Mergers and Acquisitions: Determinants of Gains to Acquirers and Targets

by

He Zhou

Submitted in accordance with the requirements for the degree of
Doctor of Philosophy

The University of Leeds
Leeds University Business School
Centre for Advanced Studies in Finance

October, 2013

Acknowledgements

I would like to express my greatest gratitude to my PhD supervisor Professor Paul Draper for his guidance, encouragement and supports throughout my PhD thesis. I would also like to take this opportunity to thank all the members of the Centre for Advanced Studies in Finance (CASIF). Thanks to Ms. Michelle Dickson for her kindness and supports. Thanks to Professor Krishna Paudyal, Professor David Hillier, Professor Phil Holmes, Dr. Iain Clacher, Dr. Qi Zhang and Mr Mathias Schott for their helpful discussions and valuable suggestions. Special thanks to my wife Wei Zhang and our parents for their love, understanding and supports.

Abstract

This thesis investigates three empirical issues in M&As. First, we test the hypothesis that corporate payout has a significant effect on acquirers' gains. We find that overall the level of corporate payout has a strong positive relationship to the abnormal returns gained by acquirers during both the announcement period and the post-acquisition period. In our sample, non-paying acquirers are small firms and outperform paying acquirers in the short run and with initial bids. Paying acquirers, on the other hand, are large firms and experience positive gains across all bids in an acquisition programme. In the long run, paying acquirers consistently outperform non-paying acquirers regardless the method that is used to estimate gains. Our study reveals that corporate payout enhances acquirers' performance especially in the long run post-acquisition period. Additionally, the gains accruing to non-paying acquirers are mainly from the market revaluation due to previous information asymmetry. Our results are consistent with previous evidence of corporate payout and robust across different deal and target characteristics.

The second empirical issue of our investigation is from the supply side of acquisitions. We test how a director and shareholder factor, a corporate factor and a market factor influence owners' decision to sell their firms and affect their gains from the sale. We find that a director's years of service, percentage of ownership held by the largest shareholder and the corporate liquidity ratio all have a negative relationship to the likelihood of the sale of the firm. For the gains from the sale, factors such as the director's job security and the industrial clustering significantly reduce the size of the premium received by the target. Our results suggest that personal consideration of wealth maximization has a dominant effect on owners' decision to sell and gains from

the sale, and the acquisition activity is significantly affected by the market environment.

The final empirical chapter of this thesis focuses on the involvement of private acquirers. We find that, on average, target shareholders receive lower premiums from private acquirers than from public acquirers. Reverse takeovers that are made by private acquirers generate the lowest premium for target shareholders. In addition, our results indicate that private acquirers may suffer less from winner's curse and market pressure, and this enhances private acquirers' control over the cost of the acquisition. Furthermore, compared to public acquirers, private acquirers are more likely to seek the cooperation from target managers, and this also explains why private acquirers on average are able to secure the deal at a lower possible price. Our findings imply that because private acquirers pay a smaller premium than ceteris paribus, we would expect takeovers by private acquirers to be more successful than takeovers by public acquirers. Therefore, the further question needs to be answered is why public acquirers pay so much.

Table of Contents

List of Tables

List of Figures

Chapter 1 Introduction

1.1 Introduction

Research into the market for corporate control during the past three decades has spent significant efforts in investigating whether mergers and acquisitions (M&As) create value for acquirers and targets, and how the value, if any, is created. A frequently asked question is that whether acquirers are better off from their acquisitions. Early studies, including Jensen and Ruback (1983), suggest that target firms gain a significant positive abnormal return while the acquirers' stocks experience insignificant abnormal performance around the announcement. This early finding of the benefits of acquisition outcome challenged the original theoretical suggestion that the intention of acquisition is to pursue growth and realise excess profits. Academics carried out a wide range of studies in attempting to answer this question. Several factors, including the mode of payment (Wansley, et al., 1983; Travlos, 1987; Loughran and Vijh, 1997; Draper and Paudyal, 1999), the size of the target (Fuller, et al., 2002; Moeller, et al., 2004), diversification (Graham, et al., 2002; Ueng and Wells, 2001), cross-border (Moeller and Schlingemann, 2005), target listed status (Chang, 1998; Ang and Kohers, 2001; Fuller, et al., 2002; Draper and Paudyal, 2006) have been identified to have a significant impact on the acquirers' gains. In addition, research studies, including Jensen (1986) and Harford (1999), find that acquisitions might be driven by managerial incentives and such acquisitions are not necessarily in the shareholders' interest. Market factors such as industrial restructuring also indicate merger activity and affect shareholders' gains (Mitchell and Mulherin, 1996; Andrade, et al., 2001).

Further investigations are worthwhile to increase our understanding of acquisition activities. First of all, Jensen (1986) suggests that managers and shareholders may have conflicting interests over the firm's cash. Managers may use the firm's resources to pursue personal benefits at the cost of the shareholders. Studies, including Harford (1999) and Carroll and Griffith (2001), suggest that the managerial incentive to use corporate cash is a main cause of acquirers engaging in bad deals. If agency costs, as suggested in the literature, are the reason that acquirers fail to gain from acquisitions, it is worth asking why such agency issues are not well managed by the acquirers. Although there is no perfect monitoring mechanism available to shareholders, corporate payout policy has been recognized as having a significant effect in monitoring managerial behaviour and improving corporate performance (DeAngelo and DeAngelo, 2006; Denis and Osobov, 2008). More importantly, Denis and Osobov (2008) suggest that cash distribution activities are more likely concentrated among mature firms. Firms that are at different stage of corporate life cycle are likely to have different performance from similar corporate activities due to various factors including information asymmetry. As acquisitions are a major corporate investment, how the corporate payout affects the acquisition performance is less well discussed.

Secondly, the majority of research studies in M&A are carried out on the assumption that acquisitions are dominated by the acquirer. It is not hard to understand why the literature about acquisitions is preoccupied with the investigation of wealth effect accruing to shareholders of acquiring firms. The evidence suggests that target shareholders experience significant gains from acquisitions so that it is not difficult to see why target shareholders are not resistant to acquisitions. However, studies including Bargeron, et al. (2008) suggest that the ownership structure of the target affects the size of the premium paid by the acquirers. Graebner and Eisenhardt (2004) find that the firm's managers have different preferences towards the sale of their

firms and can be actively looking for buyers. In spite of the fact that investment bankers encourage firms to seek acquirers and may suggest a target exit strategy, the supply side of acquisitions is not well explored.

Thirdly, conventional understanding of the acquisition outcome is mainly based on the deals made by listed acquirers. Concentration on listed acquirers is because the characteristics of listed firms are more observable. However, from the data available in the Thomson One Banker M&As database, over the past two decades in the UK, a third of the acquisitions of listed targets are made by private acquirers. Although the pros and cons of staying private are often discussed, the listing status of the acquirer and its impact on the acquisition outcome is less well investigated. Bargeron, et al. (2008) find that ownership structure can explain why private acquirers pay differently from public acquirers, their study only focuses on cash only deals. Further evidence relating to the engagement of private acquirers is required to enhance our understanding of overall acquisition activity.

To fill the gaps in the existing literature, this thesis carries out three empirical studies each of which focuses on a specific issue relating to acquisitions. In the first empirical chapter, we investigate how corporate payout policy is related to acquisition outcome. DeAngelo and DeAngelo (2006) suggest that an optimal payout ratio enables firm to have sufficient cash reserves to meet the investment requirement of potential value-enhancing projects and at the same time reduces the agency cost. Denis and Osobov (2008) suggest that dividend payout is concentrated among mature firms and provide supporting evidence for the monitoring effect of corporate payout. As we expect corporate payout policy enhances corporate performance, the main hypothesis under test in the first empirical chapter is that high payout acquirers are better off compared to other acquirers.

In the second empirical chapter, we turn our focus to the target. Graebner and Eisenhardt (2004) point out that the traditional assumption that acquisitions are initiated and dominated by acquirers may be invalid as the managers of target firms may also be active in looking for buyers. Their results, however, are difficult to generalise as they focus on 12 entrepreneurial high-tech firms and the use of the interview may lead to a biased conclusion. Our analysis is based on a larger sample, and investigates how three types of factors, including a director and shareholder factor, a corporate factor and a market factor, affect the likelihood of sale and gains from the sale.

Bargeron, et al. (2008) find that private acquirers pay less to the targets than public acquirers. To explain this underpayment by the private acquirers, Bargeron, et al. (2008) suggests that ownership structure in both acquiring and target firms has a dominant effect in determining the size of the premium paid by the acquirers. Bargeron, et al. (2008)'s study is empirically driven and focuses on cash only deals. It is still unclear whether acquisitions made by private acquirers have features that are distinguishable from acquisitions made by public acquirers. In the final empirical chapter, we test the hypothesis that private acquirers behave differently from public acquirers and the difference in the premium offered by private and public acquirers can be explained by deal, target and/or market characteristics.

The reminder of this chapter is structured as follow: section 1.2 discusses the issue, testable hypothesis and main finding of each empirical study. Section 1.3 presents the structure of the thesis.

1.2 Motivation, Objectives and Findings

Research about M&As is an ongoing process. Studies of acquisitions over the past three decades have enriched our understanding of corporate activity in the market for

corporate control. Yet, new issues are being identified, and this thesis aims to contribute to the M&A literature by providing detailed analyses of some less well explored areas.

1.2.1 Corporate Payout and Gains from Acquisitions

After Jensen (1986), many research studies have argued that managerial incentive is the main cause of acquirers engaging in value-destroying acquisitions. The conventional belief has become that the firm's cash is the centre of the agency-shareholder conflict. Many studies, including Lang, et al. (1991), Harford (1999) and Carroll and Griffith (2001), provide empirical tests of the cash flow hypothesis. They typically find a negative relationship between the level of corporate cash and acquisition performance. However, findings of how corporate cash reserves affect acquisition gains remain controversial. Ferreira and Vilela (2004) and Gregory (2005) find that a cash surplus has a positive impact on acquirers' stock performance on and after the acquisition announcement. Myers and Majluf (1984) suggest that accumulating cash is a rational behaviour according to their pecking order theory. The inconclusive findings of the effect of cash on operating performance suggests that, the agency cost related to holding corporate cash might not be as significant as has been suggested. Even if the agency cost of holding corporate cash is a main reason explaining why some acquirers fail to gain, the question remains that why do shareholders of the acquiring firms not control such costs?

We suggest that the mixed finding relating to the corporate cash effect is caused by the different nature of acquirers. An acquirer at a different life cycle stage is likely to have different cash characteristics, so that the results generated from simply investigating corporate cash levels may be misleading. Corporate payout policy should have greater explanatory power for the size of gains by acquirers. An

advantage of testing the effect of corporate payout on acquirers' gains is that corporate payout level can help to identify the corporate life cycle stage (Denis and Osobov, 2008). Because firms may have different characteristics and behave differently during different life cycle stages, investigating corporate payout policy can capture the life cycle effect on acquisition activity. Another advantage of examining corporate payout policy is its monitoring effect on managerial behaviour. Easterbrook (1984) and La Porta, et al. (2000), among others, find that corporate payout can effectively minimise agency costs and enhance the protection of shareholders' wealth. We expect paying acquirers to perform better than non-paying acquirers and high paying acquirers to perform the best[1].

Using the sample of UK acquisitions from 1991 to 2009, we carry out both univariate and multivariate analysis of how an acquirer's payout affects the acquirer's gains. We find that the corporate payout level has a significant effect on the acquirers' gains in both the short and long run. In the short run, non-paying acquirers outperform the paying acquirers. We find that this outperformance is caused by the market revaluation due to its previous information asymmetry as it only exists in the short run and with initial bids. For the subsequent bids and in the post-acquisition period, paying acquirers have a stable and better performance than the non-paying acquirers.

Our results have several implications. First, our results are consistent with the suggestion that corporate payout policy enhances corporate performance especially in the long run. Secondly, the short run performance of non-paying acquirers suggests that non-paying acquirers are more likely have higher information asymmetry than paying acquirers, and the gains accruing to non-paying acquirers are mainly from

---

[1] Paying acquirer is an acquirer that distributes the cash to the shareholders through dividend and/or repurchases for two years prior the announcement of the acquisition. A non-paying acquirer is an acquirer without any cash distribution for two years prior the announcement.

market revaluation. Thirdly, using deal and firm characteristics, our study does not reveal any supporting evidence for the hypothesis of agency problem relating to the use of cash.

1.2.2 Factors Affecting an Owner's Decision to Sell

The existing literature suggests that the target passively receives bids from an acquirer, and the size of the premium paid by an acquirer is driven by the acquirer's characteristics. However, Graebner and Eisenhardt (2004) argue that the conventional assumption that the acquisition is initiated and dominated by the acquirer can be misleading as the target may also play an active role in the acquisition process. In practice, managers/shareholders of the firm often seek advice from investment banks once the sale of the firm has been given serious consideration. There is, however, little evidence describing what factors affect the decision to sell and how these factors affect the gains from a sale to the shareholders and managers of a potential target. Graebner and Eisenhardt's (2004) investigation focuses on 12 entrepreneurial high tech firms using interviews as their primary research method. The small sample makes their findings difficult to generalise. We investigate how decisions to sell and the gains from sale are determined.

