and non-toehold acquisitions) in Thailand announced between 1 January 1992 and 31 December 2001. In the sample, 34 (58%) transactions are classified as *non-toehold* acquisitions whereas 25 (42%) transactions are classified as *toehold* acquisitions. From the univariate analysis, I find that the acquisition premium of *non-toehold* acquisitions is significantly higher than that of *toehold* acquisitions whereas the target's stock price run-up of *non-toehold* acquisitions is significantly lower relative

²¹ Following Bris (2001), the stock price run-up is defined as the abnormal return in the 120 trading days prior to the acquisition announcement. However, Schwert (1996) calculates price run-up as the cumulative abnormal return from $t=-42$ to $t=-1$ trading days.

²² The maximum size of a toehold in the initial sample is 74.79% whereas it is 49.61% in the restricted sample.

to that of the *toehold* acquisitions. Additionally, when the stock market valuation²³ is controlled for, it is shown that during low-valuation periods, *toehold* acquirers gain three-year abnormal returns that are significantly lower than those of the *non-toehold* acquirers.

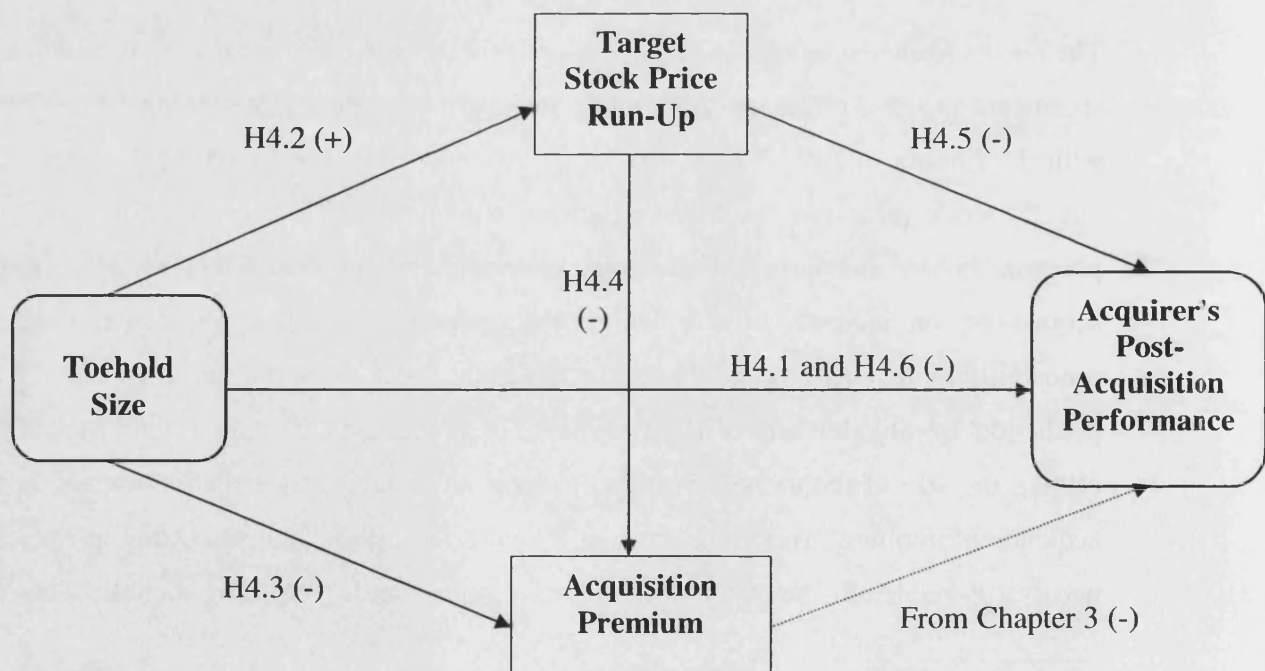
Consistent with the empirical evidence, *toehold* acquisition is not a profitable strategy for the acquirers. The results from the multivariate regression show that *toehold* acquisitions perform significantly less well than *non-toehold* acquisitions. I then investigate the cause of the *toehold* acquisitions' underperformance by examining *non-toehold* and *toehold* acquisitions separately. I find that the target stock price run-up does not have any significant impact on the *non-toehold* acquisition performance whereas it has a significant negative impact on the *toehold* acquiring shareholders' abnormal returns. This suggests that the stock price run-up could lead to the underperformance. The relationships between *toehold* size, stock price run-up and acquisition premiums of *toehold* acquisitions are therefore examined further.

The results from a simultaneous equation analysis show that the size of the *toehold* has a significant positive effect on the target's stock price run-up. This finding is consistent with the finding of Bris (2001). The larger the *toehold* an acquirer has, the higher the target's stock price run-up. Since acquiring a *toehold* reveals information about the potential bidder and target, the target's valuation and the probability of a successful acquisition, an increase in the size of the *toehold* would lead to increases in the probability of acquisitions and, hence, increases the stock price run-up. In contrast to the prediction of Shleifer and Vishny (1986), Hirshleifer and Titman (1990), and Choi (1991), the size of the *toehold* is found to have an insignificant negative impact on the acquisition premium. This indicates that an increase in the stock price run-up does not necessarily reduce the acquisition premium. In other words, acquiring *toeholds* does not

²³ Following the work of Bouwman, Fuller and Nain (2003b), the SET (Stock Exchange of Thailand) index is used as a proxy for market valuations. The market valuation is classified into high, neutral or low valuation periods based on the SET index. Each month is defined as high (low)-valuation when it lies in the top (bottom) half of months when SET index was above (below) the past five-year average. All other months are classified as neutral valuation. Acquirers initiating acquisitions during high-valuation, neutral-valuation and low-valuation markets will be referred as high-valuation, neutral- and low-valuation acquirers, respectively.

provide the potential acquirer with more bargaining power over the target firm as predicted by a number of theoretical models (Shleifer and Vishny 1986, Hirshleifer and Titman 1990, and Choi 1991). Thus, the stock price run-up is considered to increase the total cost of the M&A transactions and is an added cost to the toehold acquiring shareholders. Accordingly, after controlling other variables, the results from the simultaneous equation system indicate that *toehold* acquisitions perform less well than *non-toehold* acquisitions due to the significant negative impact of both the acquisition premium and the stock price run-up on acquiring shareholders' long-run returns. The relationships between toehold, target stock price run-up and acquisition premiums and their impacts on long-run post-acquisition performance are shown in Figure 4.1.

Figure 4.1: The relationships between toehold size, target stock price run-up, acquisition premium, and acquirer's long-run post-acquisition performance

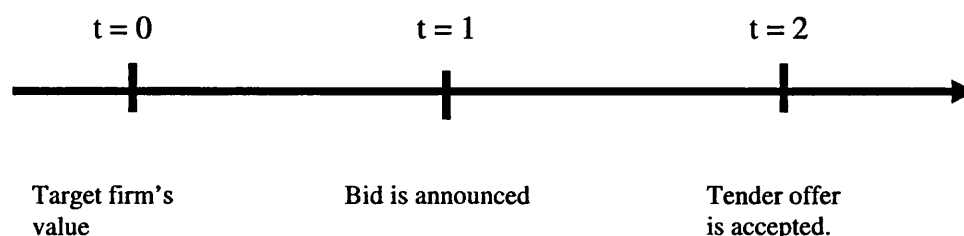


Section 4.2 discusses related literature and develops hypotheses. In Section 4.3, the data and methodology are described. Empirical results and robustness tests are presented in Section 4.4. Conclusions and implications are presented in Section 4.5.

4.2 Theory and Hypotheses

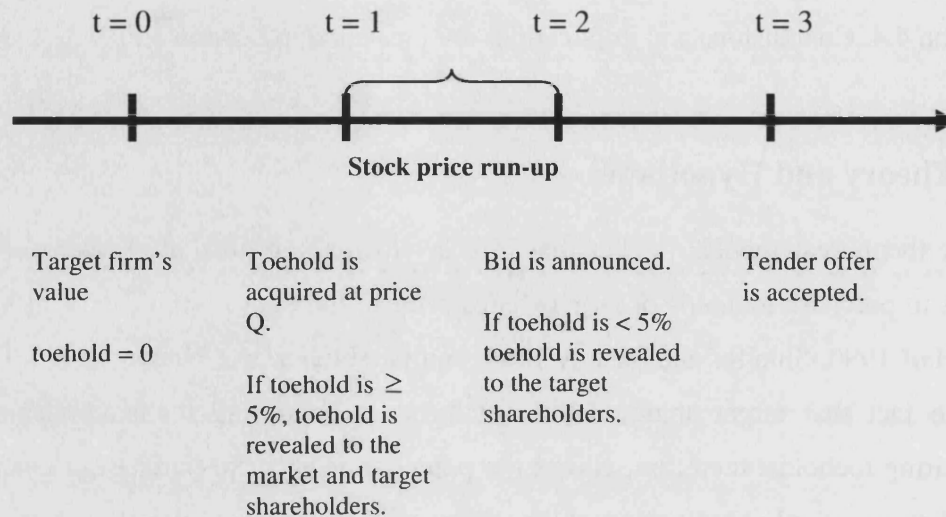
Many theoretical models predict that in order to make profits from takeovers, bidders ought to purchase toeholds of target shares prior to the tender announcement (Grossman and Hart 1980, Shleifer and Vishny 1986, and Hirshleifer and Titman 1990). This is due to the fact that target share prices usually increase during the announcement date. Acquiring toeholds, therefore, allows the potential acquirer to purchase a portion of the target at a relatively cheap price whilst the probability of the acquisition is low. However, the empirical evidence diverges from such theoretical predictions - fewer than half of acquisition transactions are toehold acquisitions (Jarrell and Poulsen 1989b, Bradley et al. 1988, and Jennings and Mazzeo 1993). This raises the interesting issue that if toehold acquisitions do indeed allow potential bidders or acquirers to buy target firms at a relatively low price as is theoretically predicted, their performance should outperform those of non-toehold acquisitions and there should be more toehold acquisitions. Figure 4.2 illustrates the timeline involved a typical acquisition whereas Figure 4.3 illustrates the timeline when a toehold is purchase.

Figure 4.2: Timeline of typical acquisition



In a typical acquisition, the market will know about the possibility of a target being acquired only when the bid is announced ($t=1$). However, the timeline when the market learns about the acquisition is different for toehold acquisition. As it can be seen in Figure 4.3:

Figure 4.3: The timeline of toehold acquisition



The difference between a typical and toehold acquisition is that the market is acknowledged about the possibility of an acquisition before the bid is actually announced (at $t=1$). This is due to the fact that, in Thailand, a toehold purchaser is required to disclose their purchase when the toehold aggregately reaches 5% of the total number of securities of the purchased business²⁴. However, this allows the toehold acquirer to purchase a fraction of target's shares at price Q which is cheaper than the price after the announcement date ($t=2$).

On the other hand, when the toehold is disclosed to the market, it signals the market about the probability of the target being acquired. Hence, it increases the target's stock

²⁴ The tender offer must be made if any person has purchased or taken any other actions which results in his acquisition of shares, or his becoming a holder of shares, of any business at the end of any particular day reaches or exceeds any trigger point specified below:

- 25% of the total number of shares issued by the business and if preference shares with less than one vote per share are issued by that business, an acquisition of ordinary shares which results in the increase of ordinary shares held by such person in the business such that it reaches or exceeds 25% of the total ordinary shares issued by that business.

However, if any person has acquired or become a holder of shares in business that his shareholding reaches the trigger points 25% but the voting rights in respect of all shares held by him (directly or indirectly) are less than 25% of the total voting rights of the business this person does not have to make a tender offer unless he has acquired more shares which results in an increase in his voting rights which reaches or exceeds 25% of the total voting rights of the business.

- 50% of the total voting rights of the business
- 75% of the total voting rights of the business

prices (stock price run-up) prior to the announcement date (from $t=1$ to $t=2$). This process does not happen in a non-toehold acquisition.

According to this difference, it is worth investigating the impact of toeholds on the acquiring shareholders' long-run performance. In accordance with existing theoretical literature and empirical studies, toeholds have an impact on the stock price run-up and acquisition premium, which ultimately could affect the acquiring shareholders' post-acquisition returns. As a result, the relationship between the size of toehold, a target's stock price run-up, acquisition premiums and acquisition performance will be examined.

4.2.1 Toehold and Stock Price Run-up

It has been well documented by various authors that acquiring toeholds leads to target stock price run-up²⁵ prior to the acquisition announcement (Grossman and Hart 1980, Keown and Pinkerton 1981, Mikkelson and Ruback 1985, Shleifer and Vishny 1986, Gupta and Misra 1989, Eysell 1990, Choi 1991, Sanders and Zdanowicz 1992, Barclay and Warner 1993, Chowdhry and Jegadeesh 1994, Schwert 1996, Ravid and Spiegel 1999, and Bris 2001). Since it is perceived that acquiring toeholds increases the probability of acquisition success (Grossman and Hart 1980, Shleifer and Vishny 1986, Choi 1991, Ravid and Spiegel 1999, and Bris 2001) and a bidder who purchases a toehold indicates his valuation of the target and the potential acquisition synergies (Chowdhry and Jegadeesh 1994 and Bris 2001), owning a toehold is predicted to drive up the target price prior to the acquisition announcement.

Shleifer and Vishny (1986) argue that the pre-takeover price incorporates the expectations of a value-increasing takeover. They study the role of large shareholders in the target firms and their impact on tender offer processes. Unlike the model of Grossman and Hart (1980)²⁶, the ownership structure of target firms in Shleifer and Vishny's (1986)

²⁵ Following Bris (2001), the stock price run-up is defined as the abnormal return in the 120 trading days prior to the acquisition announcement. However, Schwert (1996) calculates price run-up as the cumulative abnormal return from $t=-42$ to $t=-1$ trading days.

²⁶ According to Grossman and Hart's (1980) theoretical model, the target firm is owned by atomistic shareholders, each of whom regards her own decision whether to accept a takeover bid as not being crucial to the success of the bid. Under this scenario, each shareholder has an incentive not to accept the offer since

model comprises of one large shareholder with a number of other (atomistic) shareholders. Nevertheless, their model offers the same prediction as Grossman and Hart's (1980) in that acquiring a toehold in the target firm increases the possibility of an acquisition and leads to an increase in the target's share prices. Choi's (1991) 'anticipated takeover bid hypothesis' explains that an increase in the value of a target firm is a result of investors' perception of an increase in the likelihood of a takeover success.

Due to asymmetric information, a potential acquirer reveals their private information regarding the target firms, and the potential of acquisition synergies to the market through his toehold size (Easley and O'Hara 1987, Kyle 1985, Kyle and Vila 1991, and Bris 2001). As a result, once a toehold is purchased in the open market, the market will revalue the target's price which leads to an increase in the target's stock price run-up. Furthermore, Chowdhry and Jegadeesh (1994) propose that a bidder who acquires target shares prior to the announcement date signals his assessment that the target is undervalued and that there is an opportunity to make post-acquisition profits. According to these models, acquiring a toehold drives up the target share price.

A number of studies have shown that the share price of an acquired firm in a takeover rises substantially at the acquisition, tender offer and buyout announcements (Jensen and Ruback 1983, and Jarrell, Brickley, and Netter 1988). Keown and Pinkerton (1981) find that there is an increase of 43.3% in the target share price prior to the announcement. Gupta and Misra (1989) report an increase of 26% while 56.8% was reported by Schwert (1996). Mikkelsen and Ruback (1985) study the valuation influences of toehold purchases on takeovers, target repurchases or on a buyer's disposition of their holdings to the market or a third party. It is found that acquiring a toehold prior to these inter-firm

she expects the bid to succeed and, as a non-accepting shareholder, she can then remain a minority shareholder in the target and enjoy the full added value created by the acquirer. An accepting shareholder, on the other hand, settles for a bid premium which may be less than the full added value. Thus there is an incentive for each atomistic shareholder to 'free-ride' on their fellow shareholders. In order to succeed with the bid, the potential acquirer has to offer the full added value expected from the acquisition as bid premium. However, if the potential acquirer accumulates a toehold in the potential target so that they can retain the post-acquisition value improvement accruing to the related shares, the toehold must be sufficiently large to cover the search and bid costs. Thus the larger the toehold the more profitable the acquisition is to the bidder.

investments creates positive valuation effects for the target firms. These results indicate that the stock price run-up is an adjustment for the expected takeover premium.

The ownership structure of Thai firms is similar to those of the firms in Shleifer and Vishny's (1986) model. Thai firms' ownership structure is classified as concentrated ownership which means there is one large shareholder control the firm with a number of other atomistic shareholders. According to previous theoretical models and empirical studies, acquiring a toehold prior to the announcement will lead to an increase in the target's share price. This is due to the fact that accumulating target shares in an open market provides a signal of the target valuation and the possibility of a subsequent value-increasing takeover. Since the higher the size of the toehold means the more likely the acquisition is to occur, this leads to a higher target stock price run-up. In contrast, if there is no toehold purchase, the probability of the acquisition is low, and there will be no increase in the target share prices. This leads to the following hypotheses;

Hypothesis 4.1: The stock price run-up of toehold acquisition targets is higher than that of non-toehold acquisition targets.

Hypothesis 4.2: The toehold size is positively correlated with the stock price run-up.

4.2.2 Toehold and Bid Premium

The relationship between the size of the initial stake and the takeover premium has been studied in several theoretical papers. The bid premium is defined as the difference between the bid price and the market stock price prior to the announcement of the tender offer (Bris 2001). The impact of a toehold's size on the bid premium is still inconclusive and conditional upon the number of bidders in the bidding contest (Asquith and Kieschnick 1999, Betton and Eckbo 2000, and Bris 2002). Existing theoretical literature has focused only on single bidder takeover predicts that the size of the toehold is negatively related to the average bid premium (Shleifer and Vishny 1986, Hirshleifer and Titman 1990, and Choi 1991). In other words, the larger the toehold the potential acquirer has, the smaller the takeover premium paid. Since acquiring a toehold increases the possibility of a successful takeover, this leads to a rise in the market value of the target shares (Shleifer and Vishny 1986). Therefore, prior to the acquisition announcement, the

target price already incorporates the expected increase in the target value due to the acquisition. In this circumstance, it lowers the takeover premium. Hirshleifer and Titman's (1990) theoretical model relates toeholds with the probability of successful acquisition and to the potential value improvement and the bid premium. The model suggests that toeholds increase the probability of a successful bid which leads to an increase in the bid premium. However, an increase in the bid premium still makes the average bid premium lower than the bid premium in non-toehold acquisitions.

Along these lines, Schwert (1996) finds that there is an increase in the target stock price post announcement and that a toehold increases the bidder's bargaining power and thus reduces the takeover premium (as theoretically shown by Israel 1992). Ravid and Spiegel (1999) propose a model where they introduce information asymmetry into the previous models. Once a toehold is purchased, the identity of the participants is revealed and the market can use this information as well as the required disclosure statements in order to learn about the potential value of the target to the bidder. According to their theoretical model, when toeholds are high, the bidder has already been identified by the market. Its stock price, therefore, would have already incorporated the effect of the acquisition and, conditional on the bid taking place, a low enough premium to still make a successful tender offer.

Despite a number of theoretical models of toeholds and their impacts on bid premiums, there is little empirical evidence concerning the relationship between the size of toeholds and bid premiums. Walkling and Edminster (1985) report a negative relationship between the average bid premium and the size of toeholds. This is in line with Hirshleifer and Titman's (1990) argument that the size of toehold has a positive impact on the bidder's bargaining power and is, therefore, negatively related to the bid premium. Betton and Eckbo (2000) find that, similar to the prediction of the other models, the toehold size should be negatively related to the premium. Bris (2002) found that the takeover premium is negatively related to the bid premium, conditional on other variables such as target stock liquidity and information disclosures.

However, Chowdhry and Jegadeesh (1994) show that the bidder's toehold size fully reveals his private information about the target shares and the potential synergistic gains. In their model, there are two types of bidder i.e. low valuation bidders and high valuation bidders. The low valuation bidder acquires a smaller toehold in order to separate himself from the high valuation bidders and offers a lower acquisition premium. This leads to a separating equilibrium. However, both types of bidders will purchase a positive toehold to signal their valuation. The model predicts that the toehold acquired by the high valuation bidder will increase the likelihood of a successful acquisition and, hence, leads to a rise in the acquisition premium. In other words, these models suggest that the size of the toehold is positively related to the bid premium. The more recent literature has focused on the strategy of multiple bidders as well as their impacts on toeholds and the relationship between toeholds and the bid premium. If there is more than one bidder, the size of toeholds and a bid for the remaining shares can lead to aggressive bidding behaviour in order to deter a rival's entry and bidders will then always overpay for the bidding premium (Burkart 1995, Burkart, Gromb and Panunzi 1998, Singh 1998, and Bulow, Huang, and Klemperer 1999). Singh (1998) argues that having toeholds makes potential acquirers more aggressive towards the bid price due to the 'owner's curse'²⁷. They would often bid above their valuations of the target.

Empirically, Franks and Harris (1989) find some evidence for the prediction that there is a positive relationship between bid premiums and toehold sizes in single-bidder takeovers, which is consistent with the prediction of Chowdhry and Jegadeesh (1994)'s hypothesis. Kaplan and Stein (1993) find support for the view that larger initial stakes lead incumbent management teams to bid more aggressively. They report an increase in offered buyout prices and the initial stakes owned by management during the 1980s. Burkart (1995), Singh (1998), Bulow, Huang and Klemperer (1999) find that the size of toehold is positively related to the bid premium whereas Burkart, Gromb and Panunzi (1998) find that there is no significant relationship between the bid premium and the size bidder's toeholds.

²⁷ Singh (1998) note that the 'Owner's curse' does not occur due to agency problems or valuation errors. Instead, it happens due to the blockholder bidding optimally in order to obtain a higher price for his previously acquired stake.

According to both theoretical and empirical studies, if there is only one bidder, the size of toehold increases the bidder's bargaining power and stock price preceding the announcement and, hence, reduces the takeover premium. However, due to the owner's curse, when there is more than one bidder in the bidding contest, the size of toehold is positively related to the bid premium as a result of aggressive bidding behaviour. Since most of the acquisitions in Thailand involved only a single bidder²⁸, I therefore hypothesize;

Hypothesis 4.3: The size of toehold is negatively related to acquisition premium.

4.2.3 Stock Price Run-up, Bid Premium and Acquirer's Performance

To the extent that a toehold contributes to the initial stock price run-up and acquisition premium, which determine the price paid for the target, acquiring a toehold could have an indirect impact on total acquisition gains or on the acquirer's long-run performance. Thus, it is crucial to investigate the indirect impact of toeholds on acquiring shareholders' long-term performance via stock price run-up and acquisition premium.

Acquiring a toehold gives a signal to the market about the target's possibility of being taken over and reveals the bidder's private information about the target which leads to an increase in the target's stock price. As a result of the uncertainty during the negotiating period and given asymmetric information, it is unclear whether a rise in the target's stock price run-up preceding the announcement date is because of another bidder acquiring the target shares' in the open market (Schwert 1996). Rationally, according to the incomplete information, both the bidder and the target will revise the target's stock price upward. The toehold acquisition could thus be costly for the acquirer since he has to pay for the target's increased share price. This cost would not occur if there is no toehold purchase. Since the increased target's stock price is assumed to have already incorporated the effect of the acquisition (Hirshleifer and Titman 1990, and Ravid and Spiegel 1999), a rational bidder would pay a lower acquisition premium than that paid in non-toehold acquisitions. Accordingly, it could be concluded that acquiring a toehold will lead to an increase in the stock price run-up and hence lower the acquisition premium. There is a negative

²⁸ 97% of the M&A transactions in Thailand are classified as single bidder acquisitions.

relationship between the target stock price run-up resulting from the acquiring toehold and the acquisition premium. This results in the following hypothesis;

Hypothesis 4.4: Stock price run-up is negatively related to acquisition premium.

Although acquiring a toehold allows the acquirer to pay lower premiums, he would have to pay for the increase in the target's stock price (due to the run-up) as well as the acquisition premium. Although Hypothesis 4.4 suggests that an increase in the stock price run-up will lower the acquisition premium, an increase in the stock price run-up will not make acquisition premiums disappear. This is because without the acquisition premium, the target shareholders will have no incentive to sell their shares to the acquirer. As a result, stock price run-up could be considered as an added cost to the acquirer and reduces the total acquisition gains. I therefore hypothesize;

Hypothesis 4.5: Stock price run-up has a negative impact on the acquirer's long-term shareholder gains.

If Hypothesis 4.5 is proved to be valid, this means that the higher the stock price run-up, the higher the added cost to an acquirer and, hence, the lower total acquisition gains. Furthermore, Hypothesis 4.1 predicts that the stock price run-up of toehold acquisitions is expected to be higher than that of non-toehold acquisitions. If this hypothesis is also proved to be true, it means that a toehold acquirer has higher costs than a non-toehold acquirer. Taken together, these two hypotheses lead to Hypothesis 4.6;

Hypothesis 4.6: Due to the added cost stemming from acquiring a toehold, toehold acquisitions perform less well than non-toehold acquisitions.

4.3 Data and Methodology

4.3.1 Data

The initial data sample is obtained from the Security Exchange Commission (SEC) in Thailand. The data set consists of all tender offer announcements by Thai acquirers and targets in the period between 1 January 1992 and 31 December 2001. This study defines an M&A event as when the earliest public announcement is made. These M&A announcements were dated based on the day that the acquisition was filed in the SEC

database. The stock return data is collected from Datastream. Since Datastream has limited accounting data on Thai firms prior to 1997, all accounting data is obtained from firms' financial reports which were submitted to the Stock Exchange of Thailand (SET).

To be included in the sample, an acquisition must meet a number of criteria. Firstly, the transactions must be completed within a specified announcement date and effective date. Secondly, the transactions must not be share repurchases, acquisitions of partial or remaining interest²⁹ or acquisitions of certain assets³⁰. Thirdly, acquirers must acquire no less than 50% of the target firms after the acquisition. Although effective control may be achieved through a holding of less than 50% of a firm's outstanding shares, the constraint set will ensure that the transactions examined only include those with clear control of the target (Brown and Rosa 1998). Fourthly, since this chapter is investigating the impact of toeholds on an acquirer's long-run performance, there must be a one-year period of stock price data and accounting data prior to the acquisitions, and a three-year period of stock price data post acquisition for the acquirer to be included. Finally, there must be a one-year period of target stock price and accounting data prior to the acquisition in order to examine the impact of its characteristics on the acquirer's post acquisition performance. Firms that do not meet these requirements are excluded.

There were 142 cash friendly tender offers between 1 January 1992 and 31 December 2001. 35 transactions are classified as acquisitions of remaining interest³¹ and 8 transactions are regarded as second or subsequent bids³². These are therefore excluded from the sample. Additionally, another 11 transactions are excluded because the acquirer held more than 75% of the target prior to the offer. This is due to the fact that in order for

²⁹ The transactions in which the acquirers hold less than 50 per cent of the target and is seeking to acquire less than 50 per cent, or the acquirer hold over 50 per cent and is seeking less than or equal to 100 per cent of the target's stock (Bris 2001).

³⁰ The transactions in which sources stated that 'certain assets' of a company, subsidiary or division were acquired.

³¹ The transactions in which the acquirers hold less than 50 per cent of the target and is seeking to acquire less than 50 per cent, or the acquirer hold over 50 per cent and is seeking less than or equal to 100 per cent of the target's stock (Bris 2001).

³² To eliminate second and subsequent bids, the sample is sorted by date and only the first bid in which a particular target is involved is considered.

a bidder to force a merger, it requires 75% shareholder support or so-called 'supermajority vote' in the supermajority charter provision. Therefore, the 75% screen eliminates all minority buyouts in firms with supermajority provisions from the sample.

The total sample thus consisted of 88 acquisitions. These acquisitions were made by 50 different acquirers and targets. There are 29 of 88 transactions where either acquiring or target firms had been delisted shortly after the acquisitions. Since there is no adequate stock price and accounting data for these observations, they are also excluded from the observations. We are left with 59 transactions for this study. Although the observation size could be considered as small relative to other studies, they account for nearly half (42%) of all takeovers in Thailand during the study period. Of 59 observations, 34 and 25 transactions are classified as *non-toehold* (58%) and *toehold*³³ *acquisitions* (42%), respectively.

4.3.2 Method and Variables

This research uses event study methodology to study the impact of merger characteristics on long-term value creation. This methodology is widely accepted and has been used by a number of management researchers to study the effect of a firm's action, such as corporate acquisitions, on the economic value of the firm. In order to calculate the effect of such an event, it is necessary to estimate what the stock's return would have been if such an event had not occurred.

4.3.2.1 Endogenous Variables

Long run stock performance study methodology

Previous research in corporate takeovers has traditionally used CAR (Cumulated Abnormal Return) to calculate the long-run abnormal returns. Fama (1998) argues that most long-term return anomalies are actually due to the different methodologies used.

³³ Toehold acquisition is an acquisition which an acquirer owns initial stakes in the target firm prior to the announcement date

Once the appropriate methodologies are employed, most of the anomalies will disappear. Loughran and Vijh (1997) started to use buy-and-hold abnormal return (BHAR). Barber and Lyon (1997) favoured the use of BHAR since CAR does not reflect the experience of those investors who hold a security for a long post-event period. The main differences between CARs and BHARs lie in the effect of compounding. CARs ignore compounding while BHARs include the effect of compounding. Barber and Lyon (1997) advocate the use of BHAR returns instead of CARs because the long-run CARs do not fully reflect the investors' experiences of holding a security for a long-term period as BHARs do. Furthermore, they believe that BHARs measure the underlying parameter of interest. Loughran and Ritter (1995) indicate that the BHAR method provides a sharper distinction between portfolios when classifying firms. Given this controversy, it seems that both CAR and BHAR have their advantages and can be considered as complementary rather than competing approaches for calculating long-run abnormal stock returns. I, therefore, propose to use both CAR and BHAR in this study.

Following the work by Fama and French (1992, 1993), Barber and Lyon (1997), and Lyon, Barber, and Tsai (1999), this paper uses an appropriate firm match (on size and book-to-market ratio) as a benchmark. The matching firms must meet the following criteria:

- (1) In the month prior to the announcement date, the total market value of all the Stock Exchange of Thailand listed firms are calculated;
- (2) In December of one year prior to the announcement date ($t-1$), book-to-market ratios of all these firms were calculated;
- (3) Sample firms are matched to a control firm on the basis of size and book-to-market ratio, where t is the year of acquisition.

The return on the control firm is used as the expected return for each sample firm, the same control firm is used throughout the horizon of analysis (i.e., three years).

CAR

Most research on abnormal returns has used the sum of either daily or monthly abnormal returns over time. In month t , R_{jt} is defined as the return on the control firm which was matched on size and book value-to-market value ratios. R_{jt} will be used as the expected return for the sample firm throughout the horizon of this analysis. Therefore, $E(R_i) = R_{jt}$ and $AR_{it} = R_{it} - E(R_{jt})$ where AR_{it} is the abnormal return in month t . The cumulative abnormal return (CAR) cumulating across τ periods is:

$$CAR_{i\tau} = \sum_{t=1}^{\tau} AR_{it} \quad (4.1)$$

BHAR

On the other hand, BHAR is the return on a buy-and-hold investment in the sample firm less the return on a buy-and-hold investment in the control firm i.e. $E(R_i) = R_{jt}$. The cumulative benchmark-adjusted returns is defined as:

$$R_{i\tau} = \prod_{t=1}^{\tau} (1 + r_{it}) \quad (4.2)$$

Where τ is the number of months and r_{it} is the raw return on firm i in event period ($t=1$ to $t= +36$). This measures the total return from a buy and hold strategy where a stock is purchased at the announcement date and held until year T after the acquisition. The holding period return on the benchmark during the corresponding period for firm i , $E(R_{it})$ is similarly calculated. The buy-and-hold abnormal return (BHAR) is then defined as follows:

$$BHAR_{i\tau} = \prod_{t=1}^{\tau} (1 + R_{it}) - \prod_{t=1}^{\tau} (1 + E(R_{it})) \quad (4.3)$$

Where $E(R_{it})$ is the return on the benchmark during the corresponding time period.