Our investigation is carried out using a sample of 306 UK target firms and 2,645 UK non-target firms within the period 2004 to 2010. We adopt both logistic analysis and multivariate regression analysis to investigate how the control variables affect both the likelihood of sale and the gains from the sale. Three types of factor are used in our tests: a director and shareholder factor is used to capture personal effects; a corporate factor is used to capture the effect of a firm's financial status; and a market factor is employed to capture macroeconomic effects. Although we do not distinguish whether the target actively looking for buyers or passively receive bids, we find that the

director and shareholder factor has a dominant role in determining the likelihood of the sale. The degree to which the directors are entrenched in the firm together with a highly concentrated ownership structure explains why some firms are reluctant to sell. In analysing the gains from the sale, the job security of the main director of the target has a large and significant effect on the selling price. The corporate liquidity of the target, its market valuation and the extent of industrial clustering also affect the size of the premium received by the target.

Although it is difficult to identify which side actually initiated the takeover, an important implication of our results is that the decision to sell the firm is largely driven by the wealth and its impact on the welfare of the decision makers. For the directors, as suggested by Jensen and Ruback (1983), the possibility of losing power, prestige and the value of organization-specific human capital after the takeover may cause the directors to act against the idea of selling the firm. However, if such concerns can be resolved, directors may be willing to cooperate with potential acquirers. This gives an acquirer advantages during the negotiation process. From the shareholders' perspective, whether to sell their control mainly depends on their risk preference and expectations of wealth maximization. An individual who is a controlling shareholder is more likely to require cash as the mode of payment due to the certainty. A corporation that is the controlling shareholder is willing to share potential synergy by accepting payment through stock issue. Our results also show that the overall acquisition activity is largely affected by the level of market valuations and industrial restructuring.

1.2.3 Acquisitions of Private Acquirers

While the listing status of the target firm has been widely examined, the existing literature on acquisitions has focused on deals made by acquirers that are public firms.

For this reason the empirical evidence is unlikely to capture the whole picture of the market for corporate control as a significant proportion of acquisitions are made by private acquirers. Bargeron, et al. (2008) suggests that the shareholders of targets of acquisitions made by private acquirers receive less than shareholders of targets acquired by public firms. They also find that the ownership structure may explain the difference in the premium paid between private and public acquirers. However, their study focuses on cash only deals and does not find strong evidence to explain why targets do not wait for public acquirers to bid in order to sell the firm at a higher price. To enhance our knowledge of the takeover behaviour of private acquirers, we carry out an empirical analysis based on a sample of UK domestic acquisitions between 2004 and 2010. The main hypothesis is whether private acquirers behave differently from public acquirers, and how deal and target characteristics may explain differences in the premium paid by acquirers.

We find that overall private acquirers pay less of a premium to targets than public acquirers. Private acquirers may have a different purpose when engaged in takeovers. The reverse takeover, for instance, is a unique type of acquisition only made by private acquirers. We also find that private acquirers may suffer less from the winner's curse and are more likely to walk away from bidding competitions. Moreover, seeking cooperation from the target is more commonly associated with private acquirers than public acquirers. Our findings reveal that private acquirers have better control over the costs of acquisitions and more flexible than public acquirers, and the average higher payment made by public acquirers is likely to be caused by contested takeovers and market pressure.

1.3 Structure of the Thesis

The structure of this thesis is as follow: Chapter 2 provides brief review of the existing literature on acquisitions, paying specific attention to the three issues investigated in this thesis. Chapter 3 provides an empirical study of how corporate payout policy affects the acquirers' gains. Chapter 4 focuses on the supply side of the acquisition and tests how the director and shareholder factor, the corporate factor and the market factor affect both the likelihood to sell and the gains from sale. Chapter 5 investigates the effect of the acquirers' listing status on the acquisition outcome. It examines whether private acquirers behave differently from public acquirers and what factors determine such differences. This thesis concludes in Chapter 6 where the main findings are summarized and future research directions are discussed.

Chapter 2 Literature Review

This chapter provides a review relating to different aspects of the M&A literature. Section 2.1 provides an overview of M&A literature focusing on the most commonly suggested causes and consequences of acquisitions, and key determinants of acquisition performance. Section 2.2 reviews the specific literature that focuses on the three investigated empirical issues of this thesis.

2.1 Overview

2.1.1 Early Findings

Acquisition is an important corporate activity. The investigations carried out by early studies focused on the economic consequence of M&As since that taking over other competitors may enhance the acquirer's monopoly power and cause imperfections in the market (Hudson, 1890; T. C, 1904). The control of economic resources, as suggested by Burns (1933), had been seen as the main motive of acquisitions. With the development of free markets and increasing competitiveness in the market, research studies during recent decades have suggested that the motive for acquisitions is not limited to the pursuit of market power, and acquisition activities have implications for various economic issues. For instance, Manne (1965) criticised the practical implication of early antitrust regulations and points out that the market for corporate control has advantages through the "lessening of wasteful bankruptcy proceedings, more efficient management of corporations, the protection afforded non-controlling corporate investors, increased mobility of capital, and generally a more efficient allocation of resources." (Manne, 1965, p119). Manne's (1965) arguments and suggestions attracted great attention. A question raised by Manne (1965) is whether acquisitions motived by the pursuit of efficiency can be distinguished from

ones that are driven by the quest for monopoly profit, and whether possible advantages resulting from the existence of the market for corporate control supported by the empirical evidence of stock performance.

Since Manne (1965), researchers have put significant effort into investigating whether acquisitions create value for acquiring and target shareholders. Manne (1965) suggested that the existence of the market for corporate control enables resources to be used in a way that enhances shareholders' wealth and the immediate effect of acquisitions is most likely to be captured by change in acquirers' and target stock prices. Hogarty (1970) investigated acquirers' investment performance by comparing the annual stock price movement of the acquirers to the industrial benchmark. He found that an acquirer on average underperformed other competitors in the industry and acquirer's stock performance is poorer than its performance measured by earnings per share (EPS). Thus, Hogarty (1970) concluded that mergers are associated with higher risk and the cause of high merger activity is the temptation of a few successful deals. Yet, Hogarty's (1970) view that mergers in general failed to create value is not shared by many academics. Lintner (1971), for instance, argued that investors do not lose from acquisitions. Lintner (1971) suggests that acquirers are more likely to be motivated by the expected improvement in economies of scale and efficiency rather than the gains from monopolization, and can also benefit from cost savings and enhanced EPS even when synergies are not expected[2]. Mandelker (1974) also provides supporting evidence that acquisition is a value-enhancing corporate activity. His study found that the return gained by acquiring shareholders on acquisitions is similar to the return generated from other investment projects with

---

[2] The bootstrapping effect occurs when high P/E acquirer takes over a low P/E target to boost EPS without any synergy created. This also questions Hogarty (1970)'s conclusion that mergers are risky investment because the acquirer's EPS performance is better than their stock price performance.

similar risk[3]. On the other hand, target shareholders gain an average abnormal return of 14 per cent in the months preceding the acquisition. Mandelker (1974) study suggests that the market for corporate control is perfectly competitive and the potential value of target's resources can be realised by acquisitions as the performance of the target prior to the acquisition is below shareholders' expectation. Additionally, Mandelker (1974) argues that because the market for corporate control enhances the efficiency of assets allocation, any effort to limit acquisition activity may lead to an inefficient economy. Similar conclusions were arrived at by Ellert's (1976) study in which the investigation focused on 205 defendant firms of antitrust complaints. Ellert's (1976) evidence is inconsistent with the hypothesis that acquisitions are motivated by pursuing monopolistic power and the pre-acquisition abnormal stock performance of the target indicates the poor management of target assets.

2.1.2 Gains to M&A Activity

The debate as to whether M&As are motivated by the expected gains from enhanced monopolistic power or the improvement in the efficiency of economic resources allocation dominates the research studies before 1980s. The key finding from these early studies is that the target stock performance is improved by acquisition, and that the development of the market for corporate control is driven by the potential value of poorly managed targets' assets. However, Jensen and Ruback (1983) point out that many previous M&A studies used the effective date of the deal as the event date of the investigation. According to Fama (1970) efficient market theory, the market is

---

[3] Langetieg (1978) find that acquirer's post-merger abnormal return is insignificantly different from zero and argue that enhancing shareholders' wealth is unlikely to be the main motive of acquisition. However, Lintner (1971) suggest that the normal return earned by acquirers on acquisition is because of the acquisition effect is already incorporated into stock price during the announcement period and no abnormal performance should be expected on effective day.

able to incorporate relevant information into stock prices once the information is available. Because the information relating to acquisition is first available to the market on the announcement date, and announcement occurs on a date prior to the effective date, any acquisition effect is unlikely to be captured or distinguished when testing stock performance on the effective date, as the stock price has been already adjusted before effective date (Jensen and Ruback, 1983)[4] [5].

The announcement effect of acquisition has been widely examined since late 1970s. Jarrell and Bradley (1980) investigate the effect of federal and state regulations on cash acquisitions and find that target shareholders gain significant abnormal returns during the period 40 days before announcement to 20 days after. They suggest that the abnormal return earned by the target is due to the high premium paid by the acquirer as the acquirer is forced to disclose specific information on the deal. Such forced disclosure effectively reduces the acquirer's informational advantage and results in a significant underperformance compared to the target. Bradley (1980) tests stock performance for both the acquiring and target firms for a period of 40 days surrounding the announcement date. The results of Bradley's (1980) study show that successful acquiring firms using a tender offer gain on average a 4.4 per cent abnormal return whilst targets outperform with an abnormal return of over 30 per cent. These findings provide evidence for the hypothesis that competition for the targets assets enhances the target operating performance. Additional studies, including Asquith and Kim (1982), Asquith, et al. (1983) and Eckbo (1983), all find that the value of target firms' increase by a large magnitude during the announcement period, and the abnormal performance of an acquirer's stock is small if not zero. Jensen and

[4] It would be more accurate to say that announcement occurs no later than effective date as many deals, especially deals that involve private firms, have announcement and effective date on the same day. However, the deals of private targets were not considered among early studies and listing status effect is discussed in latter part of current section.

[5] The announcement effect is also mentioned yet not investigated in Lintner (1971).

Ruback (1983) summarize the evidence "corporate takeovers generate positive gains, that target firm shareholders benefit, and that bidding firm shareholder do not lose" (Jensen and Ruback, 1983, p47). The empirical evidence provided by the early literature also suggests that the gains from acquisitions are created by improvements in economic efficiency. This makes the creation of market power argument less convincing.

Nevertheless, additional question still need to be answered. Bradley (1980) suggests that acquirers are unlikely to gain from the appreciation of target value. Critics on the distribution of wealth effects during the announcement period argue that target shareholders gain at the cost of acquiring shareholders. Although it may be argued that estimates using short event windows would underestimate the shareholders' wealth effect of acquisitions as the market will gradually incorporate all the information of acquisition into stock price, Asquith, et al. (1983) and Andrade, et al. (2001), among others, find that acquirers experience loss in the long run. Thus, the issue of whether acquiring shareholders gain from acquisitions, and why the gain varies across different acquisition have been widely discussed in the M&A literature.

2.1.2.1 Managerial Incentive

One suggestion as to why acquirers fail to gain is derived from Berle and Means' (1932) theory of the separation of ownership and control. The theory suggests that because the controlling group (managers/directors) of a modern corporation is separated from the owners (shareholders), the decisions may not serve the best interests of owners (Berle and Means, 1932). However, early studies focus more on managerial incentives from the point of view of the target. For instance, Jensen and Ruback (1983) suggest that, the significant gains to targets from successful acquisitions and the insignificant abnormal performance of the shares of the

unsuccessful acquisitions may indicate that target shareholders' wealth is not enhanced if the managers of targets create obstacles to successful deals. However, Jensen and Ruback (1983) also point out that management opposition to a takeover bid may lead to a higher takeover premium. This makes the managerial effect on target shareholders' wealth an empirical issue.

The managerial factor may have a more pronounced effect on acquirers. Jensen (1986) suggests that the firm's cash surplus represents the main conflict of interest between managers and shareholders, and that acquisition is the primary method for a manager to spend the firm's free cash flow to achieve personal objectives[6]. Although the issue of whether corporate cash reflects agency costs is controversial, research studies suggest various explanations as to why managers are motived to engage in certain type of acquisition which may not be favoured by shareholders. Roll (1986) argues that the high abnormal return to the shares of targets is driven by the premium paid by the acquiring firm and that such a premium does not necessarily fully reflect the potential synergy. He suggests that because acquiring managers can be subjective during the target valuation process, part of the takeover premium might be caused by valuation error and hubris. In other words, managers of acquiring firms may overestimate their ability to identify value-enhancing targets, and the overconfidence induces managers to pay a premium even if synergy is not expected by the market. Doukas and Petmezas (2007) test the overconfidence argument using a UK sample. They find that overconfident managers fail to provide abnormal returns at the level of other rational managers. Their study suggests that self-attribution of early success causes the overconfident managers to engage in subsequent deals and eventually destroys value for acquiring shareholders. Thus, self-belief may drive managers to

---

[6] Detailed discussion of agency cost of corporate cash is in section 2.2.1.

unconsciously engage in non-value-enhancing acquisitions which harm shareholder wealth.

Another well recognized managerial incentive for acquisition is the diversification of personal risk. Mann and Sicherman (1991) and Malmendier and Tate (2005), among others, suggest that managers in large corporations face significant risks as a result of their undiversified personal portfolios. In order to overcome such risk, managers may seek to diversify their personal risks using physical assets under the firm's control. Reducing risk through corporate diversification generates addition costs to shareholders since shareholders can more easily diversify risk by adjusting their portfolio to achieve their desired risk and return ratio (Hogarty, 1970). Morck, et al. (1990) also find evidence that unrelated acquisitions are eventually punished by the market. Ueng and Wells (2001) construct an incentive ratio which is the ratio between managerial compensation and ownership. They find that managers with a low incentive ratio carry out more diversified acquisitions, and the diversification produces a less negative effect when the incentive ratio is high. Aggarwal and Samwick (2003) argue that managers diversify the firm to increase their personal benefits rather than to reduce their exposure to risk, and a strong relationship between diversification and agency factor is captured by their model.

Managers are also motived to expand the firm through acquisitions as growing the firm has a direct effect on the managers' welfare and wealth. An increase in firm's size can lead to the prestige of managing a larger corporation and managers' compensation is positively affected by additional investment (Stulz, 1990; Jensen and Murphy, 1990; Hope and Thomas, 2008). Managerial incentives to pursue growth in order to enhance their personal benefit may lead to overinvestment and push the firm to grow beyond its optimal size. Excessive expansion may cause managers to invest

in non-positive net present value (NPV) projects. The effect of such agency driven expansion is that shareholders' wealth cannot be maximized. If managers have large free cash flow in hands and there is no positive NPV project available, managers are ought to reward shareholders by distributing corporate cash to shareholders through the corporate payout. Investing corporate cash in non-value-enhancing projects with shareholders foregoing the benefit from receiving corporate cash will reduce a firm's value and shareholders' expected return (Jensen, 1986).

Although shareholders can be more involved in the monitoring process and/or replace managers by implementing their rights once significant agency cost is identified, such an approach can be costly to shareholders[7]. Shleifer and Vishny (1989) suggest that managers can protect their own interests and enhance job security by entrenching themselves within the firm. Specifically, managers are motived to acquire manager-specific business lines that the manager has special knowledge in and/or is more confident to manage. Manager-specific targets enhance managers' comparative advantage and show better performance even though such targets may not be value-maximizing for the firm. Thus, entrenched managers may intentionally pursue corporate strategies that serve their best interests rather than the best interest of the shareholders. Because the targets are manager-specific, it is difficult and costly for shareholders to replace them. Hope and Thomas' (2008) result is also consistent with Shleifer and Vishny's (1989) suggestion. Hope and Thomas (2008) find that information asymmetry between managers and shareholders can cause managers to pursue excessive growth, and nondisclosure of geographic earnings weaken in the

---

[7] Jensen (1986) suggests that debt financing would increase the financial obligations and prevent managers from wasting corporate cash. DeAngelo and DeAngelo (2006) and Denis and Osobov (2008), among others, also argue that optimal payout policy can effectively reduce the cash available to managers because of the negative market reaction to dividend cut. Nevertheless, the current section focuses on motivations of managers to engage in personal-benefit seeking acquisitions.

monitoring effect and encourage managers to expand into foreign markets at significant costs to the shareholders.

2.1.2.2 Mode of Payment

Travlos (1987) argues that the share performance of acquirers' during the announcement period is mixed as empirical evidence suggests that some acquirers perform better than others. He suggests that, using Myers and Majluf's (1984) pecking order theory, different financing methods send different signals to the market, and the market reacts differently according to the information received. Thus, the payment mode of acquisitions should have a direct effect on the acquirers' stock performance on the acquisition announcement, and is able to help us understand managers' motivations for acquisitions. According to Myers and Majluf (1984), managers use cash to finance investments when they believe a firm's stock is undervalued and issue shares if they believe the firm is overvalued. Therefore, the market reacts positively to cash financing and negatively to stock financing. Travlos (1987) find that the average abnormal return for acquirers of stock deals is significantly negative due to the market perception of overvalued stock, and acquirers using cash gain normal returns due to zero NPV transaction in the competitive market for corporate control. Various studies provide supporting evidence for the effect of method of payment on acquiring gains. For instance, Draper and Paudyal (1999) investigate UK acquirers' and targets' stock performance during the announcement period and find that the mode of payment has a significant impact on shareholders' gains. Their results show that negative abnormal returns are experienced by acquirers of firms bought with stock while the stock of acquirers in cash deals does not have significant abnormal performance. Draper and Paudyal (1999) findings are consistent with pecking order theory and the competitive market for corporate control argument.

Although payment mode is identified having a significant effect on acquirers' gains, the evidence on the causes of such an effect is inconclusive. Amihud, et al. (1990) argue that the choice of financing method of acquisitions is determined by the pattern of managerial ownership. Managers who are owners of the firm prefer using cash to finance the deal as issuing stocks dilutes the control of current shareholders. This suggestion indicates that managerial ownership aligns the managerial objective with shareholders' objective and reduces the potential cost of agency conflict. In such a case, shareholding managers are likely to use a financing method that maximizes their wealth as well as retaining their control, and this behaviour will trigger a positive market reaction on stock price. The evidence provided by Amihud, et al. (1990) shows that stock deals of acquirers with low managerial ownership are associated with significant negative stock movement while the stock performance of acquirers with high managerial ownership is similar between stock deals and cash deals. A similar result is also found by Martin (1996).

An additional theory to explain why acquirers choose a certain type of payment mode is provided by Hansen (1987). Hansen (1987) suggests that the mode of payment is determined in the negotiation process and the choice of payment reflects the risk concern by acquirers. If the acquirer believes that the target has proprietary information on its firm's value, the acquirer can offer stock to avoid adverse selection. Thus, using stock to finance an acquisition is related to the consideration of risk rather than valuation. However, Hansen's (1987) study does not provide any indication as to announcement effect. If the choice of payment mode is determined by information asymmetry between acquirers and targets, we may expect a similar abnormal performance of acquirers of stock deals and cash deals as the mode of payment is not affected by the valuation and has no implication for the quality of deals. The risk transfer argument of stock payment by Hansen (1987) and similar

20

stock performance between cash acquirers and stock acquirers are provided by Fuller, et al. (2002). They find that for the deals involving of private targets which are likely to have higher information asymmetry than public targets, acquirers experience positive market reactions for both stock and cash offers[8].

2.1.2.3 Diversification

The effect of corporate diversification (or "conglomerate") on shareholders' wealth has been long investigated. Early papers including Lintner (1971) suggest that firms may seek expansion through corporate diversification and such activity does not necessary harm shareholders' wealth. Mandelker (1974) suggest that conglomerates may create additional debt capacity through acquisitions, whilst Lang and Stulz (1994) find that firms with low growth opportunities are more likely to engage in corporate diversification. The main criticism of corporate diversification relates to managerial incentives. Managers are motivated to use the firm's cash to acquire unrelated business activities in order to increase their compensation, diversify the risk of human capital and entrench themselves in the firm.

Supporting evidence for the hypothesis that diversification destroys acquiring shareholders' wealth is provided by many studies. Morck, et al. (1990) find that acquirers of focused acquisitions gain 4 per cent more than from diversified deals. Chen and Ho (2000) investigate corporate diversification using a sample of Singapore firms and find that acquirers suffer a significant loss from diversified deals especially when the level of managerial ownership is low. This confirms that value-destroying diversified deals are caused by agency problems. Draper and Paudyal (2006) find that, when the target is a listed firm, diversification has a significant negative relationship to the acquirer's announcement abnormal returns.

---

[8] Empirical evidence of target listed status is reviewed in section 2.1.2.4.

Gomes and Livdan (2004) develop an optimal diversification model and suggest that corporate diversification is a natural consequence of corporate growth and engagement in corporate diversification is to maximize the firm's value. The suggestion that diversification enhances the firm's value is not new. Matsusaka (1993) investigates the acquisition announcement effect after the conglomerate merger wave of 1960s in U.S. He found that for a sample of acquisitions in manufacturing industry during the period of 1968, 1971 and 1974, the average abnormal dollar return realised by acquirers of diversified acquisitions is around 17.5. He suggests that the market rewards diversifications especially when the acquirer retains the jobs for managers of the targets as managerial synergy can be expected. In addition, Matsusaka (1993) argues that, amongst diversified acquisitions, the reason some acquirers gain while others lose is because of the timing of acquisitions. In other words, early acquirers are likely to capture potential gains and late movers are simply followers that expect to achieve similar gains but without thorough analysis of specific deals. Further evidence is also found by Santalo and Becerra's (2008) study, in which they find that acquirers gain from diversifications if an acquirer is operating in the industry that has a few specialized competitors or small market share.

Thus, the inconclusive evidence suggests that corporate diversification (diversifying acquisitions) can either enhance or destroy shareholder wealth. Characteristics of the deal, acquirer and target can have an effect on outcomes of diversified acquisition. This makes diversification an empirical issue.

2.1.2.4 Target Listing Status

The effect of target listing status on acquirers' gains has been recognized by research studies since the 1990s. It is important to include acquisitions of private targets in investigations because the number of such acquisitions is too large to be ignored. Ang

and Kohers (2001) find that from 1984 to 1996, in the U.S., over 70 per cent of acquisitions involve private targets. Draper and Paudyal (2006) find that 88 per cent of UK acquisitions over the period of the 1980s and 1990s are acquiring private firms. Research into acquisitions of private targets can enhance our understanding of the market for corporate control. Chang (1998) investigates the return differential between acquirers of private targets and acquirers of public targets based on a sample of 281 private acquisitions and 255 public acquisitions in the 1980s. He suggests that using stock to acquire private firms should have a similar effect as the private placement of equity, and finds that acquirers gain the most when the target is a private firm and the deal is financed by stock[9]. The concentrated ownership of private targets creates a large blockholder that enhances the monitoring effects of the acquiring firm in the post-acquisition period (Chang, 1998). In addition, Ang and Kohers (2001) also find that acquirers of private targets outperform their counterparts who take over public targets. They suggest that concentrated ownership, low agency cost, and less public pressure are three main features which distinguish private targets from public targets, and such features are also major attributes for the acquirers' gains. Fuller, et al.'s (2002) study confirms the announcement effect of acquisitions of private targets, and finds that target listing status has a dominant effect on the mode of payment. Draper and Paudyal (2006) provide UK evidence for the impact of target listing status on acquirers' gains. However, they argue that the reason acquirers gain from taking over private targets could also be due to the illiquidity of private firms' assets. The illiquidity of private firms reduces their bargaining power so that owners of private targets may be willing to accept a lower price to overcome liquidity issues. The positive gains for acquirers of private targets and the suggestion of illiquidity is also

---

[9] Wruck (1989) and Hertzel and Smith (1993) find that firms gain positive abnormal when issue an announcement of private equity placement and such positive abnormal return is caused by monitoring effect of concentrated ownership.

consistent with the information asymmetry argument that private firms are less well-known to the public and the weak competition of potential acquirers also lead to a lower takeover premium. Thus, acquiring private targets is an attractive corporate strategy enhancing acquiring shareholders' wealth if the size of expected synergy is similar between private targets and comparable public targets.

2.1.2.5 Other Factors

Factors which have been identified as having a significant effect on acquirers' gains during the announcement period are not limited to the factors above. Several other factors have also been frequently tested in the M&A literature. Asquith, et al. (1983) find that acquirers gain more when taking over bigger targets. Draper and Paudyal (2006) find a positive relationship between the ratio of the deal value to the acquirer's market value and the acquirer's abnormal return during the announcement period. There are several explanations as to why bigger targets enhance acquirers' gains. Roll (1986) suggests that it requires more resources to integrate a business if the target is large corporation. This makes the market for larger targets less competitive. Draper and Paudyal (2006) point out that, even if the expected synergy can be realised, a smaller target is unlikely to have a huge impact on the acquirer's value, and thus the abnormal performance from the acquiring firm's stock is less observable.

Another size effect is identified by Moeller, et al. (2004). They find that smaller acquirers on average have better performance than large acquirers. They point out that smaller acquirers make smaller acquisitions, and smaller acquirers are more likely to take over private targets. This is consistent with the findings on the effect of target listing status. Smaller acquirers are also less likely to be exposed to agency issues, so that overpayment is less likely to occur in acquisitions by smaller acquirers. However, the better performance of smaller acquirers is not necessarily a reflection of

expected synergy. Draper and Paudyal (2008) suggest that asymmetric information is more significant between small firms and the market. Thus, the abnormal return gained by smaller acquirers during early bids may include market revaluation.

Research studies also find that the abnormal performance of acquirers' stock varies when acquirers engage in an acquisition programme. Fuller, et al. (2002) suggest that it is common for an acquirer to engage in subsequent bids. They find that the choice of payment mode varies from deal to deal and argue that the value of the acquirer's stock may not fully explain why acquirers choose one payment mode over another. Draper and Paudyal (2008) test the information asymmetry hypothesis which suggests that firms with high information asymmetry relative to the market may use acquisition announcements to reduce their information asymmetry and gain from the market revaluation. Their finding suggests that acquirers gain significant abnormal return with early bids and the observed gains diminish among subsequent bids. This supports their information asymmetry hypothesis. Doukas and Petmezas (2007) also find that self-attribution and overconfidence may cause managers to engage in multiple deals and such irrational behaviour is punished by the market.