Benchmark Model

To assess whether a firm is performing unusually well or poorly, the expected performance in the absence of an event must be specified. We need a benchmark against

which sample firms can be compared. The pre-event characteristics of firms can lead researchers to expect sample firms to experience above (below)-average operating performance, even before they consider the impact of the event under consideration. Following Barber and Lyon's (1997) work, results based on the following three benchmarks are reported in this paper: (1) Industry matched control portfolio, (2) Size and book value of equity to its market value (BEME) matched control portfolio, and (3) Industry, size and BEME matched firm (firm j). The universe of firms, used to constitute benchmarks, consists of all firms listed on the Stock Exchange of Thailand (SET).

Several constraints determine whether all firms are included in the benchmark portfolios or considered as matching firms. Firstly, firms have to have valid characteristics data in the effective month of the corresponding sample firm. For example, when forming size and BEME control portfolios, firms without positive market value of equity or positive book value of equity are excluded³⁴. Secondly, firms have to have return data in the effective month of the corresponding sample firm. Thirdly, other sample acquirers with their acquisitions effective between -36 months and +36 months of the examined sample firms are excluded.

Industry matched control portfolios are formed based on the most detailed industry classification in the SET database. In each month, 31 portfolios are formed from the universe of firms. Each sample firm is allocated to a benchmark portfolio based on the same four-digit SIC codes as the sample firm on its acquisition effective month. The average size of the benchmark portfolio is 6 firms, with a minimum of 5 firms and a maximum of 11. For each sample firm, the benchmark portfolio is rebalanced once a year.

The size- and BEME- matched control portfolio approach is similar to previous studies such as Ikenberry, Lakonishok and Vermaelen (1995), Barber and Lyon (1997), Kothari

³⁴ Negative book value firms are not included in the samples of Fama and French (1992, 1993). The reason is that the interpretation of negative BEME is problematic. For the same market value, higher BE signifies a lack of growth opportunities but it is impossible to impose the same interpretation on the BEME ratio when the BE is negative.

and Warner (1997), Rau and Vermaelen (1998), Lyon, Barber and Tsai (1999). Specifically, at the end of every month, 5 size quintiles are formed. Size is measured as the market equity value of the universe of firms. Each size quintile is later broken down into book-to-market quintiles which results in 25 size and BEME control portfolios. This procedure is repeated for every month between January 1992 and December 2001. In the next step, 25 portfolio returns are formed every month by averaging the monthly returns for the firms in each of the portfolios. In order to obtain the acquirer's abnormal return, each sample firm is matched to its appropriate portfolio. These returns are then used as benchmarks to calculate the abnormal performance. For each sample firm, the benchmark portfolio is rebalanced once a year.

The identification process of the industry-matched firm is similar to the size- and BEME-matched control portfolio approach. The difference lies in industry classification being the first filter. The second is the size filter and the third is the BEME filter. Following Barber and Lyon (1997), the comparison firms are required to be of similar size to the sample firm in question. Firm i is matched to other firms within the same industry, and with market value of equity within 70%-130% of firm i 's market value of equity (i.e. $\pm 30\%$ of firm i 's market value of equity) at the end of 2 months prior to the effective month³⁵. In other words, month -2 is relative to the effective month 0. Finally, for firms that come through the industry and size filters, only the one with BEME closest to that of the sample firm at the month end of -2 month is chosen as the benchmark firm. If no benchmark firm is found, the industry filter is reset and the same process is repeated until a control firm is found.

Conventional parametric student t-test

The null hypothesis of zero mean, cumulative abnormal returns (CARs) is assessed by:

$$t_{CAR} = \frac{\overline{CAR_{it}}}{(\sigma(CAR_{it})/\sqrt{n})} \quad (4.4)$$

³⁵ Barber and Lyon (1996) experimented with several alternative size filters (both tighter and looser). Size matching proves to be important only when firms are drawn from the smallest third of firm size and the top third of performance (measured by return on assets). Consequently, the 70%-130% size filter was selected.

Where $\overline{CAR_{it}}$ is the sample averages and $\sigma(CAR_{it})$ is the cross-sectional sample standard deviations of abnormal returns for the sample of n firms. The disturbance term is assumed to be normally distributed.

The skewness-adjusted t-statistic

Lyon, Barber, and Tsai (1999) argue that since BHARs are positively skewed, conducting standard t-test measurements for statistical significance can produce misleading inferences. They recommend evaluating statistical significance using the skewness adjusted t -statistic. Following Lyon, Barber, and Tsai (1999), we employ a skewness-adjusted t -statistic to correct the negatively biased t -statistics and then assess statistical significance using critical values from standard t tables. In order to test the null hypothesis, which states that the mean BHARs are equal to zero for a sample of n firms, the skewness-adjusted t -statistic is as follows:

$$t_{sa} = \sqrt{n} \left(S + \frac{1}{3} + \hat{\gamma} S^2 + \frac{1}{6n} \hat{\gamma} \right) \quad (4.5)$$

where

$$S = \frac{\overline{BHAR}}{\sigma(BHAR_t)} \quad \text{and} \quad \hat{\gamma} = \frac{\sum_{i=1}^n (BHAR_{it} - \overline{BHAR_t})^3}{n \sigma(BHAR_t)^3} \quad (4.6)$$

4.3.2.2 Exogenous Variables

Toeholds

A toehold is defined as a pre-bid ownership stake in the target firm (Bris 2002). It is measured as a percentage of the target's shares. If the acquirer obtained a toehold prior to the acquisition announcement, this dummy variable is equal to 1 or 0 otherwise.

Toehold size

Toehold size is measured by the percentage of a pre-bid ownership stake in the target firm.

Stock price run-up

Following Bris (2002), the stock price run-up is calculated as the abnormal return in the 120 trading days prior to the acquisition announcement (t=-1 to t=-120).

$$Runup_i = \sum_{t=-120}^{-1} \varepsilon_{it} \quad (4.7)$$

where ε_{it} is the residual from the market model regressions in the estimation window t=-420, t=-120. The reason why a 120-day period prior to the announcement is used as the starting date for the stock price run-up calculations is because it is equivalent to the periods of six months (20 trading days per month) in which bidders trade in the target stocks.

The residual from the market model regression is calculated as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (4.8)$$

where R_{it} refers to the stock return for target firm i , and R_{mt} is the market return. t = -420 to -120.

Acquisition premium

Following previous studies such as Varaiya and Ferris (1987) and Barclay and Warner (1993), the acquisition premium is calculated as the percentage difference between the final price per share paid for the target and the target's share price 60 days prior to the acquisition announcement date.

$$PREM_i = \left(\frac{P_{i,t=0}}{P_{i,t=-60}} \right) * 100 \quad (4.9)$$

4.3.2.3 Control Variables

Since there are some variables which are not considered in our hypotheses but may still influence an acquirer's long-term post-acquisition performance, I control for the following variables;

Stock market valuation

In accordance with findings from Chapter 3, stock market valuations, at the time of the acquisition, influence an acquiring manager's acquisition decision. The findings show that stock market valuation significantly affects the acquiring shareholders' performance in both the short- and long-run.

In order to specify whether the acquisition occurred during a high-, neutral- or low-valuation period, this paper follows Bouwman, Fuller and Nain (2003b)'s empirical work on the performance of stock price driven acquisitions. The monthly SET index from 1987 to 2001 is used to capture monthly price levels from January 1992 to December 2001. In order to classify each month into different valuation periods, it is necessary to de-trend the SET index by removing the best straight-line fit from the index of the month in question and the five preceding years. This is due to the upward trend of the SET index. If the trend is not removed, more recent acquisitions will be classified as high-valuation acquisitions and older acquisitions will be classified as low-valuation acquisitions. Each month is then classified into an above (below)-average group if the de-trended SET index of that month was above (below) the past five-year average. Next, the months are ranked in order of the de-trended SET index. The top half of the above-average months are classified as high-valuation months and the bottom half are classified as low-valuation months. All other months are classified as neutral valuation months.

Target's valuation

In the asset pricing literature, book-to-market (BE/ME) ratio has been widely used as the proxy for mispricing (La Porta, Lakonishok, Shleifer, and Vishny 1997). However, it has been argued that book value reflects only historical costs rather than forward looking prospects. Consequently, BE/ME is used not just for misvaluation, but for firm growth

opportunities or managerial effectiveness. The residual income model (RIM) has become popular as a forward-looking measure of fundamental valuation method in the accounting literature (Feltham and Ohlson, 1995; Ohlson, 1995). RIM expresses the intrinsic value of the firm's equity as the current book value of equity plus the present value of an infinite series of expected residual incomes (Ohlson, 1995). RIV/P is the ratio of residual income value to share price.

RIM's superior predictive ability is often attributed to its lower sensitivity to input measurement error and assumptions inherent in other valuation models (Penman, 2001). Residual income value reflects expected future performance by incorporating analysts' forecasts of future earnings in addition to book value. Since the numerator of RIV captures future earnings prospects, RIV/P filters out the extraneous information about growth and managerial agency problems much better than BE/ME. The comparative advantages of RIM have stimulated interest in using RIM to measure misvaluation.

However, it is unlikely that analyst forecasts *perfectly* filter information about growth from the market price. In order to control for growth, Dong et al. (2006) further examine the effects of bidder and target RIV/P ratio after controlling for bidder and target BE/ME ratio. They argue that market values reflect mispricing, risk, and differences in true unconditional expected cash flows whereas book value can help filter out irrelevant scale differences. The following evidence from past literature suggests that BE/ME ratio is informative about misvaluation. For example, Graham and Harvey (2001) find that managers use the BE/ME ratio as an important factor in the decision to issue equity. Psychology-based theoretical models imply that market-to-book ratio (ME/BE) is a proxy for misvaluation, and thus predict subsequent abnormal returns (Barberis and Huang 2001, Daniel, Hirshleifer, and Subrahmanyam 2001, and Daniel, Hirshleifer, and Teoh 2002) Thus, market-to-book ratio can provide a less noisy measure of mispricing.

Following the work by Dong et al. (2006), the ME/BE is calculated as the 12-month average of market value of equity and the book value of equity. Market value of equity is measured at the end of the month. According to Baker and Wurgler (2002), book equity

is measured at the end of the prior fiscal year for each stock and for each month. With a positive book value, a firm's market-to-book ratio (ME/BE) is a positive measure of valuation and increasing in price. However, when a firm has a negative book value of equity, the market-to-book ratio is negative and is decreasing in price. It therefore becomes an inverse measure of valuation (Dong et al. 2006). Following Dong et al. (2006r), a firm with a negative market-to-book ratio (positive market value but negative book value) should be classified as having a high valuation. The intuition behind the measure is that a high price relative to book value indicates greater relative valuations. In this paper, firms with negative market-to-book ratios are replaced with the maximum value of the ME/BE ratio in the sample (after winsorizing P/B at 1% and 99%).

Acquirer's financial constraint

Acquirer's financial constraint (FIN) is defined as a variable indicating the level of acquiring firms' financial constraints when they make M&A decisions. High FIN indicates the low level of a firm's financial constraint while low FIN indicates the high level of a firm's financial constraint. As financial constraints emphasize the amount of funds that can be obtained, rather than the source of funds (Gelos and Werner 2002), ideally the flow of fund statement would have been used. However, only a handful of listed firms have a complete series of these statements. Therefore, I have to calculate flow of funds directly from a firm's profit and loss account and balance sheet. There are two main sources of funds that a firm can obtain which are from operating cash flow and liabilities.

Firstly, the operating cash flows of the firms are calculated. Operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends is used as a measure of cash flow (Lehn and Poulsen 1989, and Lang, Stulz, and Walkling 1991). The cash flow measures are normalized by the book value of assets. This is because the same dollar of cash flow has different implications for firms of different sizes (Lang et al. 1991).

Secondly, liabilities are calculated directly from the firms' balance sheet. For short term liabilities, flows and stock of liabilities are essentially the same by definition. For long-term components, the flow of this year is the difference between this year's and the previous year's stock. The stock of long-term loans will include the current portion of loan due this year because it reflects how much loan a firm actually obtains. The stock value of equity will be the sum of newly issued equity and change in paid-in capital, net of dividends. The rest of the long-term components will simply be the difference between the current year's and last year's book values. Additionally, we need to account for special cases, which necessitate crosschecking firm by firm. For instance, firms default or engage in debt restructuring, as well as face sharp depreciation, due to a shift in exchange-rate regime from fixed to floating. Furthermore, firms can also change their capital structure by issuing new equity and then retiring their existing debt contracts simultaneously. In other words, there is no new financing. Lastly, any negative flows are replaced with zero since we are only interested in net new financing.

The target's leverage ratio

According to my previous study, a target's leverage is found to be one of the main determinants of acquisition premiums, and it is crucial to control its impact on the acquiring shareholders' post-acquisition returns. A measure of a firm's leverage is calculated by dividing long-term debt by common shareholders' equity using the data from the previous fiscal year i.e. $t-1$. Sometimes, long-term debt plus preferred shareholder's equity is divided by common shareholders' equity, since preferred stock can be viewed as a form of debt. In this study, the leverage measure (liabilities to equity ratio) incorporates book values of current liabilities, long term debt, preferred stock and other long term liabilities (Billett and Ryngaert 1997). The market value of equity is calculated by taking the number of shares outstanding reported in the SET database and multiplying it by the share price of the target's stock 30 days prior to the announcement date (ibid.). All figures are adjusted for stock splits, new equity issues, stock repurchases and (where possible) acquisitions or divestitures that occur between the -30 days and +10 date and the first corporate control announcement.

$$\text{LEV} = \frac{\text{Liability}_{t-1}}{\text{MVequity}} \quad (4.10)$$

Acquirer size

Some studies argue that acquirer size has an important impact on acquisition gains. Large acquirers gain less than small acquirers since the asset base of the former is bigger and increasing its stock returns following acquisitions is more difficult. I therefore include acquirer size as a control variable. The acquirer's size is the natural log of an acquirer's equity market value two months prior to the acquisition announcement.

Acquirer's Tobin's Q- ratio

The second control variable is the acquirer's Tobin's Q-ratio. Q is measured as the market value of the acquirer's equity as of the calendar year-end prior to the acquisition announcement plus the book value of debt and preferred stock from the most recent financial statement prior to the announcement, divided by the sum of the book value of equity, debt and preferred stock as of the same date. This measure not only captures future investment opportunities but also controls for the acquirer's management quality.

Industry relatedness

Mitchell and Mulherin (1996) and Andrade et al.(2001) argue that industry factors are an important determinant of takeover activity and should be controlled for in empirical research on acquisition. An acquirer purchasing a target in a similar industry may have a better understanding of the target's business and this may affect acquisition integration and performance. If an acquirer acquired a target within the same two-digit SIC industry, this dummy variable equals to 1 or 0 otherwise.

4. 4 Empirical Results

4.4.1 Sample Description

Table 4.1 shows the distribution of tender offers for M&A activities in Thailand from 1992 to 2001. Column 2 shows the annual breakdown of the initial sample. However,

there is a clustering problem in the initial sample. Clustering problems occur when the event windows of individual acquisitions overlap (Campbell, Lo and MacKinlay 1997). Some acquirers had engaged in sequential acquisitions. The clustering may contaminate the statistic inference as one transaction is not independent from the other. In order to mitigate this problem, the initial sample is filtered by imposing the constraint that the distance between two acquisition effective dates by the same acquirer is no less than 3 years apart. If the same acquirer undertakes more than one acquisition within 3 years, only the last one is included in the sample. This leads to the restricted sample. Column 3 shows the restricted sample distribution. The sample size was reduced from 142 in the initial sample to 59 in the restricted sample. Both the initial sample and the restricted sample show that acquisitions were concentrated in the two periods between 1994 and 1995, and between 1999 and 2001, which are 2 years prior and 2 years after the Asian financial crisis in 1997.