Andrade, et al. (2001), Martynova and Renneboog (2008) and Antoniou, et al. (2008), among others, find that acquisitions happen in waves. Andrade, et al. (2001) suggest that merger waves are triggered by industrial shocks and that each merger wave is concentrated in a different industry. Martynova and Renneboog (2008) also find that the market for corporate control is more active in a positive economic and political environment. They suggest that high valuations during the early stage of each merger wave generates higher returns for investors, but herding activities carried on by irrational followers during the later stages leads to followers experiencing losses from acquisitions. The market valuation effect is confirmed by Antoniou, et al. (2008).

Their results show that the market valuation and the investor sentiment is the source of merger momentum. They find that acquirers' gain high abnormal return in the short run but such gain is reversed in the long run. This may indicate that optimistic investors set their expectations too high to be realised.

2.1.4 Operating Performance

Whilst much research focuses on the stock performance during the announcement period, studies including Healy, et al. (1992) and Devos, et al. (2009) find that the operating performance of acquiring firms improves after acquisitions. Healy, et al. (1992) investigate the operational gains from acquisitions based on the 50 largest acquisitions in the U.S. during the period of 1979 to 1984. They find that the operating cash flows of merged firms are improved in the post-merger period compared to their historical and industrial performance, and such improvements are due to the fact that the asset productivity has been increased after the merger. Heron and Lie (2002) also find that acquiring firm consistently have superior operating performance before and after acquisitions, and the post-acquisition operating performance significantly outperform firms that have similar operating performance in pre-acquisition period.

One source of such enhanced operating performance is cost saving. Firms with overlapping business can effectively eliminate extra administration costs after acquisition. The horizontal merger is an efficient approach to increasing production by combining the management teams, existing plants and R&D resources, promotion of marketing, and enhancing the branding. In addition, for vertical mergers, acquirers closer to the consumer (downstream) can take over their upstream suppliers and reduce transactional costs from price bargaining, and enhance production efficiency. Vertical mergers can increase the market power by controlling different production

stages (Comanor, 1967). Fee and Thomas (2004) provide evidence on operating cash flow improvements for horizontal merger, and suggest that downstream merging firms experience a reduction in costs of goods sold after mergers compared to the pre-merger period, and that these cost savings are generated from a decline in the operating cash flows of upstream suppliers. This finding is consistent with the notion that sources of economic gains are from increased buying power and this effect is more pronounced in relatively concentrated industries. Devos, et al. (2009) investigate the cash flows of acquiring, target and combined firms. They find that the average operating synergy is 8.83 per cent, and this figure is higher for focused deals than diversified deals. Devos, et al. (2009) confirm that operating synergies arise from cutbacks in investment costs and conclude that the market for corporate control enhances the efficiency of resource allocation. Additional studies, including Kim and Singal (1993) for the airline industry and Sapienza (2002) for the banking industry, arrive at the same conclusion.

2.2 Literature Review for Three Empirical Issues

2.2.1 Corporate Payout and Gains from Acquisitions

The investigation of the effect of payout scale on acquirers' gains is motivated by inconclusive results of the effect of corporate cash. Jensen (1986) suggests that corporate cash represents the main conflict of interest between managers and shareholders. Managers are motived to use up corporate cash to pursue their own personal interest at the expense of shareholders. Harford (1999) and Carroll and Griffith (2001), among others, confirm the suggestion that corporate cash is associated with agency costs. However, Myers and Majluf (1984) suggest that, using pecking order theory and with the existence of market imperfections, internal funds are a dominant method of corporate financing when firms make investment decision.

Cash reserves may reflect asymmetric information and serve as a buffer stock which enables the firm to pursue any value-increasing investment opportunity. Ferreira and Vilela (2004) find that firms cautiously build up their cash surplus and the level of corporate cash reserve is positively related to potential investment opportunities. Gregory's (2005) results empirically reject Jensen's (1986) free cash flow hypothesis and show that acquirers with a high level of cash reserve in pre-acquisition period generally perform better than other takeover counterparts. He also shows that this finding is significant in the long run. Moreover, a conventional finding in the M&A literature is that cash acquirers experience better stock performance during the announcement period. Loughran and Vijh (1997), Raghavendra Rau and Vermaelen (1998) and Draper and Paudyal (1999) all arrive at this conclusion.

The cash effect depends on whether corporate cash holdings reflect agency costs. If firms hold cash to pursue value-enhancing projects, then the market should display a positive reaction when firms spend cash. Otherwise, the market should punish cash spending by managers if no positive NPV project can be identified. Intention over the use of corporate cash may not be revealed until the announcement, and the mixed results generated by treating the corporate cash of different firms homogeneously can be misleading.

An investigation of a corporate payout effect on acquirers' gains has several advantages. First, corporate payout policy is seen as having a disciplinary role in monitoring agency behaviour. La Porta, et al. (2000) find that a firm's dividend policy provides legal protection to shareholders' wealth and stops managers from irrational investing. The disciplinary function of payout policy enables shareholders to force managers to disgorge cash by requiring a baseline payout ratio when no positive NPV projects can be identified. Secondly, Bhattacharya (1979) suggests that

corporate payouts function as a signal of the firm's profitability and future cash flow stream since the signalling effect of corporate payout can reduce information asymmetry between the firm and the market. Thirdly, the corporate payout level reflects a firm's life-cycle stage. DeAngelo and DeAngelo (2006) and DeAngelo, et al. (2006) suggest that firms' payouts are a response to the need to distribute free cash flow. They suggest that during the early life-cycle stage, because the fund that is required to capture future growth is higher than the fund generated, firms are unlikely to distribute any cash. However, as firms enter maturity with fewer growth opportunities and stable cash flows generated from existing projects, firms are likely to accumulate large cash reserves. In this case, shareholders are more likely to require cash distribution not only because the firm has the ability to pay, but also fewer growth opportunities and large cash reserves increase the possibility of agency issues. The life-cycle theory of corporate payout is confirmed by Denis and Osobov's (2008) study, in which they find that corporate payout is more focused among mature firms.

2.2.2 Factors Affecting an Owner's Decision to Sell

Early M&A studies indicated how managers/shareholders of target firms may influence acquisitions. Ghosh and Ruland (1998) suggest that the mode of payment can be influenced by target managers. If target managers value their influence in the merged firms or their ownership if managers are also shareholders, they would prefer stock payment over cash. In addition, Ghosh and Ruland (1998) find that managers are likely to retain their jobs if the acquisition is financed by stock. This suggests that there are managerial incentives for requesting certain type of payment.

However, the majority of the M&A literature assume that acquisitions are initiated and dominated by acquiring firms. Little evidence is available on how target managers/shareholders may determine or affect the initiation of and gain from a deal.

Graebner and Eisenhardt (2004) is the only study, to our knowledge, that investigates the seller's side of the story. Graebner and Eisenhardt (2004) criticise the common method of choosing the acquirer's stock performance as the dependent variable to measure the success of acquisition since it implicitly indicates that targets are generally less important and reluctant. Graebner and Eisenhardt (2004) "reframe acquisition as courtship, a lens emphasizing that acquisition is a process of mutual agreement between buyer and seller and encompasses timing and strategic and emotional factors, not just price"(Graebner and Eisenhardt, 2004, p367). They argue that target managers can be actively looking for potential buyers, and investigate the issue of when and to whom firm's managers sell the equity, by conducting interviews with the managers/directors of 12 high-tech entrepreneurial firms. The industries included in Graebner and Eisenhardt's (2004) investigation includes networking hardware, infrastructure software and online commerce, with three target firms and one non-target firm selected for each industry. To assure the accuracy of the information provided by managers, the sample targets must be sold within 6 months prior to being data collection. They find that 4 of the 12 firms have a proactive attitude towards being acquired, while 3 out of 12 firms oppose the idea of sale. According to their results, the common activities shared by the 4 proactive firms include producing a list of potential buyers and actively engaging in talks when a potential buyer approaches them. This finding confirms their suggestion that acquisitions can be initiated by target managers. In addition, Graebner and Eisenhardt (2004) find that strategic hurdles and personal motives significantly affect a managers' attitude towards sale. The risk associated with future growth, the need for additional funding and the need for additional resources to improve products and ramp up sales are common issues considered by the proactive firms. From the personal perspective, managers of the firms in the sample suggest that stress, fear of failure and

diversifying risk push them to the decision of sale. Furthermore, the interviews carried by Graebner and Eisenhardt (2004) also reveal that complementarity and similarity to the potential acquirers, and the culture and personal fit between acquirers and targets are also important in determining the success of acquisitions.

Graebner and Eisenhardt (2004) shed light on M&A activity from the target side. However, there are several difficulties with their study. First of all, the sample size of 12 firms and the specification of sample industries make their results difficult to generalise. Secondly, their study does not provide evidence that shows whether target managers' expectations are met in post-acquisition period. For instance, Graebner and Eisenhardt (2004) find that sales ramp-up is an issue that motivate managers to sell, but whether sales improve after the acquisition is unclear. In other words, Graebner and Eisenhardt's (2004) definition of "success" is not evidence based. Moreover, their results are based on interviews, and may generate biased conclusions. For example, when they investigate personal motives for selling firms, the interviewed managers suggest that stress and fear of failures are main factors that influence their decision. Only 2 out of 12 managers suggest that they are also motivated by potential financial gains. It is surprising that value maximization is not a top priority for the firm's leaders particularly as they are entrepreneurial with concentrated ownership. Thus, further research is required to enhance our understanding of target's side of the story.

2.2.3 Acquisitions of Private Acquirers

One criterion to classify firms is to use their listing status. The effect of target listing status on acquirers' gain has been widely tested. The investigation of listing status on acquiring firms, however, has been highly focused on public firms. Bargeron, et al. (2008) point out that acquisitions made by private acquirers are often reported and

discussed in financial press, yet there is little evidence to show whether private acquirers behave differently from public acquirers. They investigate a sample of 1,667 U.S. acquisitions made by private operating acquirers, private equity acquirers, and public operating acquirers from 1980 to 2005. They find that target shareholders receive less from private acquirers than public acquirers, and the difference in the premium paid is significant across different measure of gains. Based on the gains to the targets during the pre-acquisition period, they find that target shareholders receive 35 per cent more from public acquirers than private acquirers from the announcement to completion, and the difference increases to 63 per cent when compared to the deals made by private equity acquirers. To investigate the difference, Bargeron, et al. (2008) find that managerial ownership plays an important role in determining the size of the premium paid by acquirers. For operating acquirers, an increase in the managerial ownership of public acquiring firms tends to diminish the difference in the premium paid by public acquirers and private acquirers. They also find that the high managerial and institutional ownership of target firms has a positive relationship to the premium paid by public acquirers, but not to the premium paid by private acquirers. Such a finding implies that private acquirers, including both private operating acquirers and private equity acquirers, are more likely to proceed with the acquisition if the cooperation of target managers can be assured.

Yet, several shortfalls to Bargeron, et al.'s (2008) study can be identified. First of all, their sample only includes cash only deals. Because a significant fraction of overall acquisition activity is financed by stocks, the control over the payment mode results in a limited sample. Mode of payment has a significant effect on the gains accruing to both acquiring and target shareholders. The difference in the premium paid by public acquirers and private acquirers when the control on mode of payment is relaxed remains an open question. Secondly, the suggestion of the target managers'

cooperation is made based on the finding that private acquirers are more likely to withdraw and that completed deals made by private acquirers are more likely to involve targets with lower managerial ownership. However, they did not find any direct evidence to confirm this suggestion. Furthermore, Bargeron, et al. (2008) fail to answer the question of why the targets of acquisitions made by private acquirers do not wait for an offer from public acquirers if a higher premium can be expected. They suggest that target characteristics which are not observed in their study may be able to answer such questions. Further study is required to enhance our understanding of how the involvement of private acquirers affects outcome of acquisitions.

Chapter 3 Corporate Payout and Gains from Acquisitions

3.1 Introduction

There has been an extensive debate as to whether mergers and acquisitions are value-enhancing or value-destroying corporate activities. The literature on M&As has shown that acquirers do not make substantial gains from takeover bids in the short run and suffer a significant loss in the long run (Andrade, et al., 2001). Nevertheless, takeovers represent one of the most important and common events in the corporate sector. An important factor often taken into consideration when analysing corporate behaviour is the firm's life cycle stage. Factors, including size of the firm, level of cash flows, information asymmetry and investment options, vary as the firm grows, and corporate payout policy, as suggested by Denis and Osobov (2008), is an important indicator of the corporate life cycle stage. An important effect of corporate payout policy is to enhance corporate performance by reducing potential agency costs. It is often argued that the managers of firms with free cash flow are tempted to acquire targets with a view to empire building, even if such decisions could be costly to their shareholders (Jensen, 1986; Hope and Thomas, 2008). If insignificant positive or significant negative abnormal returns that accrue to acquiring firms are caused by agency issues, we would expect corporate payout policy in the acquiring firms to effectively minimize agency effects and improve the gains to acquirers.

This study carries out an investigation of the determinants of acquirers' gains taking payout policy into consideration. It focuses on how corporate payout policy affects acquirers' gains from acquisitions by taking the deal and firm characteristics into account. If corporate payout policy is able to improve corporate performance as we suggest, we would expect a better performance by acquirers that pay out cash to

shareholders (paying acquirers) compared to acquirers that do not pay out any cash to shareholders (non-paying acquirers) with high-paying acquirers gaining the most[10]. We find that paying acquirers underperform in the short run compared to the non-paying acquirers and outperform the non-paying acquirers in the long run. We suggest that the payout effect in the short run is caused by information asymmetry between the market and non-paying acquirers as non-paying firms are more likely to have higher information asymmetry to the market. According to our results, non-paying firms, on average, have a lower market to book ratio before the announcement date. In addition, our results on the analysis of multiple bids indicates that high abnormal returns for non-paying acquirers only exist for the initial bid and that paying acquirers gain more than non-paying acquirers during subsequent bids. These findings consist with the suggestion that the large average gain by non-paying acquirers is mainly driven by market revaluation and that paying acquirers engage more in value-enhancing deals. The long run investigation in the post-acquisition period also provides results which are consistent with our suggestion. The portfolio of the paying acquirers gains around 19 per cent more than the portfolio of the non-paying acquirers. The difference is increased when we compare portfolios of high paying against to non-paying acquirers[11]. Our results are robust to the inclusion of control variables.

Our findings suggest that corporate payout policy indicates the acquirer's life cycle stage and enhances the acquirer's gains especially in the long run. Paying acquirers

---

[10] Paying acquirers are acquirers distribute cash to shareholders over two years prior to the acquisition announcement. Non-paying acquirers are acquirers without any corporate payout over the two years prior to the announcement. High-paying and low-paying acquirers are acquirers with a high level and a low level of corporate payout, respectively. In the context of our study, the term "Paying" is equivalent to "with a non-zero payout ratio", and "Non-paying" means "without any payout policy". "High-paying" and "Low-paying" indicates the level of acquirers' payout ratios. We do not use the term "Dividend-paying acquirers" since both cash dividends and repurchases are considered.

[11] The effect is significant when using equally weighted method. When using value weighted method, the relation between payout level and acquirers' gains is less clear.

benefit from the monitoring effect of corporate payout, whilst non-paying acquirers are generally small undervalued firms and gain from the market revaluation when acquisitions are announced. This implies that synergy is not the only source of acquisition gains and the acquisition announcement reduces information asymmetry.

The chapter is organized as following: Section 2 introduces the theoretical and empirical background based on the literature review. Section 3 outlines the main hypothesis under test. Section 4 describes the data and methodologies. Section 5 contains the empirical results and discussion. The chapter is concluded in section 6.

3.2 Hypotheses developed

There are various suggestions in the literature as to how corporate payout policy affects corporate performance. La Porta, et al. (2000) find that a firm's dividend policy provides legal protection to shareholders' wealth and stops managers from making irrational investments. The disciplinary function of payout policy enables shareholders to force managers to disgorge cash by requiring a baseline payout ratio when value enhancing projects can be identified (Bhattacharyya, et al., 2008). Although different theories, including signalling theory (Bhattacharya, 1979), catering theory (Baker and Wurgler, 2004) and clientele theory (Allen, et al., 2000), explain why firms are paying out, Denis and Osobov (2008) find that agency and life-cycle theory have high explanatory power compared to other payout theories. They suggest that corporate payout is mainly by mature firms. As mature firms are more likely to accumulate cash, the agency issues can be more pronounced in such firms. Thus, the monitoring effect of corporate payout policy should be more significant for mature firms. A high payout ratio may imply that the firms are consistently performing well and successfully monitored by the market. Such features could also

indicate an ability to identify value-enhancing targets when engaging in acquisitions. Thus, we test the following hypothesis:

Hypothesis 1: Paying acquirers should outperform non-paying acquirers, and high paying acquirers should gain more than low paying acquirers.

It is ambiguous whether such a suggestion is valid when comparing paying firms with non-paying firms. Denis and Osobov (2008) suggest that non-paying firms are young firms at the early stage of the corporate life-cycle. As the market may have less information about such firms, it may expect a larger market reaction in the stock price during announcement periods by non-paying acquirers to compensate previous asymmetric information. However, if the higher abnormal return for non-paying acquirers is dominated by market revaluation, such an effect should only exist in the short run and for early bids as a result of reduced information asymmetry[12]. This is also confirmed by Draper and Paudyal's (2008) study. They find that firms that have high information asymmetry to the market would use takeover bids to attract market attention and expect gains from both market revaluation and potential synergies. Their study, however, also points out that such abnormal performance should only confine among earlier bids and decline with the number of subsequent bids. Thus, when we consider subsequent bids and extend our investigation to the long run, the short term effect could disappear or even be reversed since as more information is revealed to the market, the market may correct any possible overreaction made in the short run. Raghavendra Rau and Vermaelen (1998) also suggest that value firms, which are in the mature stage and more likely to distribute large amounts of cash, would display less overconfidence as such firms are closely monitored by the market,

---

[12] Raghavendra Rau and Vermaelen (1998) suggest that glamour acquirer effect may only significant in the first deal. Because growing firms are favoured by the market, the managers in growing firms are more easily to encounter hubris issue which is suggested by Roll (1986)

and the managers in value firms are more cautious when they make investment decisions. This leads us to the following hypothesis:

Hypothesis 2: Non-paying acquirers gain from market revaluation in the short run and with initial bids, while paying acquirers outperform non-paying acquirers in the long run and display a more stable performance for subsequent bids.

3.3 Data and Methodology

3.3.1 Data

The investigation is based on UK domestic acquisitions from the beginning of 1991 to the end of 2009. 55,054 deals are reported in the Thomson One Banker database within the required period. This study focuses on gains to acquiring firms, so that we use acquirers listed on the London Stock Exchange. The targets are either listed or unlisted firms, or unlisted subsidiaries. This leaves 9,075 deals. Further selection criteria include deal status (completed), deal value and acquirers' market value equal to or greater than £1 million[13], percentage owned after transaction must be greater than 50 per cent of the target firm, and stock price data around the announcement is available on Datastream. These criteria remove an additional 1,888 deals. Deals were also removed when no information on the mode of payment was provided. 14 deals announced on UK bank holidays and 33 announcements made during weekends were also excluded since there is no trading activity during public holidays and weekends. The final sample includes 4,465 deals announced by 1,199 acquirers.

As shown in Table 3.1, based on constant prices, the average size of an acquirer is £1,763.9 million with an average deal value of £120.9 million. The acquirer's deal to market ratio is 0.2, indicating that on average the acquirer is 5 times larger than the

---

[13] Average 1999-2000 prices.

Table 3.1 Sample Descriptive Statistics

Deal Categories	No. of Deals	Market Value of Acquirers (in £Million at 1999-2000 Prices)			Deal Value (in £Million at 1999-2000 Prices)			Deal to Market Ratio			5-day Gross Return
		Total	Mean	Median	Total	Mean	Median	Total	Mean	Median	
All	4,465	7,876,026.6	1,763.9	258.1	539,969.5	120.9	11.3	853.5	0.191	0.052	1.486%
Listed Targets	569	2,473,628.0	4,347.3	564.0	331,615.0	582.8	56.3	212.9	0.374	0.126	-0.332%
Unlisted Targets	3,896	5,402,398.6	1,386.7	237.3	208,354.5	53.5	9.6	640.5	0.164	0.049	1.751%
Cash Acquirers	2,164	5,418,947.4	2,504.1	409.0	179,978.6	83.2	12.2	220.3	0.102	0.034	1.437%
Stock Acquirers	287	331,319.7	1,154.4	133.3	132,633.7	462.1	15.7	141.3	0.492	0.184	1.258%
Mixed Acquirers	2,014	2,125,759.5	1,055.5	170.2	227,357.2	112.9	10.3	491.8	0.244	0.077	1.570%
Focused Deals	3,015	5,389,761.2	1,787.6	262.6	398,773.5	132.3	11.9	575.7	0.191	0.054	1.459%
Diversifying Deals	1,450	2,486,265.4	1,714.7	244.1	141,196.0	97.4	10.3	277.8	0.192	0.049	1.541%
Domestic Targets	2,943	2,832,820.4	962.6	185.0	257,189.6	87.4	9.4	668.3	0.227	0.065	1.561%
Foreign Targets	1,522	5,043,206.3	3,313.5	537.7	282,779.9	185.8	16.4	185.1	0.122	0.038	1.339%

Note: Acquirers are UK domiciled public firms, traded on a UK stock exchange and making acquisition bids between the beginning of 1991 and the end of 2009. The deal must be completed and both the value of deal and the market value of the acquirer 30 before the announcement must be at least 1 million sterling pounds. The value has been controlled based on 1999-2000 average price. The acquirers included in the sample must have stock price data available from Datastream and required accounting data available in Thomson One Banker. Bids announced during the weekends and UK public holidays are excluded. Bids announced within 11 days by the same acquirers are also removed. Final sample includes 4,465 deals made by 1,199 unique acquirers.

target. The sample is dominated by acquisitions of private targets (87.26%), and the average market value of acquirers for private targets is £1,386.7 million compared to £4,347.3 million for acquirers of listed targets. Cash and a mixed consideration are favoured payment methods with only 287 deals in the sample financed using stock as payment. One third of deals in the sample are focused acquisitions (acquirer andtarget are in the same industry). The average size of acquirers of foreign targets (£3,313.5 million) is more than 3 times the size of acquirers for domestic targets. On average across all takeovers, acquirers experience a 5-day gross return of 1.486 per cent[14]. Acquirers for private targets gain the most at 1.751 per cent while acquirers of listed targets have the biggest loss at -0.332 per cent.

3.3.2 Methodology

3.3.2.1 Short Term: Market-Adjusted Model

For the short term event study, we adopt the market adjusted model (Brown and Warner, 1980).

$$AR_i = R_i - R_p$$

Where AR_i is the abnormal return for stock i; R_i is the log return for stock i, and R_p is the market return. The key feature of this market-adjusted model is the assumption of a 0 constant *(α)* and coefficient of R_p *(β)* equal to 1. This study estimates cumulative abnormal returns (CAR)[15] for three conventional short term event windows of (-1, 1), (-2, 2), and (-5, 5)[16].

---

[14] The 5-day gross return is calculated as $ln(\frac{RI_{+2}}{RI_{-2}})$ where RI_{-2} is return index 2 days before the announcement and RI_{+2} is return index 2 days after.

[15] $CAR_{it} = \sum_{t=1}^{\tau} AR_{it}$

[16] Brown and Warner (1985) suggest that daily data have higher explanatory power than other low-frequency data. In addition, they point out the excess return is not only introduced on day 0. With extended event windows, the daily excess return is significantly different from 0 when each day has

3.3.2.2 Long Term: BHAR

A standard long term abnormal returns measure is buy-and-hold abnormal return (BHAR). The method measures the "average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar non-event firms" (Mitchell and Stafford, 2000, p296). The BHAR formula is presented as follow:

$$BHAR_i = \prod_{i=1}^{T}(1 + R_{i,t}) - \prod_{i=1}^{T}(1 + R_{p,t})$$

where *BHAR* are generated by holding the acquiring firm's stock long, and taking a short position in the reference portfolio. The mean BHAR is computed using a weighted average of individual BHARs,

$$\overline{BHAR} = \sum_{i=1}^{N} w_i * BHAR_i$$

and *w* is calculated both equally-weighted and value-weighted. For the value-weighted average BHAR, it is necessary to standardize the market value of each firm before calculating the weights, since otherwise the method associates heavier weights with more recent observations and relatively small weights on early observations (Mitchell and Stafford, 2000).

The most important advantage of BHAR method is that it avoids rebalancing costs. Although most calculations of return are based on the assumption of no transaction costs, these costs are significant in practice and likely to offset the potential gains.

---

the same probability to be selected. In addition, Fuller, et al. (2002) implies that a 5 day event window is sufficient to capture the event effect if it is the first announcement. Thus, the short term investigation by this study focuses on 5-day excess return.

3.3.2.3 Long Run: Calendar Time Portfolio

Another method used to investigate long term acquisition performance is a calendar time portfolio. Barber and Lyon (1997) find that the Fama-French 3 factors method used for measuring long term abnormal returns yields well-specified test statistics. In addition, Lyon, et al. (1999) suggest that, although we can assess whether sample firms gain abnormal returns over a particular horizon and reflect investors' experience, cumulative abnormal return is more suitable for answering the question of whether sample firms persistently earn excess monthly returns. Using cumulative abnormal returns, Lyon, et al. (1999) suggest that the calendar time portfolio is most appropriate for estimating long term excess performance.

Assuming the investigation period for the long run study is T years, then for each calendar month, the examined portfolio comprises firms that made an acquisition over the last T years. After the T-year holding period for a specific acquiring firm, the firm is dropped from the portfolio and recent acquirers are added into the portfolio. In other words, the calendar time portfolio is monthly rebalanced.