Statistical summaries of the acquirers and targets used in the analysis are presented in Table 4.2. A list of the main characteristics is presented in column 1 while sample size is presented in column 6. The variables' means and medians are similar between the initial sample and the restricted sample. Only the mean and the median of toehold size are different. Similar to the finding in other countries³⁶, the average toehold size in the initial and restricted sample is 34.29% and 10.05% of target firms. This is due to the fact that the transaction of acquisition repurchases and acquisitions of partial or remaining interests are excluded in the restricted sample as, in these transactions, the size of the toehold is high with some being more than 50% of the target. We can see that the maximum toehold size is 74.79 for the initial sample whereas it is 49.61 in the restricted sample.

Given the statistical inference problem with the initial sample, the following analysis is based on the restricted sample.

³⁶ Average toehold size is found to be 13.63% in Australia and 10% in the UK whereas it is 4.35% in the US (Bris 2000).

In the restricted sample, the average acquirer's market capitalization is £327million (figures are rounded up) while the average target's market capitalization is £32million. The median acquirer's and target's market value are £179 and £24 million, respectively. It is worth noting that both sets of medians are lower than the means. In other words, the restricted data is positively skewed. The average Q-ratio of the acquirer is 1.34. Moreover, acquirers' sizes are 22 times bigger, on average, than those of the targets (median 6.92).

4.4.2 Univariate Analysis

The summary of descriptive statistics for the independent variables in our restricted sample is reported in Table 4.3. The sample is divided by the size of toehold: non-toehold³⁷ (58%) and toehold acquisitions (42%). On average, market to book value (2.33) and leverage (1.07) of non-toehold targets are higher than those of toehold targets (1.73 and 0.67, respectively). However, non-toehold acquirers, on average, are less financially constrained than the toehold acquirers (0.45 and 0.63, respectively). Interestingly, the average acquisition premium for non-toehold targets is statistically significantly higher than those for toehold targets (1.16 and 0.46 for non-toehold and toehold targets, respectively). In contrast, the toehold targets' stock price run-up in a six month period prior to the acquisition announcement is statistically significantly higher than non-toehold targets. Similar to the findings of Mikkelsen and Ruback (1985), that toehold purchases in takeovers create a positive valuation effect for the target firms, the average stock price run-up for toehold targets is 8.07 while it is 2.39 for the non-toehold targets. This suggests that Hypothesis 4.1 is valid in that the stock price run-up of toehold targets is higher than that of non-toehold targets.

The results in Table 4.4 show the differences between the acquisition premium and target stock price run-up of non-toehold and toehold acquisitions in different stock market conditions. In Panel A, for *non-toehold* acquisitions, it is shown that the acquisition premiums paid to targets during a high-valuation period are significantly higher than

³⁷ The acquisitions in which acquirers do not acquire targets' share prior to the acquisition announcement.

those during low-valuation periods (1.28 and 0.06, respectively). Additionally, the stock price run-up of high-valuation targets is significantly higher than those of low-valuation targets (9.70% higher). The results in Panel B show the acquisition premium and stock price run-up of the toehold acquisitions in different stock market valuations. For *toehold* acquisitions, it is found that the acquisition premiums paid to high-valuation targets is significantly higher than those paid to low-valuation targets. However, in contrast to the results for non-toehold acquisitions in Panel A, we find that acquisition premiums and stock price run-up of toehold acquisitions during high- and low-market valuation periods are not statistically different. The results suggest that acquiring a toehold raises the low-valuation targets' stock price run-up to the same level as those of the high-valuation targets.

Panel C in Table 4.4 presents the difference of acquisition premium and stock price run-up relating to non-toehold and toehold acquisitions in different stock market valuation periods. On average, it is found that *non-toehold* acquirers paid significantly higher acquisition premiums than *toehold* acquirers. However, the stock price run-up of *toehold* targets, on average, is significantly lower than that of *non-toehold* targets which suggests that Hypothesis 4.2 is valid. This finding is in line with the work of Shleifer and Vishny (1986) which concentrated ownership of Thai firms is similar to those of the firms in the study. When stock market valuation is taken into account, the same patterns still exist for only the acquisitions that occurred in high- and neutral-market valuation periods. That is, for both high- and neutral-valuation acquisitions, acquisition premiums paid by *non-toehold* acquirers is significantly higher than those paid by *toehold* acquirers, whereas the stock price run-up of *non-toehold* acquisitions is significantly higher than *toehold* acquisitions. Interestingly, for low-valuation acquisitions, the acquisition premium paid by *non-toehold* acquirers is significantly lower than those paid by *toehold* acquirers. The stock price run-up of *toehold* acquisitions is also significantly higher than those of *non-toehold* acquisitions during low-valuation periods. These results indicate that acquiring a toehold leads to a significantly higher target's stock price run-up, but it does not lower the acquisition premium as many theoretical models predict (Shleifer and Vishny 1986, Hirshleifer and Titman 1990, Choi 1991, and Shwert 1996). Although the disclosure of

the potential acquirer, and his private information regarding the target and the acquisition synergistic gains, increase the targets' share price, the potential acquirers still have to pay the acquisition premium in order to complete the acquisition. Accordingly, it could be said that due to a higher target stock price run-up, toehold acquisition appears more costly than non-toehold acquisition.

In this section, the three-year post-acquisition abnormal returns for 59 acquirers in the restricted sample from 1992 to 2001 are examined. Three benchmarking approaches are used: (1) industry-matched control portfolio, (2) size and BEME-matched control portfolio, and (3) industry, size and BEME-matched firms. $BHAR_1$ (CAR_1), $BHAR_2$ (CAR_2), and $BHAR_3$ (CAR_3) are the acquirer's abnormal returns resulting from comparison with the above benchmark portfolios, respectively.

Similar to previous M&A studies, Column 2 in Table 4.5 shows that the returns for all acquisitions in the sample of both non-toehold and toehold acquisitions are inconclusive and none of them are statistically significant. However, when the sample is divided based on the market valuation, conclusive evidence emerges. In line with my previous study, the results show that high-valuation acquirers experienced significant negative three-year CARs and BHARs relative to industry-matched (CAR_1 and $BHAR_1$), size and MEBE-matched (CAR_2 and $BHAR_2$), and industry, size and BEME -matched control portfolios (CAR_3 and $BHAR_3$). Low-valuation acquirers, on the other hand, gained positive abnormal returns regardless of whether they are non-toehold or toehold acquirers. Additionally, the results in column 6 show that, for non-toehold acquisitions, high-valuation acquirers significantly underperform low-valuation acquirers in the three-year period after the completion of the acquisitions. The same pattern exists for toehold acquirers. More interestingly, the impact of stock market valuation on the acquirers' post-acquisition performance is not very different for both non-toehold and toehold acquisitions. For non-toehold acquisitions, high-valuation acquisitions, on average, do significantly worse than low-valuations by 133.83% for $BHAR_3$ while, for toehold acquisitions, low-valuation acquisitions significantly outperform high-valuation acquisitions by 96.03%.

Table 4.6 reports the differences between three year CARs and BHARs of non-toehold and toehold acquirers. The findings in column 2 show that non-toehold acquisitions seem to outperform toehold acquisitions three-years after the acquisition. However, the difference is not statistically significant. When the market valuation is taken into consideration, it shows that non-toehold acquirers significantly outperform toehold acquirers if the acquisitions occurred during low-market valuation periods (51.86% significant at the 10% level). On average, the performances of non-toehold acquisitions during high- and neutral-valuation periods also outperform the toehold acquisitions, but the difference is not statistically significant.

According to our univariate analysis, the results suggest that acquiring a toehold prior to the acquisition announcement has a significant impact on the acquisition premium and the targets' stock price run-up, especially during low-valuation periods. Consistently, there is a significant difference between the three-year performance of non-toehold and toehold acquisitions in low-valuation periods. In other words, non-toehold acquiring shareholders significantly outperform toehold acquiring shareholders if the acquisitions occurred in low-valuation periods. The impact of toehold acquisition seems to have an insignificant impact during the high- and neutral-valuation periods. For low-valuation acquisitions then, the findings appear to support hypothesis 3.3 that toehold acquisitions underperform non-toehold acquisitions because of an increase in target stock price run-up, which is considered to be an added cost to acquiring shareholders.

4.4.3 Multivariate Analysis

So far, univariate analysis shows that if the acquisitions occur in low-valuation periods, toehold acquisitions are likely to underperform non-toehold acquisitions. However, there might be other factors which could impact on the acquirers' post-acquisition performance. In order to examine the impact of toeholds on acquirers' performance, a multivariate regression analysis is used to examine the combined effects of other explanatory variables on acquisition related value gains. Three-year BHARs of acquiring firms compared to industry, size and BEME control firms are used as dependent variables because they compare the returns with control firms of similar size, characteristics and

industry. As shown in Chapter 3, the acquisition premium is endogenously determined by the acquirer's financial constraints and the target's leverage. Therefore, the impact estimations of the acquisition premium on acquiring shareholders' BHARs by OLS will be biased. Following the methodology proposed by Campa and Kedia (2002), an instrumental variable estimation technique is applied. In order to examine the impact of toeholds on acquiring shareholders' performance, the first stage of estimation is therefore the following;

$$PREM'_{it} = \alpha_1 + \beta_1 LEV_{it} + \beta_2 FIN_{it} + r_{it} \quad (4.11)$$

where $PREM'_{it}$ is the acquisition premium, LEV_{it} is the target's leverage ratio, FIN_{it} is the acquirer's financial constraint and r_{it} represents the error terms. In the second stage, the fitted values of the acquisition premium, $PREM'_{it}$, from equation (4.11), are used as independent variables in the estimation of acquiring shareholders' abnormal returns:

$$BHAR_{it} = \alpha_2 + \beta_3 HIGH + \beta_4 LOW + \beta_5 MEBE_{it} + \beta_6 PREM'_{it} + \beta_7 TOEHOLD + \beta_8 X_{it} + e_{it} \quad (4.12)$$

where $BHAR_{it}$ is the three-year BHARs adjusted by industry, size and BEME. $HIGH$ and LOW are the market valuation dummies. $MEBE_{it}$ indicates the level of target's overvaluation and $TOEHOLD$ is a toehold acquisition dummy. X_{it} is the set of control variables and e_{it} is the error term.

The results of the instrumental variables regression are presented in Table 4.7. In the first stage regression, the acquisition premium is regressed on the acquirer's financial constraint and the target's leverage. Consistent the findings in Chapter 3, both the acquirer's financial constraints and the target's leverage are highly correlated to the acquisition premium (the correlations are 0.36 and -0.47, respectively) satisfying the condition for instrumental variables, which requires that the selected instruments are highly correlated with the acquisition premium. The findings suggest that the acquirer's financial constraints and the target's leverage are determinants of acquisition premium. In the second-stage regression, where acquirers' performance (BHAR) is the dependent

variable, the results show that *toehold* acquirer performance significantly underperform *non-toehold* acquirers by 63% in the three-year period after the acquisition. This finding supports the argument of hypothesis 4.6 that toehold acquisitions underperform non-toehold acquisitions. In addition, consistent with my previous findings, a high stock market valuation and acquisition premiums have a significant negative impact on acquirers' performance, whereas acquisitions within the same industry seem to lead to a better performance than diversified acquisitions.

Since it is found that *non-toehold* acquisitions outperform *toehold* acquisitions, there might be some factors that could lead to this difference in performance. In order to investigate this difference, *non-toehold* and *toehold* acquisitions will be examined separately. According to the previous findings from the univariate analysis, the target's stock price run-up of *toehold* acquisitions are significantly higher than those of *non-toehold* acquisitions (Hypothesis 4.1) and thus, the impact of stock price run-up on acquirers' performance is examined. The two-stage least square regressions are the following:

$$PREM_{it} = \alpha_1 + \beta_1 LEV_{it} + \beta_2 FIN_{it} + r_{it} \quad (4.13)$$

$$BHAR_{it} = \alpha_2 + \beta_3 HIGH + \beta_4 LOW + \beta_5 MEBE_{it} + \beta_6 PREM'_{it} + \beta_7 RUNUP_{it} + \beta_8 X_{it} + e_{it} \quad (4.14)$$

where $PREM_{it}$ is the acquisition premium, LEV_{it} is the target's leverage ratio, FIN_{it} is the acquirer's financial constraints and r_{it} represents the error terms. In the second stage regression, $BHAR_{it}$ is the three-year BHARs adjusted by industry, size and BEME ($BHAR_3$) of *non-toehold acquirers*. $HIGH$ and LOW are the market valuation dummies. $MEBE_{it}$ indicates the level of target's overvaluation. $PREM'_{it}$, from equation (4.13), is used as an independent variable in the estimation of acquiring shareholders' abnormal returns in equation (4.14). $RUNUP_{it}$ is the target's stock price run-up. X_{it} is the set of control variables and e_{it} represents the error terms.

The results in Table 4.8 show the impact of the target's stock price run-up on the *non-toehold* acquiring shareholders' three-year performance. It is shown that the target stock price run-up has an insignificant negative impact on *non-toehold* acquisitions'

performance. The results can be interpreted to mean that stock price run-up is not considered to be an added cost to *non-toehold* acquirers' performance. For other control variables, it is shown that stock market valuation at the time of the acquisition has an impact on *non-toehold* acquisitions' performance. In addition, target market-to-book ratio and industry relatedness have significant positive effects on the acquiring shareholders' performance.

However, the equations (4.13) and (4.14) can only be applied for *non-toehold* acquisitions and not *toehold* acquisitions, since the acquisition premium and stock price run-up of *toehold* acquisitions could have endogeneity problems. Previous theoretical literature and empirical studies indicate that the size of the toehold determines the size of the acquisition premium (Hirshleifer and Titman 1990, Bulow, Huang, and Klemperer (1999), and Bris (2001)). As a result, equation (4.15) is not correctly specified in order to examine the impact of toehold size, acquisition premium, and stock price run-up on the *toehold* acquisitions' performance. Furthermore, according to several authors, the size of the toehold determines the stock price run-up³⁸ (Grossman and Hart 1980, Keown and Pinkerton 1981, Mikkelsen and Ruback 1985, Shleifer and Vishny 1986, Gupta and Misra 1989, Eysell 1990, Choi 1991, Sanders and Zdanowicz 1992, Barclay and Warner 1993, Chowdhry and Jegadeesh 1994, Schwert 1996, Ravid and Spiegel 1999, and Bris 2001). Furthermore, in order to test for the relationship between stock price run-up and the size of toehold, simultaneous equation methodology is applied. Consequently, I devise a system of equation via three-stage least squares techniques by regressing these endogenous variables on each other as well as appropriate control variables suggested in the literature. The similar simultaneous equation methodology has been employed by a number of previous studies in finance and M&A studies (Jensen, Solberg and Zorn 1992, Bris 2001, Qui 2004, Becher and Juergens 2005, and Chen 2005). The system of simultaneous equations to investigate the impacts of the size of toehold, stock price run-

³⁸ Bris (2001) found that the stock price run-ups also influence the acquirer to accumulate more toeholds. The rationale behind this behaviour is that although acquiring a toehold in the first instance could increase the stock price run-up, it is still cheaper than acquiring stock through a tender offer, or the acquirer is giving signals to target shareholders that he is committed to complete that acquisition transaction. However, due to the limitation of our small sample size, this reciprocal relationship cannot be estimated.

up, and acquisition premium on *toehold* acquiring shareholders' performance is the following:

$$RUNUP_{it} = \alpha_1 + \beta_1 TOEHOLD SIZE_{it} + \varepsilon_{it} \quad (4.15)$$

$$PREM_{it} = \alpha_2 + \beta_2 TOEHOLD SIZE_{it} + \beta_3 RUNUP_{it} + \beta_4 LEV_{it} + \beta_5 FIN_{it} + r_{it} \quad (4.16)$$

$$BHAR_{it} = \alpha_3 + \beta_5 HIGH_{it} + \beta_6 LOW_{it} + \beta_7 MEBE_{it} + \beta_8 PREM'_{it} + \beta_9 RUNUP'_{it} + \beta_{10} X_{it} + e_{it} \quad (4.17)$$

where $RUNUP_{it}$ is the target's stock price run-up and $TOEHOLD SIZE_{it}$ is the size of the toehold at announcement date. $PREM_{it}$ is the acquisition premium, X_{it} is the set of control variables, ε_{it} , μ_{it} , r_{it} , γ_{it} and e_{it} represent the error terms.