The calendar time portfolio method conducted in this study is based on Carhart's (1997) 4 factor model:

$$R_{pt} - R_{ft} = \alpha_i + \beta_i(R_{mt} - R_{ft}) + s_i SMB_i + h_i HML_i + u_i UMD_i + \varepsilon_i$$

where R_{pt} is portfolio return at time t; R_{ft} is the return on UK three-month treasury bill middle rate at time t; $(R_{mt} - R_{ft})$ is market premium based on FTSE ALL SHARE index; SMB_i, HML_i, and UMD_i are size, value, and momentum factor, respectively[17]. β_i, s_i, h_i, and u_i are coefficients estimated by OLS. α_i is a constant term and tests the null hypothesis of mean monthly abnormal return equal to zero. The dependent

---

[17] The data of UK Fama French 3 factors and momentum factor are downloaded from the website of Xfi Centre for Finance and Investment of Exeter Business School. Further details of portfolio construction are discussed in Gregory, et al.'s (2009) study.

variable, R_{pt} is constructed using both the equally weighted and value weighted methods.

3.3.2.4 Measure of Payout

The payout measure uses both total payout (includes dividends and repurchases) and dividend payout (cash dividends) in order to capture the effect of both recurring and nonrecurring payout. Worldscope accounting data is collected from Thomson One Banker database to calculate the two payout ratios under investigation. *Total Payout* is an industrial adjusted total-payout-to-total-asset ratio (subtracting industrial median total-payout-to-total-asset ratio from firms' level) and *Dividend Payout* is an industrial adjusted cash-dividend-to-total-asset ratio[18]. The constituent firms listed in the FBRIT, FAIM and DEADUK files in Datastream are collected to form the industrial portfolio, and the industries are classified according to Fama-French 12 industries classification. We classify high paying acquirers and low paying acquirers using the level of the payout. If the acquirer's payout level is within the fourth quartile of the sample, the acquirer is defined as a high paying acquirer; if the acquirer's payout level is within the first quartile of the sample, the acquirer is defined as a low paying acquirer[19].

3.3.2.5 Analysis

Both univariate analysis and multivariate analysis are used. The univariate analysis is to compare the mean abnormal return across different sample groups with the significance of the difference tested using *Student-t*. The multivariate analysis is based on the formula:

---

[18] The corresponding Worldscope names and codes of accounting data are as follow: Total Asset (Total Asset - #02999), Cash Dividends (Cash Dividends Paid Total - #04551), Repurchases (Common Or Preferred Redeemed, Retired, Converted, Etc. - #04751). The industrial benchmark is using median figure of specific ratio for the examined year.

[19] The payout ratio is sorted in ascending order

$$R = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where *R* is the dependent variable of buy and hold abnormal returns for the 5-day event window (3 years for the long run test). *X* is the set of independent variables. *High payout* is a dummy variable which is equal to 1 if the acquirer is classified as a high paying acquirer and 0 otherwise; *Low payout* is a dummy variable which is equal to 1 if the acquirer is classified as a low paying acquirer and 0 otherwise; *Non payout* is a dummy variable that takes the value of 1 if the acquirer is a non-paying acquirer and 0 if the acquirer is a paying acquirer; and *Payout ratio* is a numerical variable of the payout level of the sample acquirer. Additional numerical variables includes cash (*Cash flow* is calculated as corporate cash flows normalized by book value of the firm[20]; *Cash holding* is calculated as the industrial adjusted cash and cash equivalent to sales ratio[21]), *market to book ratio* (industrial adjusted market to book ratio 30 days before the announcement) and *market value* (market value of the acquirer 30 days before the announcement with the value adjusted to the average 1999-2000 price). Additional dummy variables include: *Cash only* (1 if the payment is cash, and 0 otherwise), *Stock only* (1 if the payment is stock, 0 otherwise), *Listed status* (1 if acquired firm is listed firms), *Focused deal* (1 if the deal is focused deal and 0 if the deal is diversified deal), *Domicile* (1 if the deal is domestic and 0 if the deal is cross border), *Firm size* (the market value of the acquirer 30 days before the announcement), and *Deal to market ratio* (1 if the deal to market value ratio is classified into first quartile of the sample and 0 otherwise. *Frequent acquirer* is the number of bids the acquirer announced in the previous three years. For the

---

[20] Lang et.al (1991)'s measure is calculated by Cash Flows divided by Total Asset (Total Asset - #02999). Cash Flows = EBITDA (Earnings Before Interest, Taxes, and Depreciation - #18198) - Cash Dividends (Cash Dividends Paid Total - #04551)

[21] Cash holding = Cash (Cash - #02003) / Sales (Net Sales Or Revenues - #01001, #19101, #19102, #19103, #19104), adjusted based on industrial median.

multivariate analysis, Models 1 to 3 are estimated for the whole sample, while Models 4 and 5 focus on the non-paying and all-paying groups, respectively.

3.4 Results and Discussion

3.4.1 Short Run

Payout and Acquirers' Gains in the Short Run: The payout hypothesis suggests that firms that follow a high payout policy should outperform firms that follow a low payout policy during acquisition announcement periods. High payout indicates prudent managers, better corporate governance and the disciplinary effect of the market, and such firms should experience better corporate performance. Table 3.2 displays acquirers' gains in relation to payout ratio for event windows of 3, 5, and 11 days surrounding the acquisition announcement. For all the payout measures, non-paying acquirers gain an average abnormal return of over 2 per cent (statistically significant for all three event windows). For paying acquirers, the average abnormal return is 0.990, 1.188 and 1.505 per cent for 3-, 5- and 11-day event windows, respectively. The results show a significant inverse relation between the level of payout and the size of the acquirers' abnormal returns. The higher the payout level, the lower the abnormal returns to the acquirers.

The difference in average gain between non-paying acquirers and paying acquirers is over 1 per cent for 3- and 5-day event windows, and is insignificant at 0.548 per cent for the 11-day window. The difference in acquirers' gains increases when comparing non-paying acquirers and high-paying acquirers for 3- and 5-day windows but decreases for the 11-day window.

Table 3.2 Payout and Acquirers' Gains

Panel A. Total Payout

Announcement Windows	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
3 (-1, 1) days	1.237%***	2.130%***	1.230%***	0.840%***	0.990%***	1.139%	<.0001	1.290%	0.001	0.239%	0.174
5 (-2, 2) days	1.417%***	2.246%***	1.430%***	1.078%***	1.188%***	1.058%	0.0003	1.167%	0.010	0.243%	0.295
11 (-5, 5) days	1.623%***	2.053%***	1.592%***	1.498%***	1.505%***	0.548%	0.133	0.555%	0.327	0.088%	0.816
N	4,465	968	875	876	3,497						

Panel B. Dividend Payout

Announcement Windows	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
3 (-1, 1) days	1.237%***	2.130%***	1.243%***	0.667%***	0.990%***	1.139%	<.0001	1.463%	0.0002	0.577%	0.047
5 (-2, 2) days	1.417%***	2.246%***	1.452%***	0.887%***	1.188%***	1.058%	0.0003	1.358%	0.003	0.564%	0.098
11 (-5, 5) days	1.623%***	2.053%***	1.785%***	1.182%***	1.505%***	0.548%	0.133	0.871%	0.123	0.604%	0.135
N	4,465	968	878	876	3,497						

Note: The table represents the statistics of cumulative abnormal return for 3, 5, and 11 days event window surrounding the announcements based on the level of acquirers' payout. The abnormal return is calculated based on market adjusted model, that $AR_i = R_i - R_M$ in which R_i is return of firm i and R_M is market return of FTSE All Share. The payout variables which are examined are: *Total payout* is industrial adjusted total payout to total asset ratio, *Dividend payout* is industrial adjusted cash dividends to total asset ratio. The industry of each acquirer is classified based on Fama-French 12 Industries Classification, and the industrial benchmarks are constructed based on the constitute firms of DEADUK, FBRIT and FAIM in Datastreams. The sample of paying acquirers has been divided into group of Low-Paying (LP) and High-Paying (HP) based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not distribute any cash as dividends or repurchases in past two years prior the announcement, then such acquirers are included in Non-Paying (NP) group. Both Low-Paying and High-Paying acquirers are also classified as All-Paying (AP) group for further investigation. *T*-test is used to test the null hypothesis of abnormal return is equal to zero as well as the null hypothesis of the *Difference (Pr>\|t\|)* in abnormal returns between two groups is equal to zero. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

Figure 3.1 Payout vs. Abnormal return

Payout vs. Abnormal return
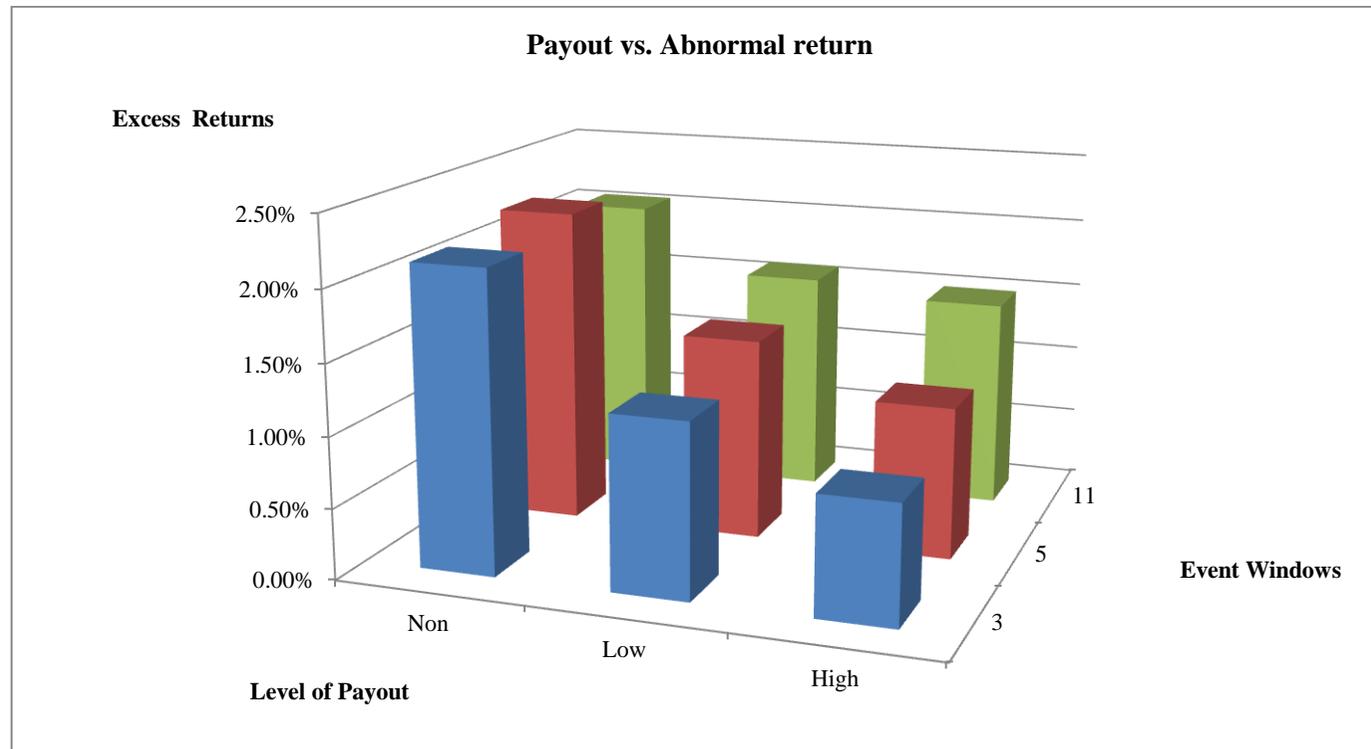
Note: The figure represents the size of economic value of cumulative abnormal return for 3, 5, and 11 days event window surrounding the announcements based on the level of acquirers' payout. The abnormal return is calculated based on market adjusted model, that $AR_i = R_i - R_M$ in which R_i is return of firm i and R_M is market return of FTSE All Share. The payout variable on which is based is adjusted total payout to total asset ratio (*Total payout*). The industry of each acquirer is classified based on Fama-French 12 Industries Classification, and the industrial benchmarks are constructed based on the constitute firms of DEADUK, FBRIT and FAIM in Datastreams. The sample of paying acquirers has been divided into group of Low-Paying and High-Paying based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not pay out any cash as dividends or repurchases in past two years prior the announcement, then such Acquirers are included in Non-Paying group.

Although the gains by the non-paying acquirers may be explained by the market revaluation, the underperformance of the high paying acquirers compared to low paying acquirers raises the question of whether corporate payout exerts a monitoring effect and if such an effect can enhance investment performance (as suggested in the literature). Draper and Paudyal (2006), amongst others, suggest that deal characteristics have a significant impact on acquirers' gains. We investigate whether the relationship between the acquirers' payout level and the acquirers' gains is affected by various deal characteristics. Table 3.3 provides descriptive statistics of the acquirers' gains based on the acquirers' payout level and different deal variables. We find that, on average, paying acquirers hold less cash (0.061) than non-paying acquirers, and generate higher cash flow (0.128) compared to the non-paying acquirers (-0.004). In addition, non-paying acquirers are small acquirers. The average market capitalisation of non-paying acquirers is £391.7 million, only around one fifth of that of paying acquirers (£2,143.8 million) and one seventh of high paying acquirers (£2,887.7 million). These figures may indicate that non-paying acquirers are young firms as they reserve a higher proportion of cash to capture investment opportunities and are in the life-cycle stage that is not able to generate significant cash inflows. It may also explain why non-paying acquirers do not distribute any cash in the first place. The paying acquirers, on the other hand, have low cash reserves and high periodic cash flows, which could indicate mature firms.