Table 4.9 reports the results from our simultaneous equation analysis. Panel A in Table 4.9 presents the results from the estimations of the simultaneous equation system. The estimates verify Hypothesis 4.1 that the size of the toehold and the target's stock price run-up are positively correlated. The results show that toehold size has a statistically significant positive impact on the target's stock price run-up at 1%. This finding is in line with many previous theoretical and empirical studies (Jensen and Ruback 1983, Mikelson and Ruback 1985, Jarrell, Brickley, and Netter 1988, Shleifer and Vishny 1986, Hirshleifer and Titman 1990, Barclay and Warner 1993, and Bris 2001). Our explanation for this relationship is that acquiring a toehold increases the possibility of a successful takeover and, hence, leads to an increase in the target's stock price. For the control variables, the findings show that stock market valuation has a significant impact on the target's stock price run-up. It is found that high- and low-valuation toehold targets experience a significantly higher stock price run-up than neutral-valuation toehold targets.

In Panel B, the results show that the size of toehold has an insignificant negative impact on the acquisition premium. The finding is consistent with the prediction of some theoretical models by Shleifer and Vishny (1986), Hirshleifer and Titman (1990), and

Choi (1991) who predict that the size of the toehold should be negatively related to the bid premium because of the bidder's higher bargaining power. Due to the toehold size's insignificant impact on acquisition premium, Hypothesis 4.3 is rejected.

Furthermore, consistent with Schwert's (1996) prediction, stock price run-up and acquisition premium are found to be positively correlated at the 1 % level. However, the finding is in contrast to the prediction given by the models of Shleifer and Vishny (1986), Hirshleifer and Titman (1990), and Ravid and Spiegel (1999). Consequently, Hypothesis 4.4 which predicts a negative relationship between the target's stock price run-up and the acquisition premium is rejected. The findings could be interpreted to mean that although accumulating a toehold reveals the probability of the acquisition's success, synergistic gains from the acquisition, and the bidder's private information on the target, the stock price run-up does not lower the acquisition premium or make it disappear. This finding is consistent with the results found in Panel C, which indicate that both the acquisition premium and the stock price run-up have significant negative effects on the toehold acquiring shareholders' three-year performance (at the 1% level). For *toehold* acquisitions, the findings suggest that an increase in the target price is considered an added cost to the acquirers. In other words, the target stock price run-up could be an explanation for the underperformance of toehold acquiring shareholders' performance. Hypothesis 4.5 is therefore verified. The results in Panel B also show that both the target's leverage and the acquirer's financing constraints have significant impacts on the acquisition premium. In Panel C, it is shown that low-valuation toehold acquirers significantly outperform neutral-valuation toehold acquirers at the 1% level, whereas a high-valuation stock market condition has an insignificant positive impact on a *toehold* acquirer's performance. Moreover, the coefficients of the other control variables are not statistically significant.

4.5 Robustness Tests

4.5.1 Different Stock Price Run-up Windows

Since Schwert (1996) calculated the stock price run-up as the cumulative abnormal return from $t=-42$ to $t=-1$ ($RUNUP_2$) trading days which is different from the one applied by Bris (2001) and used in this study, the different window stock price run-up can be used to confirm the relationship between the target's stock price and toehold size, the acquisition premium and the acquiring shareholder performance. I therefore re-estimate equations (4.15), (4.16) and (4.17) by replacing $RUNUP$ with $RUNUP_2$ and the results are shown in Table 4.10. It is shown that the significance levels were slightly affected but none of the earlier conclusions were challenged. The relationships between stock price run-up and other variables as remarked earlier are therefore robust.

4.5.2 Different Dependent Variables

Different dependent variables (i.e. abnormal returns measured by different methods and benchmarks) are used as a robustness test for establishing relationships between variables. Cumulative abnormal return (CAR) and buy-and-hold abnormal return (BHAR) have their own advantages and abnormal returns can be measured by different benchmarks. The acquiring abnormal returns are compared against three different portfolios as mentioned previously: (1) Industry matched control portfolio (CAR_1 and $BHAR_1$), (2) Size and book value of equity to its market value (BEME) (CAR_2 and $BHAR_2$), (3) Industry, size and BEME matched firm (CAR_3 and $BHAR_3$). Since $BHAR_3$ is used as a dependent in the main analysis, it is replaced by CAR_1 ($BHAR_1$), CAR_2 ($BHAR_2$) and CAR_3 in equation (4.17) in order to test for the robustness of earlier conclusions.

The results in Table 4.11, 4.12, 4.13, 4.14, and 4.15 confirm the relationships between acquisition premium, stock price run-up and acquiring shareholders' value. The acquisition premium is found to have a significant negative impact on CAR_1 , CAR_3 , and $BHAR_1$ whereas its negative impact on CAR_2 and $BHAR_2$ are statistically insignificant. Additionally, the target's stock price run-up is found to have a significant negative impact on CAR_1 , CAR_2 , $BHAR_1$, and $BHAR_2$ while its negative impact on CAR_3 is statistically

insignificant. These results verify the earlier conclusions that the acquisition premium and stock price run-up negatively affect an acquiring firm's long-term performance.

4.5.3 Additional Control Variable

As a robustness test, I also replace the acquirer's size by the relative size of the acquirer and target (RELSIZE). Rajan, Servaes, and Zingales (2000) show that as a firm becomes more diverse (measured empirically as the deviation in size across all firm subdivisions), internal capital may be misallocated within the firm due to inefficiencies that result from the battle between competing divisions for scarce capital resources. Since the integration of a relatively large target in the course of a merger is likely to accentuate the internal power struggle over capital allocation, the relative size of the acquirer and target is defined as the log acquirer's equity market value 30 days prior to the announcement date divided by the target's equity market value. RELSIZE is used as an independent variable in equation (4.17) and (4.18). In table 4.16, it is shown that the inclusion of RELSIZE does not affect the results from Table 4.9 even though there is slight difference in the significance levels.

4.6 Conclusion and Implications

Many theoretical models analyse the relationships between toeholds, the stock price run-up, the probability of takeover success, and acquisition premiums. However, there is no study which has investigated the impact of a toehold strategy on acquirers' long-run post-acquisition performance. Since the toehold strategy has been used in nearly half of all M&A transactions, it is essential to examine whether it is profitable for acquiring shareholders. The main findings in this paper indicate that toehold acquiring shareholders significantly underperform non-toehold acquiring shareholders. The underperformance is due to the target's increased stock price run-up which is considered to be an added cost to the toehold acquiring shareholders.

Similar to my previous study, the acquisition premium is found to be determined by the target's leverage and the acquirer's financing constraints. Although the findings show that acquisition premiums for toehold acquisitions are lower than for non-toehold

acquisitions, such a premium reduces both toehold and non-toehold acquiring shareholders returns. When the stock market valuation is taken into consideration, this pattern exists for only high- and neutral-valuation acquisitions. During low-valuation periods, it is found that acquisition premiums paid by *toehold* acquirers are significantly higher than premiums paid by *non-toehold* acquirers. It is difficult for the acquiring firm to identify the valuable targets; however, once a potential acquirer purchases a toehold, he reveals his private information regarding the target and, hence, attracts other potential acquirers. This induced competition could lead to a higher acquisition premium of toehold acquisitions during low-valuation periods.

The stock price run-up of toehold acquisitions is found to be significantly higher than that of non-toehold acquisitions. At the same time, it has a significant negative impact only on *toehold* acquisition performance and not on *non-toehold* acquisitions. These patterns persist when the stock market valuation effect is controlled for. The size of toehold is found to have a significant positive impact on the target's stock price run-up. The larger the size of the toehold prior to the announcement, the higher is the target's stock price run-up. By acquiring a toehold prior to the acquisition announcement, the potential acquirer reveals their information regarding the target's valuation and signals an increase in the probability of the acquisition's success to the market – both of which lead to an increase in the target's stock price run-up. Accordingly, it is of great importance for the acquirer to control the flow of information to the market in order to minimize the acquisition cost, especially during low-valuation periods.

Interestingly, the stock price run-up is also found to have a significant positive effect on the acquisition premium. Acquiring a toehold does not give the acquirer more bargaining power over the target shareholders, or reduce the resistance of the target's management or provide the acquirer with the ability to lower the acquisition premium, as some theoretical models predict. The possible explanation for this finding could be due to the targets' ownership structure. Since Thai firms tend to comprise of one large controlling shareholder with a number of atomistic shareholders, acquiring a toehold does not provide the potential acquirer with significantly higher bargaining power. Consequently,

the findings suggest that the target's ownership structure should also be taken into account when the acquirer decides to use the toehold acquisition strategy.

This paper fundamentally shows that a toehold is costly to acquiring shareholders but beneficial to target shareholders regardless of the stock market valuations. The findings are consistent with the empirical evidence that toehold acquisitions are not widely used because, on average, it destroys acquiring shareholder's value. The findings also suggest that toehold acquisitions alert the market about the possibility of the acquisition and, hence, are beneficial to the target firms. Since acquiring a toehold provides signals to the market and other market participants about the potential bidder's private valuation of the target firms, this leads to an increase in the target's stock price. Consequently, the gap between the target's market price and its true value becomes smaller. In other words, it reduces the information asymmetry within the market at the acquiring shareholders' expense. The market could also view the stock price run-up as evidence of an increase in the value of the stand alone target. This in turn leads to an increase in the offer price. As a result, the potential acquirers need to take the effects of toeholds on these factors into account, before engaging in toehold acquisitions since it could be a value-destroying strategy to acquiring shareholders.

Chapter 5

Summary: M&A activities in Thailand and its implications to other markets.

Since half of M&A transactions in Thailand are classified as toehold acquisitions, the study of stock market driven acquisitions and toehold acquisitions allow us to understand the whole picture of M&A activities in Thailand. The M&A activities in Thailand have been driven by both factors that are common to most countries (such as economic and legislation factors) and by Thailand-specific factors (such as history, corporate governance and the stock market maturity).

Thai stock market is classified as an emerging market where it is a small market with a short operating history. The number of M&A activities in the Thai economy is relatively small in comparison to that of the American economy. Before the Asian financial crisis in 1997, similar to the merger waves occurred in other developed countries such as the US and UK, M&A activities in Thailand is found to be positively correlated to the country's economic prosperity. That is, the M&As were used as a way to eliminate excess capacity or to expand. However, after the financial crisis, M&As were a means to survive in the changing environment. The evidence shows that this phenomenon is true for other developing countries which had experienced the similar phenomenon resulted from the crisis. For example, in South Korea, its M&A market has grown sharply since the crisis in late 1997 (Jae-hong 2007).

Similar to other countries, the interactions between external and internal factors of Thai firms have shaped the characteristic of M&As in Thailand. The external factors are such as Thai economy, low stock market maturity, and weak market incentives. In addition to all the external factors, internal factors such as the corporate governance of Thai firms have also significantly influence the Thai M&A activities.

The findings of this thesis show the impact of stock market valuations at the time the acquisitions occurred on acquiring shareholders' performance of both toehold and non-toehold acquisitions. That is, high-valuation acquirers underperformed low-valuation acquirers in the long-run. The explanations of the underperformance could be explained by using both external and internal factors as followed.

Although Thai stock market is classified as an emerging market, the underperformance of the high-valuation acquirers for both toehold and non-toehold acquisitions cannot be explained by the market mis-valuation on target firms. The findings show that acquiring a target firm with a high market-to-book ratio generates positive returns to acquiring shareholders in the long-run. In other words, the high market-to-book ratio of target firms, was not resulted from the market mis-valuation but from the targets' growth opportunities and management quality which cannot be captured by an accounting measurement. Accordingly, it could be said that Thai market worked rather efficiently even though its market size is relatively small comparing to the US and the UK. This argument is also confirmed by the results found in the toehold acquisitions study. When toehold was purchased, it signalled to the market about the potential acquirers and targets and hence led to increase in the targets' stock price run-up. One might expect the different findings in other emerging markets, however, the results in this study are robust.

Interestingly, it is found that the underperformance of high-valuation acquirers (for both toehold and non-toehold acquirers) is due to acquirer's financing constraint and target's leverage. These impacts lead to overpayment on acquisitions premiums. Firms are found to be less financially constrained during economic boom. In other words, firms can access capital and debt financing more easily than in high-valuation periods whereas firms are more financially constraint during the low-valuation periods. Due to close relationships between Thai firms and banks and financial intermediaries, these relationships immensely reduce market discipline when banks issued loans to the firms, especially during the high valuation periods where both the banks and acquiring management are likely to be very optimistic about future. It greatly reduced the acquirers' financial constraints and had led to overpayment in the acquisition premium. Due to the

bank-centred system and coupled with the highly concentrated ownership structure (characterized by significant family control and interlocking shareholdings among affiliated firms), and poor minority shareholders protection, this type of corporate governance had left the insiders with excessive power to pursue their own interests at the expense of minority shareholders, creditors and other stakeholders and fail to terminate unprofitable projects. The value-destroying acquisitions during the high market valuation periods are resulted from these factors. The similar results are expected to be found in other emerging markets with weak corporate governance characteristics such as South Korea, Philippines and Indonesia.

However, for those countries with market-centred system and stronger corporate governance, the positive relationship between acquirer's financial constraint and acquisition premium is expected to exist still. Nevertheless, the degree of this impact is expected to be smaller than those in emerging markets. This is due to the fact that, during the boom periods, acquirers, banks and other financial intermediaries are likely to be optimistic about future and investment, and easily provide funds to acquirers. Yet, the level of this impact will be lesser due to better corporate governance. Under the market-centred system where the ownership structure is disperse, the decision made by firms will be viewed and evaluate by all stakeholders and the market. As a result, the unprofitable investment projects are less likely to happen due to well and better monitored system.

Despite the positive impact of acquirers' financial constraint on the acquisition premium, the target's leverage is also found to have significant negative impact on the premium. A target firms with high leverage tend to be less attractive to the potential acquirers and hence reduce their bargaining power. It is found that leverage of low-valuation targets were significantly lower than those of high-valuation targets and hence reduced their bargaining lower bargaining power. The combined effects of the acquirers' financial constraint and target's leverage lead to an overpayment on acquisition premium. Although acquiring target firms with higher growth opportunities and performance should create positive gains to high-valuation acquirers, this positive impact is smaller than the negative impact from the overpayment in both toehold and non-toehold

acquisitions. As a result, the expected strategic gains from the acquisitions were cancelled out by the overpayment of acquisition premiums and resulted in value-destroying acquisitions.

The negative impact of acquisition premium on acquirers' long-run performance which is determined by acquirers' financial constraint and target's leverage led to the underperformance of high-valuation acquirers in both toehold and non-toehold acquisitions. However, it is shown that the acquisition cost in toehold acquisitions is higher than non-toehold acquisitions. The higher cost is due to a target's stock price run-up of toehold acquirers. Acquiring toehold prior to the acquisition reveals information about the potential bidder and target, the target's valuation and the probability of a successful acquisition. Under Thai SEC regulations, if a firm or a person acquires 5% of any listed company, it is required to report to the SEC. As a result, an increase in the size of the toehold would signal the market to an increase in the probability of acquisitions and, hence, increases the stock price run-up.

In contrast to the previous literature, the findings show that acquiring toehold does not make acquisition premium disappear. This could be due to high ownership concentration of most Thai firms. The ownership structure of Thai firms comprise of one large shareholder and other atomistic shareholders. As a result, acquiring toehold does not raise the acquirers' bargaining power over the target firm and hence does not reduce the acquisition premium. This finding is contradicted to the predictions of a number of theoretical models. Since these theoretical models were mostly developed by academics in developed markets where the ownership structure is dispersed, the ownership structure and assumptions are different from the Thai specific case. However, the similar results are expected to be found in the other emerging markets with similar ownership structure. Accordingly, *toehold* acquisitions perform less well when compared to *non-toehold* acquisitions due to the significant negative impact from both acquisition premiums and stock price run-ups on acquiring shareholders' long-run returns.