Table 3.3 also reveals that non-paying acquirers take over relatively bigger targets (0.399) than paying acquirers (0.134). Furthermore, several deal characteristics distinguish acquisitions by non-paying acquirers from paying acquirers. Non-paying acquirers are more likely to acquire unlisted targets (89.77%) than paying acquirers (86.56%), more often use mixed payment methods (56.61% for non-paying acquirers and 41.92% for paying acquirers), and engage in more domestic acquisitions (71.18%

Table 3.3 Descriptive Statistics for Acquirers' Gains, Control Variables and Payout

	Level of Payout				
	All	NP	LP	HP	AP
3 (-1, 1) days	1.237%***	2.130%***	1.230%***	0.840%***	0.990%***
5 (-2, 2) days	1.417%***	2.246%***	1.430%***	1.078%***	1.188%***
11 (-5, 5) days	1.623%***	2.053%***	1.592%***	1.498%***	1.505%***
Cash flow					
Mean	0.099	-0.004	0.105	0.153	0.128
Median	0.114	0.076	0.098	0.147	0.120
Cash holding					
Mean	0.752	3.248	0.106	0.025	0.061
Median	-0.007	0.028	-0.007	-0.011	-0.011
Market to book ratio					
Mean	2.070	1.582	2.062	2.798	2.205
Median	1.244	0.944	0.956	1.814	1.303
Cash only					
N	2,164	293	463	497	1,871
%	48.47%	30.27%	52.91%	56.74%	53.50%
Stock only					
N	287	127	53	32	160
%	6.43%	13.12%	6.06%	3.65%	4.58%
Mixed deal					
N	2,014	548	359	347	1,466
%	45.11%	56.61%	41.03%	39.61%	41.92%
Unlisted target					
N	3,896	869	746	752	3,027
%	87.26%	89.77%	85.26%	85.84%	86.56%
Listed targets					
N	569	99	129	124	470
%	12.74%	10.23%	14.74%	14.16%	13.44%
Domestic deal					
N	2,943	689	641	497	2,254
%	65.91%	71.18%	73.26%	56.74%	64.46%
Cross border deal					
N	1,522	279	234	379	1,243
%	34.09%	28.82%	26.74%	43.26%	35.54%
Focused deal					
N	3,015	667	601	574	2,348
%	67.53%	68.90%	68.69%	65.53%	67.14%
Diversified deal					
N	1,450	301	274	302	1,149
%	32.47%	31.10%	31.31%	34.47%	32.86%
Market value					
Mean	1,763.948	391.698	1,565.479	2,887.669	2,143.798
Median	258.087	64.247	245.378	453.350	363.593
Deal to market ratio					
Mean	0.191	0.399	0.183	0.106	0.134
Median	0.052	0.126	0.055	0.033	0.042
Toehold (Non)					
N	4,165	915	789	816	3,250
%	93.36%	94.72%	90.27%	93.26%	92.99%
Toehold (Median)					
N	146	36	38	30	110
%	3.27%	3.73%	4.35%	3.43%	3.15%
Toehold (High)					
N	150	15	47	29	135
%	3.36%	1.55%	5.38%	3.31%	3.86%
No. of bids					
Mean	2.728	2.429	3.490	3.525	2.728
Median	2	2	2	2	2
N	4,465	968	875	876	3,497

Note: The table represents descriptive statistics of acquirers' gains, deal characteristics, and level of payout. The abnormal return is calculated based on market adjusted model, that $AR_i = R_i - R_M$ in

which R_i is return of firm i and R_M is market return of FTSE All Share. The payout variables which are examined include: *Total payout* is industrial adjusted total payout to total asset ratio. The cash variables are: *Cash flow* is calculated by Cash Flows divided by Total Asset; and *Cash holding* which is calculated as industrial adjusted cash and cash equivalent to sales ratio. Other deal characteristics include mode of payment, target listed status, focused and diversification, domicile, market value of acquirer, deal value to market value ratio, and toehold level. The sample of paying acquirers has been divided into group of Low-Paying (LP) and High-Paying (HP) based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not pay out any cash as dividends or repurchases in past two years prior the announcement, then such acquirers are included in Non-Paying (NP) group. Both Low-Paying and High-Paying Acquirers are also classified as All-Paying (AP) group for further investigation. For numerical variables, including cash variables, market to book ratio, market value, deal to market value ratio, and number of bids, mean and median are reported for each payout group. Whilst for character variable, including mode of payment, target listed status, domicile, and focused and diversification, number of deals and the proportion of the deals in terms of each deal characteristic within each payout group are reported. Toehold variable is also reported in latter manner. *T*-test is used to test the null hypothesis of abnormal return is equal to zero. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

for non-paying acquirers and 64.46% for paying acquirers). However, the statistics also raise an additional question: if the non-paying acquirers are young firms that are in the early stage of the business life cycle, we would expect to see a higher growth indicator assigned by the market. Yet, according to the market-to-book ratio, non-paying acquirers actually have a lower average figure at 1.582 prior to the announcement, compared to 2.205 for paying acquirers. To answer these questions, as well as to test the validity of the payout effect, we test our hypothesis by controlling for both firm and deal characteristics in univariate and multivariate frameworks.

Payout, Cash, and Acquirers' Gains: Jensen's (1986) free cash flow hypothesis suggests that managers have an incentive to act in their personal interest and invest in suboptimal projects if they have large free cash flows available. Harford (1999) suggests that a large cash reserve has a negative impact on acquiring shareholders' wealth. Thus, high cash acquirers should underperform. However, Myers and Majluf (1984) and Gregory (2005), among others, find that creating cash slack is a rational corporate behaviour as it avoids the cost of having insufficient funds once positive NPV projects are identified. If this is the case, high cash acquirers should gain more. In either case, the literature suggests that cash has a significant impact on acquirers' gains. As a firms' payout level is closely related to available cash, the effect of payout on acquirers' gain could be driven by an acquirers' cash level.

Table 3.4 Panel A and B represent the average acquirers' gains by cash and payout variable. For the overall sample, both cash variables indicate a positive relationship to acquirers' abnormal return. This finding rejects Jensen's (1986) free cash flow hypothesis and provides supportive evidence for Myers and Majluf (1984) and Gregory's (2005) suggestion. However, if we classify the sample by payout level, the result of the cash effect on acquirers' gains is less clear. In contrast, the payout effect

Table 3.4 Control variables, Payout and Acquirers' Gains (Univariate)

Panel A: Cash flow, Payout and Acquirers' Gains

| Cash flow | All | Level of Payout | | | | Difference (Pr>\|t\|) | | | | | |
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Low	1.326%***	1.922%***	1.001%***	0.956%	0.917%***	1.005%	0.109	0.966%	0.436	0.045%	0.949
N	1,116	454	237	137	662						
Median	1.285%***	1.998%***	1.479%***	0.835%***	1.160%***	0.838%	0.035	1.163%	0.029	0.643%	0.175
N	2,235	333	510	358	1,902						
High	1.773%***	3.512%***	2.032%***	1.350%***	1.436%***	2.077%	0.001	2.162%	0.007	0.682%	0.384
N	1,114	181	128	381	933						

Panel B: Cash holding, Payout and Acquirers' Gains

| Cash holding | All | Level of Payout | | | | Difference (Pr>\|t\|) | | | | | |
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Low	1.531%***	2.397%***	1.864%***	1.235%***	1.286%***	1.111%	0.057	1.162%	0.192	0.628%	0.401
N	1,116	246	151	245	870						
Median	1.259%***	2.747%***	1.303%***	0.841%***	1.003%***	1.743%	<.0001	1.906%	0.002	0.462%	0.269
N	2,233	327	539	444	1,906						
High	1.619%***	1.736%***	1.447%***	1.437%***	1.555%***	0.181%	0.762	0.299%	0.758	0.011%	0.990
N	1,116	395	185	187	721						

Panel C: Growing Opportunity, Payout and Acquirers' Gains

| Market to book | All | Level of Payout | | | | Difference (Pr>\|t\|) | | | | | |
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Low	2.008%***	3.134%***	1.311%***	1.056%	1.433%***	1.700%	0.009	2.078%	0.112	0.255%	0.767
N	1,116	377	320	127	739						
Median	1.371%***	1.863%***	1.776%***	1.034%***	1.271%***	0.592%	0.129	0.828%	0.168	0.742%	0.102
N	2,233	380	425	369	1,853						
High	0.918%***	1.349%*	0.592%	1.128%***	0.817%***	0.532%	0.335	0.221%	0.757	-0.536%	0.446
N	1,116	211	130	380	905						

Table 3.4 cont.

Panel D: Mode of payment, Payout and Acquirers' Gains

Model of Payment	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Cash	1.402%***	2.845%***	1.360%***	1.053%***	1.176%***	1.670%	*<.0001*	1.793%	*0.001*	0.307%	*0.420*
N	2,164	293	463	497	1,871						
Stock	0.954%	0.940%	1.009%	1.374%	0.965%	-0.024%	*0.988*	-0.434%	*0.896*	-0.365%	*0.850*
N	287	127	53	32	160						
Mixed	1.500%***	2.228%***	1.583%***	1.088%***	1.227%***	1.000%	*0.019*	1.140%	*0.088*	0.495%	*0.421*
N	2,014	548	359	347	1,466						

Panel E: Listed target, Payout and Acquirers' Gains

Target Status	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Unlisted	1.671%***	2.724%***	1.598%***	1.279%***	1.368%***	1.356%	*<.0001*	1.445%	*0.003*	0.319%	*0.382*
N	3,896	869	746	752	3,027						
Listed	-0.320%	-1.955%	0.458%	-0.141%	0.024%	-1.980%	*0.014*	-1.814%	*0.108*	0.599%	*0.484*
N	569	99	129	124	470						

Panel F: Focused deal, Payout and Acquirers' Gains

Relativeness	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Focused	1.400%***	2.246%***	1.259%***	1.302%***	1.159%***	1.087%	*0.001*	0.944%	*0.076*	-0.043%	*0.916*
N	3015	667	601	574	2348						
Diversified	1.453%***	2.245%***	1.806%***	0.654%***	1.246%***	1.000%	*0.078*	1.592%	*0.060*	1.152%	*0.059*
N	1450	301	274	302	1149						

Table 3.4 cont.

Panel G: Domicile, Payout and Acquirers' Gains

		Level of Payout				Difference (Pr>|t|)					
Domicile	All	NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Domestic	1.501%***	2.165%***	1.301%***	1.401%***	1.297%***	0.868%	0.016	0.765%	0.215	-0.099%	0.806
N	2,943	689	641	497	2,254						
Cross Border	1.256%***	2.444%***	1.783%***	0.656%***	0.989%***	1.455%	0.003	1.788%	0.005	1.127%	0.072
N	1,522	279	234	379	1,243						

Panel H: Firm size, Payout and Acquirers' Gains

		Level of Payout				Difference (Pr>|t|)					
Market Value	All	NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Low	2.645%***	3.099%***	2.550%***	2.367%***	2.223%***	0.876%	0.211	0.732%	0.601	0.183%	0.877
N	1,116	538	207	106	578						
Median	1.224%***	1.352%***	1.240%***	1.266%***	1.198%***	0.154%	0.681	0.086%	0.871	-0.026%	0.950
N	2,233	376	465	457	1,857						
High	0.575%***	-0.032%	0.725%c	0.368%	0.606%***	-0.638%	0.394	-0.400%	0.638	0.357%	0.496
N	1,116	54	203	313	1,062						

Panel I: Deal to market ratio, Payout and Acquirers' Gains

		Level of Payout				Difference (Pr>|t|)					
Deal to market ratio	All	NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Low	0.472%***	-0.067%	0.574%	0.105%	0.524%	-0.591%	0.329	-0.172%	0.833	0.469%	0.392
N	1,116	99	188	320	1,017						
Median	1.339%***	1.747%***	1.399%***	1.509%***	1.237%***	0.510%	0.129	0.238%	0.611	-0.110%	0.789
N	2,232	444	462	435	1,788						
High	2.518%***	3.305%***	2.210%***	2.104%***	2.035%***	1.270%	0.081	1.202%	0.408	0.107%	0.924
N	1,117	425	225	121	692						

Table 3.4 cont.

Panel J: Toehold, Payout and Acquirers' Gains

| Toehold | All | Level of Payout | | | | Difference (Pr>\|t\|) | | | | | |
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Non (0%)	1.514%***	2.443%***	1.519%***	1.151%***	1.252%***	1.191%	*<.0001*	1.292%	*0.006*	0.368%	*0.299*
N	4,165	915	789	816	3,250						
Low (0-50%)	-0.241%	-1.935%	0.881%	-0.298%	0.313%	-2.248%	*0.098*	-1.637%	*0.362*	1.179%	*0.385*
N	146	36	38	30	110						
High (50%+)	0.373%	0.221%	0.451%	0.572%	0.390%	-0.169%	*0.923*	-0.351%	*0.861*	-0.122%	*0.941*
N	150	15	47	29	135						

Panel K.1: Multiple Bids (Cumulated), Payout and Acquirers' Gains

| Multiple Bids | All | Level of Payout | | | | Difference (Pr>\|t\|) | | | | | |
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Bid=1	2.277%***	3.685%***	2.342%***	1.321%***	1.570%***	2.115%	<.0001	2.364%	0.006	1.021%	0.117
N	1,505	503	259	275	1,002						
Bid>=2	0.964%***	0.686%	1.065%***	0.802%***	1.017%***	-0.331%	0.376	-0.115%	0.827	0.263%	0.515
N	2,544	411	491	550	2,133						
Bid>=3	0.904%***	0.477%	0.924%***	0.848%**	0.967%***	-0.490%	0.319	-0.371%	0.584	0.076%	0.875
N	1,744	223	333	382	1,521						
Bid>=4	0.842%***	-0.122%	0.906%***	0.818%**	0.955%***	-1.077%	0.088	-0.940%	0.266	0.088%	0.880
N	1,267	133	231	280	1,134						
Bid>=5	0.713%***	-0.031%	0.640%	0.789%*	0.785%***	-0.816%	0.265	-0.820%	0.351	-0.149%	0.827
N	945	84	167	215	861						

Table 3.4 cont.