The findings in this thesis suggest that both external and internal factors have significantly influence on M&A decisions and M&A performance especially impact of corporate governance and stock market conditions at the time of acquisitions. The similar impact of stock market condition on M&A decision making could be found in both developed and developing markets. However, the degree of the impact would be different varying upon specific characteristic of corporate governance and stock market maturity in particular country. In other words, the similar patterns and degree of effects are expected to find in other emerging markets with similar corporate governance as Thailand such as in Malaysia, South Korea, Philippines and Indonesia. On the other hand, in developed countries where the market is mature, the similar patterns are also expected but with a lesser effect in a varying degrees relative to those in the emerging markets.

In conclusion, the findings provide fundamental insights to acquiring and target firms, and the market that M&A activities could be used as a way to grow, expand, reduce over capacity in the market or as a means to survive. It shows that acquirers need to take the stock market valuation and corporate governance in to account when they make M& A decision which will eventually affect M&A performance.

Conclusion

This thesis sets out to investigate the impact of stock market valuations and toehold strategies on acquiring shareholders' post-acquisition performance in Thailand. At first, the history of merger waves in the United States is presented. Then, the history of the Thai stock market, corporate governance in Thailand, and Thai merger history are reviewed and discussed in comparison to those in the US. This is followed by the analysis of the effect of stock market valuations on acquiring shareholders' post-acquisition performance in Thailand. Finally, toehold acquisitions in Thailand and their impact on an acquirer's long-run gains are examined.

Chapter 1 reports the dominant merger waves in the US. There have been five major merger waves over the last 100 years. The underlying causes such as economic, financial, legislative and technological factors and their mechanisms that trigger merger waves are discussed. It is shown that the merger waves in the US are positively correlated to economic prosperity. Additionally, according to several empirical studies, M&A activities seem to generate, on average, zero or negative abnormal returns to acquiring shareholders whereas target shareholders experience significant positive abnormal returns.

Chapter 2 reviews the history of the Thai stock market, the corporate governance of Thai companies, and merger history in Thailand. The Thai stock market is considered to be an emerging market with a relatively small size. In addition, the chapter presents the main characteristics of the corporate governance of Thai firms. These interrelated characteristics are: highly concentrated ownership; high level of diversification; weak market incentives; poor protection of minority shareholders; and poor accounting standards and practices. Despite its differences in stock market development and its distinct characteristics of corporate governance, the merger activities in Thailand are found to be positively related to the country's economic boom, which is similar to the evidence in the US. However, after the Asian economic crisis in 1997, this relationship was reversed. M&A activities from 1997 until 2002 have been driven by the economic

recession. This leaves us with the interesting question of whether M&A activities, influenced by different stock market conditions (or economic conditions), generate equal gains to acquiring shareholders in different conditions.

Chapter 3 seeks to answer this question. There are very few pieces of research that have considered whether stock market valuation has any effects on acquiring shareholders' post-acquisition performance. This chapter therefore contributes to the existing literature by examining the impact of the stock market at the time of the acquisition on acquiring shareholders' post-acquisition returns. The findings are consistent with recent evidence that stock market valuation at the time of the acquisitions has a significant impact on acquiring shareholders' returns, both in the short-run and the long-run. High-valuation acquirers gain significant positive abnormal returns, whereas low-valuation acquirers experience significant negative abnormal returns during the announcement period. However, in the long-run, high-valuation acquirers are found to have significant negative abnormal returns three years after the acquisition is completed, while low-valuation acquirers gain significant positive abnormal returns. High-valuation acquirers are also found to have significantly underperformed low-valuation acquirers. It has also shown that the underperformance of high-valuation acquirers is due to the overpayment on acquisition premiums. The high agency costs in high valuation periods, resulting from firms' lesser financial constraints and the higher bargaining power of target firms, make high-valuation acquirers pay significantly higher premiums than low-valuation acquirers. Although acquiring target firms with higher growth opportunities and performance during high-valuation market periods should generate gains to acquirers, its positive impact is smaller than the negative impact from the overpayment. As a result, the expected strategic gains from the acquisitions are more than cancelled out with the overpayment of acquisition premiums and result in value-destroying acquisitions. Additionally, the findings propose that low-valuation periods could present a great opportunity for a firm to engage in a value-creating acquisition. These findings suggest that acquiring shareholders should take the impact of stock market valuation on post-acquisition gains into account when they make M&A decisions.

Empirical investigation of toehold acquisitions is reported in Chapter 4. This paper essentially shows that a toehold is costly to acquiring shareholders and is beneficial to target shareholders regardless of the stock market valuations. Toehold acquiring shareholders are found to significantly underperform non-toehold acquisition acquiring shareholders. The underperformance is due to the target's increased stock price run-up, which is considered to be an added cost to the toehold acquiring shareholders, and the negative impact of acquisition premiums. The findings reconcile with the empirical evidence the fact that toehold acquisitions are not widely used because, on average, they destroy the acquiring shareholder's value. The positive relationship between the size of the toehold and the stock price run-up also suggest that toehold acquisitions alert the market about the possibility of the acquisition and, hence, are beneficial to the target firms. Since acquiring a toehold provides signals to the market and other market participants about the potential bidder's private valuation of the target firms, this leads to an increase in the target's stock price. Consequently, the gap between the target's market price and its true value becomes smaller. In other words, it reduces the information asymmetry within the market at the acquiring shareholders' expense. The market could also view the stock price run-up as evidence of an increase in the value of the stand alone target. This in turn leads to an increase in the offer price. Thus, in order to minimize the acquisition cost, especially during low-valuation periods, it is of great importance for the acquirer to control the flow of information to the market.

However, the size of toehold is found to have an insignificant positive impact on the acquisition premium. This indicates that an increase in the stock price run-up does not necessarily reduce the acquisition premium. In other words, acquiring toeholds does not provide the potential acquirer with more bargaining power over the target firm nor reduce the target's management resistance. This could be due to the ownership structure of the target firms. As Thai companies tend to comprise of one large controlling shareholder with a number of atomistic shareholders, acquiring a toehold does not provide the potential acquirer with significantly higher bargaining power. Consequently, the findings suggest that the target's ownership structure should also be taken into account when the acquirer decides to employ the toehold acquisition strategy. As a result, the potential

acquirers need to take the effects of toeholds on these factors into account before engaging in toehold acquisitions, since it could be a value-destroying strategy to acquiring shareholders.

Lastly, Chapter 5 provides the wrap up of the impact of both external and internal factors which influence M&A decision making and hence M&A performance. The similar results are expected to be found in emerging markets with similar market development and corporate governance. The same effect is also expected to happen in developed markets, but at different degree depending upon each country specific factors.

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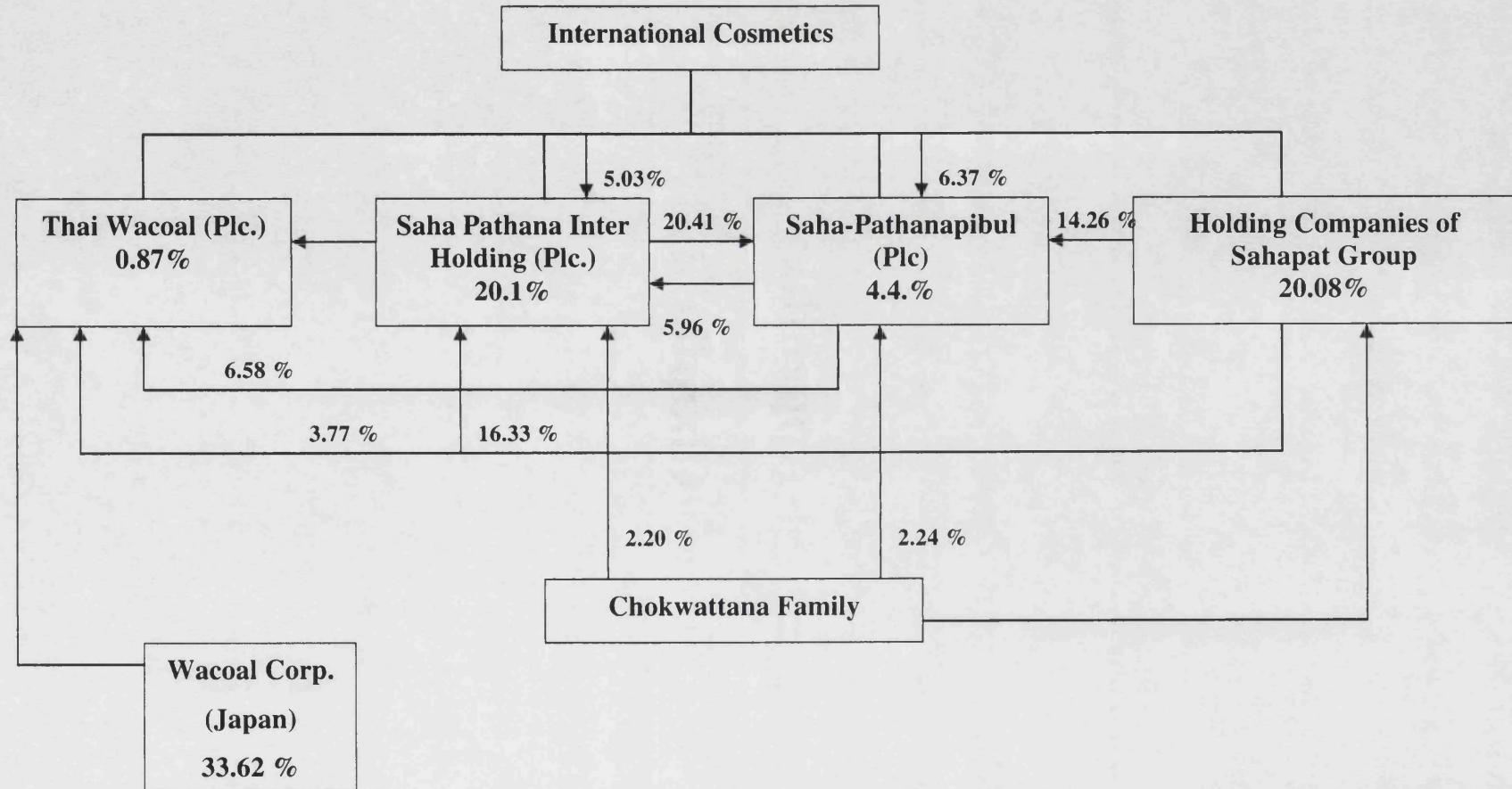
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Appendix

Chapter 2

Figure 2 International Cosmetics



Appendix

Chapter 3

Table 3.1: Sample Distributions by Calendar Year, 1992-2001

Year	Initial sample	Restricted sample
1992	12	7
1993	4	0
1994	19	5
1995	9	5
1996	3	1
1997	1	0
1998	8	4
1999	8	2
2000	10	5
2001	14	5
Total	88	34

Table 3.2: Summary Descriptive Statistics for Independent Variables

Variables	Mean	Median	Sample Size
<i>Panel A: Initial Sample</i>			
AQMV (£mil)	300.17	103.53	86
TGMV (£mil)	24.74	14.60	63
AQ Q-Ratio	2.05	1.06	76
RELSIZE	26.84	5.05	63
<i>Panel B: Restricted Sample</i>			
AQMV (£mil)	271.14	120.67	34
TGMV (£mil)	22.12	13.44	34
AQ Q-Ratio	1.52	1.04	34
RELSIZE	18.50	5.74	34

Panel A reports data for the initial sample while Panel B reports for the restricted sample. AQMV is acquirer market value of equity (in £millions) at the month end of -1 month (month 0 is announcement month). TGMV= target market value of equity (in £millions) at the month end of -1 month. The data is from the SET database. ME/BE= the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month, whereas book equity is measured at the end of the prior fiscal year for each stock and each month. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and the companies' annual reports. LEV= target's financial leverage, which is the ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month. RELSIZE= log of the ratio of acquirer market value (AQMV)/ target market value (TGMV).

Table 3.3: Short-Run Cumulative Abnormal Returns

Stock market valuation					
Event Window	All	High	Neutral	Low	Difference High-Low
[-1;+1]	-0.67 (-2.35)**	0.94 (3.14)**	-1.54 (-2.71)**	-0.81 (-3.81)***	1.44 (5.00)***
[-15; 0]	-0.41 (-0.55)	3.48 (2.77)**	-1.75 (-1.20)	-1.46 (-2.87)**	4.95 (4.24)***
[-15;+15]	-1.45 (-1.28)	4.82 (2.75)**	-4.57 (-2.09)*	-2.19 (-3.40)***	4.81 (4.41)***

This table shows short-run cumulative abnormal returns (CARs) for 34 acquisitions undergone during high, neutral and low valuation months. CARs for each firm are calculated for 5 windows: [-1; +1], [-15; 0], [-15; +15], where day 0 is the announcement day of an acquisition. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. Conventional t-statistics are provided in parentheses. * significant at the 10% level **significant at the 5% level *** significant at the 1% level

Table 3.4: Long-term CARs and BHARs of Acquirers in the Restricted Sample

Stock market valuation					
Variables	All	High	Neutral	Low	Difference of High-Low
CAR₁	0.42 (0.39)	-3.60 (-6.93)***	-1.97 (-1.39)	6.29 (3.71)***	-9.89 (-5.36)***
CAR₂	-0.12 (-0.12)	-2.82 (-2.44)***	-0.72 (-0.34)	2.89 (2.06)*	-5.70 (-3.11)***
CAR₃	0.84 (0.69)	-3.33 (-5.68)***	-0.58 (-0.25)	5.97 (3.03)***	-9.30 (-4.35)***
BHAR₁	1.51 (0.95)	-2.50 (-4.61)***	-2.05 (-0.84)	8.46 (2.72)**	-10.97 (-3.33)***
BHAR₂	-0.32 (-0.30)	-4.10 (-5.73)***	-2.89 (-2.01)*	5.51 (3.27)***	-9.61 (-5.08)***
BHAR₃	0.23 (0.12)	-3.54 (-4.36)***	-1.45 (-0.73)	5.22 (3.52)***	-8.76 (-5.05)***

The table proves the mean long-term CARs and BHARs for 34 acquirers in the restricted sample. The average returns of the benchmark portfolios were used as the expected returns for the sample firms. These benchmark portfolios are Industry matched control portfolio, Size and BEME matched control portfolio, and Industry, size and BEME matched firm. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.5: Multivariate Regression on Acquirer Short-run CARs

	Panel A: Dependent variable = CAR [-1;+1]	Panel B: Dependent variable = CAR [-1;+1]
	Coefficient (t-value)	
Intercept	-17.56 (-0.87)	-25.21 (-1.59)
SET		0.3 0.76
SET²		-2.00E-04 (-0.82)
HIGH	-8.83 (-0.63)	
LOW	3.83 (0.59)	
AQSIZE	0.46 (0.42)	4.48 (0.46)
QAQ	-0.94 (-1.50)	-1.01 (-1.61)
SAME	13.31 (2.64)***	13.26 (2.91)***
HIGH*SAME	29.44 (2.23)**	28.38 (2.50)**
LOW*SAME	-5.36 (-1.19)	-1.66 (-0.37)
F-Statistics	6.83***	5.08***
Adjusted R2	0.40	0.40
Observations	34	34

This table shows the determinants of 3-year CARs post-acquisition returns. 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms are used as dependent variables. SET= SET (Stock Exchange of Thailand) index/100. SET² = square of SET. HIGH= dummy variable indicates the acquisitions were initiated during high SET index. Low= dummy variable indicates the acquisitions were initiated during low SET index. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. RELSIZE = log of the ratio of acquirer market value (AQMV)/ target market value (TGMV). SAME= dummy variable indicates that acquirer and target were in the same industry. T-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.6: Multivariate Regression on Acquirer Three-year Industry adjusted BHARs and Industry, Size and BEME Adjusted BHARs.

	Panel A: Dependent variable = 3-year CAR	Panel B: Dependent variable = 3-year CAR	Panel C: Dependent variable = 3- year BHAR	Panel D: Dependent variable = 3- year BHAR
	Coefficient (t-value)			
Intercept	0.55	2.53	0.38	3.38
	0.67	4.39	0.29	(2.39)**
SET		-0.004		-0.006
		(-4.72)***		(-4.93)***
SET²		2.20E-06		2.72E-06
		(4.58)***		(4.34)***
HIGH	0.01		-0.13	
	0.03		(-0.44)	
LOW	0.34		0.9	
	1.12		(1.93)*	
AQSIZE	-0.05	-0.06	-0.03	-0.08
	(-0.79)	(-1.52)	(-0.38)	(-0.91)
QAQ	-0.005	0.03	-0.05	-0.006
	-0.01	0.86	(-0.75)	(-0.11)
SAME	0.1	0.03	0.46	0.31
	0.3	(-0.14)	0.92	0.82
HIGH*SAME	-0.17	-0.03	-0.21	-0.13
	-0.76	(-0.14)	(-0.72)	(-0.50)
LOW*SAME	0.02	-0.15	0.01	0.12
	0.09	(-0.66)	0.02	-0.34
F-Statistics	1.79	10.19***	3.60***	6.89***
Adjusted R2	0.19	0.6	0.45	0.62
Observations	34	34	34	34

This table shows the determinants of 3-year CARs post-acquisition returns. 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms are used as dependent variables. SET= SET (Stock Exchange of Thailand) index/100. SET² = square of SET. HIGH= dummy variable indicates the acquisitions were initiated during high SET index. Low= dummy variable indicates the acquisitions were initiated during low SET index. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. T-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.7: Summary Descriptive Statistics for Variables in Different Stock Market Conditions

Variables	Stock market valuation			High-Low (t-value)
	All	High	Low	
MEBE	2.33	3.44	2.02	1.41(2.91)***
FIN	0.46	0.76	0.17	0.59(8.46)***
LEV	1.07	0.63	1.89	-1.26(-2.70)**
PREM	1.17	1.28	0.12	1.16(3.15)***

This table shows the mean of independent variables used in the two-stage regression models. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month, whereas book equity is measured at the end of the prior fiscal year for each stock and each month. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is the ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level ***significant at the 1% level.

Table 3.8: Univariate Analysis of Acquirer Three-year CARs and BHARs Adjusted by Industry, Size, and BEME

Variables	Mean CARs	Mean BHARs	Observations
<i>Panel A: By Market Misvaluation (ME/BE)</i>			
MEBE<Median	1.67(1.07)	3.89(2.14)*	15
MEBE>Median	-1.74(-1.50)	-0.44(-0.15)	19
<i>Panel B: By Acquirer's financial constraint</i>			
FIN<Median	3.81(15.41)***	8.47(7.92)***	17
FIN>Median	-4.28(-10.01)***	-5.55(-9.56)***	17
<i>Panel C: By Target's leverage</i>			
LEV<Median	-2.61(-9.68)***	-2.58(-2.40)**	17
LEV>Median	2.13(0.18)	5.50(4.32)***	17
<i>Panel D: By Acquisition Premium</i>			
PREM<Median	4.38(4.12)***	7.59(7.48)***	17
PREM>Median	-4.86(-1.99)*	-4.66(-4.60)	17

This table shows acquirer 3-year CARs and BHARs in the restricted sample. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month, whereas book equity is measured at the end of the prior fiscal year for each stock and each month. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is the ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.9: Instrumented Variable Estimation Results of BHARs on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM'	BHAR
Intercept	1.93 (7.00)***	-2.31 (-1.38)
LEV	-0.72 (4.71)***	
HIGH		-2.29 (2.50)**
LOW		-0.41 (-0.91)
MEBE		0.27 (1.93)*
FIN		2.94 (-1.56)
QAQ		-0.06 (-0.84)
AQSIZE		0.16 (-1.52)
SAME		1.20 (2.81)***
PREM'		-1.10 (-2.69)***
F-Statistics	17.40***	4.68***
Adjusted R2	0.35	0.54
Observations	34	34

This table reports coefficients by using two-stage regression models where PREM is a dependent variable in the first-stage model and BHAR3 is a dependent variable in the second-stage model of 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms, used as dependent variables. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in the parenthesis. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 3.10: Instrumented Variable Estimation Results of BHARs on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	BHAR
Intercept	0.71 (1.64)*	-0.03 (-0.03)
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.96 (-2.85)***
LOW		-0.04 (-0.13)
MEBE		0.18 (1.76)*
QAQ		-0.07 (-1.37)
AQSIZE		0.03 (0.52)
SAME		0.75 (2.82)***
PREM		-0.44 (-3.97)***
F-Statistics	17.51***	7.95***
Adjusted R2	0.53	0.70
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and BHAR3 is a dependent variable in the second-stage model of 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms, used as dependent variables. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the detrendedde-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target were in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.11: Instrumented Variable Estimation Results of CAR₁ on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	CAR ₁
Intercept	0.71 (1.64)*	-0.83 (-1.42)
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.91 (-3.53)***
LOW		0.30 (1.16)
MEBE		0.17 (2.55)***
QAQ		-0.04 (-1.16)
AQSIZE		0.07 (1.88)*
SAME		0.01 (0.59)
PREM		-0.30 (-4.44)***
F-Statistics	17.51***	9.08***
Adjusted R2	0.53	0.78
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and CAR₁ is a dependent variable in the second-stage model. CAR₁ is 3-year CARs post-acquisition returns compared to an industry control portfolio. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.12: Instrumented Variable Estimation Results of CAR₂ on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	CAR ₂
Intercept	0.71 (1.64)*	1.36 (2.13)**
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.51 (-2.68)***
LOW		-0.40 (-1.78)*
MEBE		0.04 (0.65)
QAQ		0.02 (0.55)
AQSIZE		-0.05 (-1.30)*
SAME		-0.08 (-0.49)
PREM		-0.32 (-4.25)***
F-Statistics	17.51***	5.46***
Adjusted R2	0.53	0.66
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and CAR₂ is a dependent variable in the second-stage model. CAR₂ is 3-year CARs post-acquisition returns compared to a size and BE/ME control portfolio. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV=target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 3.13: Instrumented Variable Estimation Results of CAR₃ on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	CAR ₃
Intercept	0.71 (1.64)*	-0.48 (-0.74)**
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.75 (-2.68)***
LOW		-0.19 (-0.82)*
MEBE		0.13 (1.83)*
QAQ		-0.05 (-1.25)
AQSIZE		0.06 (1.55)
SAME		0.70 (-3.92)***
PREM		-0.42 (-5.57)***
F-Statistics	17.51***	10.71***
Adjusted R2	0.53	0.77
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and CAR₃ is a dependent variable in the second-stage model. CAR₃ is 3-year CARs post-acquisition returns compared to an industry, and size and BE/ME control portfolio. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target were in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 3.14: Instrumented Variable Estimation Results of BHAR₁ on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	BHAR ₁
Intercept	0.71 (1.64)*	-0.27 (-0.25)
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.98 (-2.55)***
LOW		-0.07 (-0.20)
MEBE		0.32 (2.73)***
QAQ		-0.06 (-0.97)
AQSIZE		0.04 (0.57)
SAME		0.25 (0.82)
PREM		-0.47 (-3.71)***
F-Statistics	17.51***	5.67***
Adjusted R2	0.53	0.61
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and BHAR₁ is a dependent variable in the second-stage model. BHAR₁ is 3-year BHARs post-acquisition returns compared to an industry control portfolio. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 3.15: Instrumented Variable Estimation Results of BHAR₂ on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	BHAR ₂
Intercept	0.71 (1.64)*	1.34 (2.47)*
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.47 (-2.49)**
LOW		0.10 (0.51)
MEBE		0.05 (0.81)
QAQ		-0.0004 (-0.01)
AQSIZE		-0.06 (-1.91)*
SAME		-0.18 (-1.21)
PREM		-0.29 (-4.59)***
F-Statistics	17.51***	13.80***
Adjusted R2	0.53	0.79
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and BHAR₂ is a dependent variable in the second-stage model. BHAR₂ is 3-year BHARs post-acquisition returns compared to a size and BE/ME control portfolio. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV=target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 3.16: Operating Performance Three-year Abnormal Return on Operating Income and Shareholder Equity

Variables	Stock Market Valuation				Difference High-Low
	All	High	Neutral	Low	
ROOI	-1.17 (-0.86)	-8.72 (-3.96)***	-1.67 (-2.85)**	6.21 4.55***	-14.94 (-5.87)***
ROE	-9.62 (-2.77)**	-29.4 (-7.41)***	-12.43 (-3.54)***	11.09 4.22***	-40.49 (-8.65)***

This table reports acquirers' average abnormal return on operating income (ROOI) and equity (ROE) three years after the completion date of the acquisition for 34 acquirers in the restricted sample. The average returns of the benchmark portfolios were used as the expected returns for the sample firms. These benchmark portfolios are Industry matched control portfolio, Size and BEME matched control portfolio, and Industry, size and BEME matched firm. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. ROOI is the ratio of operating income to total assets. ROOI= (Operating income before depreciation, amortization, and taxes + Interest income)/ Total assets. ROE is the ratio of return on shareholders' equity. ROE= Net profit/ Total shareholders' equity. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.17: Instrumented Variable Estimation Results of ROOI on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	ROOI
Intercept	0.71 (1.64)*	0.02 (0.22)*
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.11 (-4.23)**
LOW		0.01 (0.41)
MEBE		0.02 (2.35)**
QAQ		0.01 (2.44)**
AQSIZE		-0.00 (-0.01)
SAME		0.02 (0.92)
PREM		-0.03 (-2.99)***
F-Statistics	17.51***	11.84***
Adjusted R2	0.53	0.75
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and ratio of operating income to total assets (ROOI) is a dependent variable in the second-stage model. ROOI is defined as the ratio of operating income before depreciation, amortization, and taxes, plus interest income 3-year post-acquisition. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.18: Instrumented Variable Estimation Results of ROE on Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	ROE
Intercept	0.71 (1.64)*	0.0007 (0.00)
FIN	2.10 (3.43)***	
LEV	-0.47 (2.81)***	
HIGH		-0.32 (-5.57)***
LOW		0.04 (0.71)
MEBE		0.03 (1.73)*
QAQ		0.004 (0.47)**
AQSIZE		0.00 (0.01)
SAME		-0.02 (-0.49)
PREM		-0.08 (-4.45)***
F-Statistics	17.51***	18.17***
Adjusted R2	0.53	0.82
Observations	34	34

This table reports coefficients by using two-stage regression models where MEBE is a dependent variable in the first-stage model and the ratio of return on equity (ROE) is a dependent variable in the second-stage model. ROE is calculated from net profit divided by shareholder equity 3-year post-acquisition. FIN=acquirer's financial constraint, which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports and is used as an instrument for acquisition premium. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. LNAQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target was in the same industry. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 3.19: Three-year BHARs of Acquirers with the Best and Worst Pre-Event Performance

	High-Valuation Acquirers		Low-Valuation Acquirers	
	Top quintile in terms of pre-event returns	Bottom quintile in terms of pre-event returns	Top quintile in terms of pre-event returns	Bottom quintile in terms of pre-event returns
Average 6-month pre-event buy-and hold return	50.01	-17.64	46.16	23.91
Average 6-month post-event buy-and hold abnormal return	-4.03	-7.78	11.40	3.00

This table reports pre-announcement buy-and-hold returns and three-year post-announcement buy-and-hold *abnormal* returns of four categories of acquirers. Acquirers are divided into two groups i.e. high-valuation acquirers and low-valuation acquirers. The former (latter) are acquirers who engaged in acquisitions during a period of high (low) stock-market valuation. The acquired is defined as a high-valuation acquirer if the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average and is defined as a low-valuation acquirer if the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. The two groups are categorized into four categories; (i) High-valuation acquirers who had the highest six-month preannouncement buy-and-hold returns, (ii) High-valuation acquirers who had the lowest six-month pre-announcement buy-and-hold returns, (iii) Low-valuation acquirers who had the highest six-month pre-announcement buy-and-hold returns, and (iv) Low-valuation acquirers who had the lowest six-month pre-announcement buy-and-hold returns.

Appendix

Chapter 4

Table 4.1: Sample Distribution by Calendar year 1992-2001

Year	Initial sample	Restricted sample
1992	12	9
1993	9	1
1994	26	8
1995	12	8
1996	7	2
1997	6	0
1998	8	6
1999	29	4
2000	13	9
2001	20	12
Total	142	59

Table 4.2: Summary Descriptive Statistics for Independent Variables

Variables	Mean	Median	Min	Max	Sample Size
<i>Panel A: Initial Sample</i>					
TOEHOLDSIZE	34.29	24.98	0.00	74.79	142
AQMV (£mil)	326.87	179.21	123.27	512.98	142
TGMV (£mil)	44.67	20.49	9.38	147.55	117
AQ Q-Ratio	2.33	1.75	0.75	17.55	142
RELSIZE	26.81	8.64	1.78	44.31	117
<i>Panel B: Restricted Sample</i>					
TOEHOLDSIZE	10.05	0.00	0.00	49.61	59
AQMV (£mil)	282.46	161.25	123.27	435.98	59
TGMV (£mil)	32.12	23.88	10.02	139.62	59
AQ Q-Ratio	1.34	1.06	0.05	12.25	59
RELSIZE	22.12	6.92	1.78	37.58	59

Panel A reports data for the initial sample while Panel B reports for the restricted sample. TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. AQMV is acquirer market value of equity (in £millions) at the month end of -1 month (month 0 is announcement month). TGMV= target market value of equity (in £millions) at the month end of -1 month. The data is from the SET database. AQ Q-Ratio= Tobin's Q-ratio of acquirers. RELSIZE= the ratio of acquirer market value (AQMV)/ target market value (TGMV). The sample includes all the acquisition announcements identified by the Stock Exchange Commission (SEC) that took place in Thailand in the period between 1 January 1992 and 31 December 2002, for which data was available.

Table 4.3: Summary Descriptive Statistics for Independent Variables in Restricted Sample: Non-toehold and Toehold Acquisitions

Variables	Mean	Median	Min	Max	Sample Size
<i>Panel A: Non-Toehold acquisitions</i>					
MEBE	2.33	2.01	0.29	5.17	34
FIN	0.45	0.33	0.01	1.15	34
LEV	1.07	0.44	0.08	3.74	34
PREM	1.16	0.78	-0.77	4.03	34
RUNUP	2.39	4.54	-33.83	22.59	34
<i>Panel B: Toehold acquisition</i>					
MEBE	1.73	1.49	0.47	3.51	25
FIN	0.63	0.40	0.13	1.79	25
LEV	0.67	0.57	0.20	2.44	25
PREM	0.46	0.43	0.13	0.83	25
RUNUP	8.07	7.32	2.40	22.00	25

Panel A reports data for the non-toehold acquisitions sample while Panel B reports for the toehold acquisitions sample. ME/BE= the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date.

Table 4.4: Differences between Acquisition Premium and Target Stock Price Run-up of Non-toehold and Toehold acquisitions

Variables	All	High	Neutral	Low	Difference High-Low
<i>Panel A: Non-Toehold acquisitions</i>					
PREM	1.16	1.28	2.23	0.06	1.22 (3.47)***
RUNUP	2.39	7.07	3.17	-2.63	9.7 (2.40)**
<i>Panel B: Toehold acquisitions</i>					
PREM	0.46	0.66	0.45	0.35	0.31 (5.04)***
RUNUP	8.07	9.85	4.75	8.38	1.47 (-0.54)
<i>Panel C: Difference between Non-toehold and Toehold acquisitions</i>					
PREM	0.70 (2.39)**	1.04 (-1.52)	1.78 (2.23)***	-0.29 (1.81)*	
RUNUP	-5.68 (-2.63)**	-2.79 (-1.30)	-1.58 (-0.39)	-11.01 (2.87)***	

Panel A reports data for the non-toehold acquisitions sample while Panel B reports for the toehold acquisitions sample. Panel C presents the difference between the acquisition premium and the target's stock price run-up of non-toehold acquirers and of toehold acquirers in the restricted sample. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.5: Long-term CARs and BHARs of Acquirers in the Restricted Sample

Variables	All	High	Neutral	Low	Difference High-Low
<i>Panel A: Non-Toehold acquisitions</i>					
CAR₁	4.19 (0.39)	-35.98 (-6.93)***	-19.69 (-1.39)	62.92 (3.71)***	-98.89 (-5.36)***
CAR₂	-1.24 (-0.12)	-28.15 (-2.44)**	-7.20 (-0.34)	28.90 (2.06)*	-57.06 (-3.11)***
CAR₃	8.44 (0.69)	-33.30 (-5.68)***	-5.75 (-0.25)	59.72 (3.03)**	-93.03 (-4.35)***
BHAR₁	15.12 (0.95)	-33.21 (-6.69)***	-13.25 (-0.56)	66.23 (2.15)*	-109.65 (-3.33)***
BHAR₂	9.03 (0.66)	-54.39 (-7.62)***	-36.58 (-1.22)	12.02 (-0.75)	-87.63 (-4.11)***
BHAR₃	2.26 (0.12)	-49.48 (-4.36)***	-7.21 (-0.73)	83.84 (3.52)***	-133.83 (-4.73)***
<i>Panel B: Toehold acquisitions</i>					
CAR₁	4.05 (0.33)	-46.86 (-4.39)**	-35.94 (-1.58)	46.85 (3.56)**	-93.71 (-4.75)***
CAR₂	-5.94 (-0.81)	-44.09 (-5.68)***	-31.70 (-12.56)***	24.50 (4.96)***	-68.59 (-7.80)***
CAR₃	1.07 (0.12)	-42.74 (-5.03)**	-18.98 (-4.24)***	32.38 (2.98)***	-75.11 (-4.65)***
BHAR₁	9.62 (1.20)	-37.57 (-2.93)**	-40.87 (-0.55)	54.03 (2.34)**	-91.60 (-3.44)***
BHAR₂	-2.09 (-0.20)	-56.06 (-3.70)***	-43.32 (-1.29)	32.70 (1.71)	-88.76 (-3.64)***
BHAR₃	-6.81 (-0.68)	-64.04 (-6.87)**	-27.56 (-3.13)**	31.98 (3.93)***	-96.03 (-7.76)***

The table presents the mean long-term CARs and BHARs for 59 acquirers in the restricted sample. This includes 34 acquirers in the non-toehold acquisition sample and 25 acquirers in the toehold acquisition sample. The average returns of the benchmark portfolios were used as the expected returns for the sample firms. These benchmark portfolios are the Industry matched control portfolio, Size and BEME matched control portfolio, and Industry, size and BEME matched firm. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. Conventional t-statistics are provided in parentheses.

* significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.6: Differences between Non-toehold and Toehold Acquirers' Three-year CARs and BHARs

<i>Difference between Non-Toehold- Toehold acquisitions</i>				
Variables	All	High	Neutral	Low
CAR₁	0.14 (0.01)	10.88 (1.02)	16.25 (0.63)	16.07 (0.75)
CAR₂	4.70 (0.36)	15.93 (1.01)	24.50 (0.75)	4.40 (0.31)
CAR₃	7.37 (0.45)	9.44 (0.95)	13.23 (0.38)	27.35 (1.24)
BHAR₁	5.51 (0.28)	0.47 (0.06)	3.02 (0.08)	43.34 (1.40)
BHAR₂	11.12 (0.61)	18.60 (1.63)	55.57 (1.16)	4.10 (0.21)
BHAR₃	17.90 (0.88)	14.06 (1.18)	20.34 (0.50)	51.86 (1.95)*

The table presents the difference between the mean long-term CARs and BHARs of non-toehold acquirers and of toehold acquirers in the restricted sample. The average returns of the benchmark portfolios were used as the expected returns for the sample firms. These benchmark portfolios are the Industry matched control portfolio, Size and BEME matched control portfolio, and Industry, size and BEME matched firm. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. NEUTRAL= indicating that the acquisitions occurred in a neutral valuation month if the de-trended SET index of that month does not belong to either the top or bottom half of all de-trended SET for the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. Conventional t-statistics are provided in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.7: Instrumented Variable Estimation Results of BHARs on Toehold and Endogenous Acquisition Premium

Dependent Variable	First-stage regression	Second-stage regression
	PREM	BHAR
Intercept	0.95 (0.002)***	0.40 (0.533)
FIN	0.61 (0.085)*	
LEV	-0.47 (0.002)***	
HIGH		-0.76 (0.001)***
LOW		0.1 (0.650)
MEBE		0.11 (0.142)
TOEHOLD		-0.63 (0.000)***
QAQ		-0.03 (0.414)
AQSIZE		0.007 (0.858)
SAME		0.46 (0.003)***
PREM		-0.46 (0.000)***
F-Statistics	9.73***	11.46***
Adjusted R2	0.26	0.67
Observations	59	59

This table reports coefficients by using two-stage regression models where PREM is a dependent variable in the first-stage model and BHAR3 is a dependent variable in the second-stage model. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. BHAR= 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. TOEHOLD= dummy variable indicate that the acquisition is non-toehold or toehold acquisition. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target were in the same industry. P-values are reported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.8: Instrumented Variable Estimation Results of *Non-toehold* BHARs on Run-up and Endogenous Acquisition Premium

Non-Toehold Acquisitions		
Dependent Variable	First-stage regression PREM	Second-stage regression BHAR
Intercept	0.71 (0.107)*	0.14 (0.884)
FIN	2.10 (0.001)***	
LEV	-0.47 (0.007)***	
HIGH		-0.90 (0.012)***
LOW		-0.08 (0.827)
MEBE		0.18 (0.078)**
PREM		-0.42 (0.000)***
RUNUP		-0.01 (0.416)
QAQ		-0.08 (0.169)
AQSIZE		-0.02 (0.769)
SAME		0.76 (0.006)***
F-Statistics	17.51***	6.95***
Adjusted R2	0.53	0.71
Observations	34	34

This table reports coefficients by using two-stage regression models where PREM is a dependent variable in the first-stage model and BHAR3 is a dependent variable in the second-stage model. PREM= the acquisition price per share paid to target shareholders – the target’s share price 60 days prior to the announcement date. BHAR= 3-year BHARs post-acquisition returns compared to a industry, size and BEME control firms. FIN=acquirer’s financial constraint which is equal to (operating cash flow + liabilities)/ total assets. LEV= target’s financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. The market value of equity is taken from the SET database at the month end of -1 month and is used as an instrument for acquisition premium. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target’s market value of equity and the book value of equity. Market value of equity is measured at the end of the month, whereas book equity is measured at the end of the prior fiscal year for each stock and each month. RUNUP= cumulative abnormal return of the target’s stock from t=-120 to t=-1 days relative to the announcement date. AQSIZE= log of acquirer’s size (market value of acquirer’s equity). QAQ= Tobin’s Q-ratio of acquirers. SAME= dummy variable indicates that acquirer and target were in the same industry. P-values are reported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.9: Simultaneous Equation Estimations of BHAR₃ on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	BHAR ₃
Intercept	-1.74 (0.294)	0.33 (0.000)***	0.35 (0.411)
RUNUP		0.02 (0.007)***	-0.03 (0.011)***
TOEHOLD SIZE	0.24 (0.000)***	-0.001 (-0.650)	
FIN		0.23 (0.000)***	
LEV		-0.21 (0.001)***	
HIGH	8.29 (0.000)***		0.05 (0.786)
LOW	3.40 (0.000)***		0.63 (0.000)***
MEBE			0.008 (0.894)
PREM			-1.16 (0.011)***
QAQ			0.001 (0.987)
AQSIZE			-0.003 (0.896)
SAME			0.06 (0.414)
Chi ²	45.96***	67.81***	203.90***
R ²	0.64	0.73	0.88
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns. The system is estimated using three-stage least squares (3SLS). TOEHOLD SIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. BHAR= 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.10: Simultaneous Equation Estimations of BHAR₃ on Size of Toehold, Stock Price Runup₂, and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP ₂	PREM	BHAR ₃
Intercept	0.22 (0.824)	0.29 (0.000)***	0.06 (0.887)
RUNUP ₂		0.01 (0.215)	-0.05 (0.021)**
TOEHOLDSIZE	0.11 (0.000)**	0.0004 (0.851)	
FIN		0.25 (0.000)***	
LEV		-0.14 (0.038)**	
HIGH	4.64 (0.000)***		-0.11 (0.475)
LOW	3.09 (0.000)**		0.67 (0.000)***
MEBE			0.04 (0.590)
PREM			-0.76 (0.092)*
QAQ			0.05 (0.410)
AQSIZE			0.000 (0.998)
SAME			0.08 (0.410)
Chi ²	34.04**	55.01***	176.71***
R ²	0.57	0.70	0.88
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns. The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP₂= cumulative abnormal return of the target's stock from t=-42 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. BHAR= 3-year BHARs post-acquisition returns compared to industry, size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level

Table 4.11: Simultaneous Equation Estimations of CAR_1 on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	CAR_1
Intercept	-1.82 (0.270)	0.32 (0.000)***	0.97 (0.165)
RUNUP		0.01 (0.010)***	-0.08 (0.000)***
TOEHOLDSIZE	0.24 (0.000)***	-0.0005 (0.804)	
FIN		0.24 (0.000)***	
LEV		-0.20 (0.001)***	
HIGH	8.33 (0.000)***		0.90 (0.001)***
LOW	3.40 (0.020)***		0.97 (0.000)***
MEBE			0.10 (0.338)
PREM			-2.67 (0.000)**
QAQ			-0.23 (0.021)**
AQSIZE			0.02 (0.502)
SAME			-0.15 (0.209)
χ^2	47.56***	68.20***	96.87***
R^2	0.64	0.74	0.74
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns (CAR_1). The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from $t=-120$ to $t=-1$ days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. CAR_1 = 3-year CARs post-acquisition returns compared to industry control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 4.12: Simultaneous Equation Estimations of CAR₂ on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	CAR ₂
Intercept	-1.70 (0.305)	0.33 (0.000)***	-0.18 (0.482)
RUNUP		0.02 (0.005)***	-0.02 (0.001)***
TOEHOLDSIZE	0.24 (0.000)***	-0.000 (0.637)	
FIN		0.23 (0.000)***	
LEV		-0.21 (0.001)***	
HIGH	8.27 (0.000)***		-0.06 (0.569)
LOW	3.40 (0.020)***		0.55 (0.000)***
MEBE			0.05 (0.143)
PREM			-0.001 (0.996)
QAQ			0.03 (0.856)
AQSIZE			0.001 (0.996)
SAME			0.05 (0.253)
Chi ²	45.27***	68.00***	283.13***
R ²	0.64	0.73	0.91
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns (CAR₂). The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. CAR₂= 3-year CARs post-acquisition returns compared to size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 4.13: Simultaneous Equation Estimations of CAR₃ on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	CAR ₃
Intercept	-1.70 (0.305)	0.33 (0.000)***	1.68 (0.001)***
RUNUP		0.02 (0.007)***	-0.02 (0.150)
TOEHOLDSIZE	0.24 (0.000)***	-0.0008 (0.681)	
FIN		0.23 (0.000)***	
LEV		-0.21 (0.001)***	
HIGH	8.27 (0.000)***		0.43 (0.039)**
LOW	3.40 (0.020)**		0.45 (0.000)***
MEBE			-0.01 (0.896)
PREM			-2.20 (0.000)***
QAQ			0.10 (0.202)
AQSIZE			-0.04 (0.127)
SAME			0.11 (0.229)
Chi ²	45.27***	73.44***	107.80***
R ²	0.64	0.68	0.88
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns (CAR₃). The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. CAR₃= 3-year CARs post-acquisition returns compared to industry, size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 4.14: Simultaneous Equation Estimations of BHAR₁ on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	BHAR ₁
Intercept	-1.72 (0.300)	0.33 (0.000)***	0.02 (0.960)
RUNUP		0.02 (0.005)**	-0.03 (0.001)***
TOEHOLDSIZE	0.24 (0.000)***	0.004 (0.439)	
FIN		0.23 (0.000)***	
LEV		-0.21 (0.001)***	
HIGH	8.28 (0.000)***		0.33 (0.031)**
LOW	3.40 (0.020)**		0.76 (0.000)**
MEBE			0.11 (0.046)**
PREM			-1.22 (0.005)***
QAQ			0.01 (0.800)
AQSIZE			0.01 (0.445)
SAME			0.01 (0.830)
Chi ²	45.48***	67.70***	192.32***
R ²	0.64	0.73	0.85
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns (BHAR₁). The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders - the target's share price 60 days prior to the announcement date. BHAR₁= 3-year BHARs post-acquisition returns compared to industry control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target was in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 4.15: Simultaneous Equation Estimations of BHAR₂ on Size of Toehold, Stock Price Run-up and Acquisition Premium

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	BHAR ₂
Intercept	-1.73 (0.295)	0.32 (0.000)***	-0.15 (0.693)
RUNUP		0.02 (0.009)***	-0.03 (0.001)***
TOEHOLDSIZE	0.24 (0.000)***	0.0006 (0.759)	
FIN		0.24 (0.000)***	
LEV		-0.20 (0.001)***	
HIGH	8.23 (0.000)***		0.08 (0.583)
LOW	3.40 (0.020)**		0.87 (0.000)***
MEBE			-0.001 (0.985)
PREM			-0.68 (0.080)*
QAQ			0.03 (0.605)
AQSIZE			0.001 (0.689)
SAME			0.12 (0.064)*
Chi ²	45.50***	68.30***	356.35***
R ²	0.64	0.74	0.93
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns (BHAR₂). The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. BHAR₂= 3-year BHARs post-acquisition returns compared to size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. AQSIZE= log of acquirer's size (market value of acquirer's equity). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

Table 4.16: Simultaneous Equation Estimations of BHAR₃ on Size of Toehold, Stock Price Run-up, Acquisition Premium and Relative Size of Acquirer and Target

	Panel A	Panel B	Panel C
Dependent Variable	RUNUP	PREM	BHAR ₃
Intercept	-1.73 (0.295)	0.33 (0.000)***	0.06 (0.878)
RUNUP		0.02 (0.007)***	-0.03 (0.013)***
TOEHOLDSIZE	0.24 (0.000)***	0.0009 (0.640)	
FIN		0.23 (0.000)***	
LEV		-0.21 (0.001)***	
HIGH	8.27 (0.000)***		0.03 (0.866)
LOW	3.40 (0.020)**		0.64 (0.000)***
MEBE			0.02 (0.787)
PREM			-1.25 (0.007)***
QAQ			0.01 (0.827)
RELSIZE			0.21 (0.398)
SAME			0.07 (0.367)
Chi ²	45.94***	67.82***	207.5***
R ²	0.64	0.73	0.88
Observations	25	25	25

This table presents the results from the simultaneous-equation estimation of the relationship between the acquirer's toehold, target's stock price run-up, acquisition premium, and the acquirer's 3-year abnormal returns. The system is estimated using three-stage least squares (3SLS). TOEHOLDSIZE= the percentage of common, or common equivalent, shares held by the acquirer at the time of the acquisition announcement. RUNUP= cumulative abnormal return of the target's stock from t=-120 to t=-1 days relative to the announcement date. PREM= the acquisition price per share paid to target shareholders – the target's share price 60 days prior to the announcement date. BHAR₃= 3-year BHARs post-acquisition returns compared to a industry, size and BEME control firms. FIN=acquirer's financial constraint which is equal to (operating cash flow + liabilities)/ total assets. The accounting data is from the SET database and companies' annual reports. LEV= target's financial leverage which is ratio of current liabilities + long term debt + preferred stock + other liabilities/ market value of equity. The liabilities are taken from the previous fiscal year of the acquisition year. HIGH= indicating that the acquisitions occurred in a high valuation month if the de-trended SET index of that month belongs to the top half of all de-trended SET above the past five-year average. LOW= indicating that the acquisitions occurred in a low valuation month if the de-trended SET index of that month belongs to the bottom half of all de-trended SET below the past five-year average. MEBE=the 12-month average of the target's market value of equity and the book value of equity. Market value of equity is measured at the end of the month whereas book equity is measured at the end of the prior fiscal year for each stock and each month. SAME= dummy variable indicates that acquirer and target were in the same industry. RELSIZE = log of the ratio of acquirer market value (AQMV)/ target market value (TGMV). QAQ= Tobin's Q-ratio of acquirers. P-values are ported in parentheses. * significant at the 10% level ** significant at the 5% level *** significant at the 1% level.