Panel K.2: Multiple Bids (Single), Payout and Acquirers' Gains

Multiple Bids	All	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
Bid=1	2.277%***	3.685%***	2.342%***	1.321%***	1.570%***	2.115%	<.0001	2.364%	0.006	1.021%	0.117
N	1,505	503	259	275	1,002						
Bid=2	1.093%***	0.935%	1.362%***	0.697%	1.141%***	-0.207%	0.728	0.238%	0.786	0.665%	0.367
N	800	188	158	168	612						
Bid=3	1.069%***	1.361%	0.965%	0.929%	1.002%***	0.359%	0.654	0.432%	0.712	0.036%	0.968
N	477	90	102	102	387						
Bid=4	1.222%***	-0.277%	1.600%**	0.914%	1.491%***	-1.769%	0.160	-1.191%	0.554	0.686%	0.533
N	322	49	64	65	273						
Bid>=5	0.713%***	-0.031%	0.640%	0.789%*	0.785%***	-0.816%	0.265	-0.820%	0.351	-0.149%	0.827
N	945	84	167	215	861						

Note: The table represents the statistics of cumulative abnormal returns of acquirers five days (-2, 2) surrounding the announcement in relation to deal characteristics and payout variables. The abnormal return is measured by market-adjusted model, that $AR_i = R_i - R_M$ in which R_i is return of firm i and R_M is market return of FTSE All Share. The control variables include cash (*Cash flow* is calculated as corporate cash flows normalized by book value of the firm; *Cash holding* is calculated as industrial adjusted cash and cash equivalent to sales ratio), *market to book ratio* (industrial adjusted market to book ratio 30 days before the announcement) and *market value* (market value of the acquirer 30 days before the announcement, the value is adjusted to average of 1999-2000 price), *Mode of payment*, *Listed status*, *Focused and diversified deal*, *Domicile*, *Firm size*, *Deal to market ratio*, and *Frequent acquirer*. The payout variable which is examined is industrial adjusted total payout to total asset ratio (*Total payout*). The industry of each acquirer is classified based on Fama-French 12 Industries Classification, and the industrial benchmarks are constructed based on the constitute firms of DEADUK, FBRIT and FAIM in Datastreams. The sample of paying acquirers has been divided into group of Low-Paying (LP) and High-Paying (HP) based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not pay out any cash as dividends or repurchases in past two years prior the announcement, then such Acquirers are included in Non-Paying (NP) group. Both Low-Paying and High-Paying acquirers are also classified as All-Paying (AP) group for further investigation. *T*-test is used to test the null hypothesis of Abnormal return is equal to zero as well as the null hypothesis of the *Difference (Pr>|t|)* in abnormal returns between two groups is equal to zero. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

Table 3.5 Control variables, Payout and Acquirers' Gains (Multivariate, Short run)

Control Variables	Model 1	Model 2	Model 3	Model 4	Model 5
	5 day	5 day	5 day	5 day	5 day
Constant	0.0117***	0.0121***	0.0126**	0.0315*	0.0060
High payout	-0.0027				-0.0053
Low payout	0.0028				0.0029
Non payout	0.0109**	0.0121***	0.0075*		
Payout Ratio	0.0101				0.0555*
Cash flow		0.0021	0.0043	0.0021	0.0368**
Cash holding		0.0001	0.0001	0.0001	0.0044
Market to book ratio			0.0001	-0.0009***	0.0002
Cash only			0.0046*	0.0129	0.0018
Stock only			-0.0045	-0.0108	0.0042
Listed status			-0.0215***	-0.0492***	-0.0152***
Focused			-0.0011	0.0004	-0.0022
Domicile			0.0014	-0.0052	0.0032
MV			-0.0001	-0.0001	0.0001
Deal to market ratio			0.0143***	0.02141**	0.0108**
Frequent Acquirers			-0.0011***	-0.0052***	-0.0006**
Toehold			0.0018	0.0046	0.0003
R-Squared	0.35%	0.42%	1.86%	4.57%	1.59%
Adj R-Sq.	0.23%	0.30%	1.41%	2.78%	0.93%
F-Value	3.04	3.68	4.15	2.55	2.41
N	3,515	3,515	3,515	816	2,699

Note: The table represents results of multivariate analysis based on the formula of:

$$R = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where R is dependent variable of cumulative abnormal returns for 5-day event window. X is set of independent variables. The test is based independent variables of cash (*Cash flow* is calculated as corporate cash flows normalized by book value of the firm; *Cash holding* is calculated as industrial adjusted cash and cash equivalent to sales ratio), *market to book ratio* (industrial adjusted market to book ratio 30 days before the announcement) and *market value* (market value of the acquirer 30 days before the announcement, the value is adjusted to average of 1999-2000 price). Additional dummy variables include: *Cash only* (1 if the payment is cash, and 0 otherwise), *Stock only* (1 if the payment is stock, 0 otherwise), *Listed status* (1 if acquired firm is listed firms), *Focused deal* (1 if the deal is focused deal and 0 if the deal is diversified deal), *Domicile* (1 if the deal is domestic and 0 if the deal is cross border), *Firm size* (the market value of the acquirer 30 days before the announcement), *Deal to market ratio* (1 if the deal to market value ratio is classified into first quartile of the sample and 0 otherwise. *Frequent acquirer* is the number of bids the acquirer announced in the past three years. Three payout variables are under the test. *High payout* is a dummy variable which is equal to 1 if the acquirer is classified as a high paying acquirer and 0 otherwise; *Low payout* is a dummy variable which is equal to 1 if

the acquirer is classified as a low paying acquirer and 0 otherwise; *Non payout* is a dummy variable takes value of 1 if the acquirer is a non-paying acquirer and 0 if the acquirer is a paying acquirer; and *Payout ratio* is a numerical variable of the payout level of the sample acquirer. Model 1 to 3 estimated based on the overall sample, while Model 4 and Model 5 focus on non-paying and all-paying group, respectively. *T*-test is used to test the null hypothesis of the estimated coefficient for each independent variable is equal to zero. Heteroskedasticity has been controlled using White method. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

on acquirers' gains is confirmed to be valid across different cash levels. Non-paying acquirers consistently outperform paying acquirers. The multivariate analysis (Table 3.5) provides a similar result. The coefficient on cash flow suggests a positive relationship between the acquirer's cash flow level and the average abnormal return, and the cash holding variable has a small and insignificant effect on acquirers' gains. This rejects the agency argument relating to corporate cash.

High (low) payout has an insignificant negative (positive) coefficient in Models 1 and 5, and the non-payout (Model 1 and 2) is estimated to have a significant positive impact on acquirers' gains, confirming our findings of a short term payout effect[22].

Payout, Growing Opportunity, and Acquirers' Gains: It is important to investigate acquirers' growth opportunities since such a factor reflects the markets expectation as to the firms' future investment activities as well as its past corporate performance. The growth factor should reflect the willingness and ability of firms to distribute surplus cash since high growth acquirers may have an incentive to accumulate cash by not paying dividends or paying less to shareholders in order to capture future investment opportunities. We expect non-paying acquirers with high growth opportunities to gain the most. Table 3.4 Panel C shows the joint effect of growth opportunities and payout level on acquirers' gains. For the overall sample, the study finds an adverse effect from growth opportunities on acquirers' abnormal return. On average, low growth acquirers gain a significant abnormal return (2.008 per cent) while high growth acquirers gain less (0.918 per cent). This finding is contrary to Lang, et al. (1989) and Servaes (1991) who suggest that high q acquirers gain more

---

[22] The effect of the payout ratio may be driven by unobservable factors among median paying acquirers. This study focuses on the extreme effect of the acquirers' payout and the discussions are concentrated on the effect of high payout, low payout, and non-payout variables.

from acquisitions[23]. This adverse effect is more significant within non-paying and low-paying groups. For high paying acquirers, the average abnormal return is stable regardless of the level of the market to book ratio. The multivariate result suggests that the growth factor has a small positive but insignificant effect in Models 3 and 5, but a significant negative effect in Model 4. The finding implies that the growth factor only plays an important role among non-paying acquirers and is irrelevant to paying acquirers[24]. In addition, we suggest that a possible explanation for the negative effect of the market to book ratio among non-paying acquirers could be mis-valuation by the market and this mis-valuation may be due to a high level of information asymmetry of the non-paying acquirers prior to the announcement. If low market to book ratio is caused by a high level of information asymmetry, the acquisition announcement would trigger significant market reaction, and non-paying acquirers with low market to book ratio would experience higher abnormal returns. The result of the payout effect is consistent as we expect. For each level of market to book ratio, non-paying acquirers consistently outperform paying acquirers. The difference is 1.700 per cent for the acquirers with low market to book ratio and over 0.5 per cent for the acquirers with high market to book ratio, although the difference is statistically insignificant between the median and high market to book ratio group. This finding is also confirmed within a multivariate framework.

Payout, Deal Characteristics, and Acquirers' Gains: The literature finds that several deal characteristics have a significant impact on acquirers' abnormal returns during

---

[23] Tobin's q and market to book ratio are close substitutes and the latter has been widely used in the literature. This study uses industrial adjusted market to book ratio to examine the growth effect.

[24] The positive effect of market to book ratio in Models 3 and 5 could be caused by median paying acquirers as the estimation is based on the whole sample. We spot a large divergence of excess return for median paying acquirers, and this is caused by a significant variety of corporate and deal features among median paying acquirers. As such variety among median paying acquirers could be due to different observable and unobservable factors, this study only focus on the payout effect for high-, low- and non-paying acquirers. However, such absent of the test among median paying group could be a shortfall of present study and future investigation would be required.

the announcement period. To test whether acquirers' payout has a consistent effect on acquirers' gains, we investigate the interaction between payout and variant deal characteristics.

Mode of Payment: The mode of payment has been extensively tested and shown to be an important deal characteristic with a significant effect on acquirers' gains. Travlos and Papaioannou (1991), Loughran and Vijh (1997) and Draper and Paudyal (1999), among others, find that the returns to cash acquirers consistently outperform those to acquirers using stock while acquirers using mixed methods of payment experience positive abnormal returns. Table 3.4 Panel D represents acquirers' gains by mode of payment and payout. It shows that cash and mixed mode of payment acquirers gain a significant abnormal return at around 1.45 per cent (overall sample) while stock acquirers experience an insignificant abnormal return. Testing the abnormal return based on the acquirers' payout level for each payment method, the finding that non-paying acquirers gain more than paying acquirers is seen to be consistent for both cash and mixed payment deals. The multivariate analysis, which controls for the payout, cash, growth, and other deal characteristics, reveals that cash deals have a significant positive effect on acquirers' gains in the overall sample, but an insignificant positive effect for both the paying (Model 3) and non-paying subsamples (Model 4). Stock payment is shown to have an insignificant negative effect for the overall sample and the non-paying subsample, and an insignificant positive effect for paying the subsample. Nevertheless, non-paying acquirers still consistently perform better.

Target Listed Status: Studies such as Chang (1998), Ang and Kohers (2001), and Draper and Paudyal (2006), find that acquirers gain significant positive abnormal returns when the target is a private firm. Table 3.4 Panel E shows that, on average,

acquirers of unlisted targets gain an abnormal return of 1.671 per cent, and acquirers of listed targets experience an insignificant loss of 0.320 per cent. For the deals of unlisted targets, the average abnormal return decreases from 2.724 per cent for the non-paying group to 1.279 per cent for the high-paying group. The difference in average abnormal return between the non-paying group and the paying group is 1.356 per cent and this difference is statistically significant at the 1 per cent level. Neither the paying acquirers nor the non-paying acquirers gain significant abnormal returns from the acquisitions of the listed targets. For the multivariate analysis, the target listed status has a larger negative effect on the abnormal returns of the non-paying acquirers (-0.045) compared to the paying acquirers (-0.0108), yet the non payout variables still have a positive effect on the acquirers' gains when the target listed status is controlled.

Focused deals: Acquisitions across industries have traditionally be seen as value-destroying corporate activities as corporate diversification may reflect agency issues (Denis, et al., 1997). Table 3.4 Panel F suggests that diversification is not necessarily destroying acquirers' value. Among the paying acquirers, diversification enhances the acquirers' abnormal returns more than the focused deals. High paying acquirers, on the other hand, gain more from focused deals, and the diversification effect is less significant among the non-paying acquirers. More importantly, the result of the payout effect is consistent with the finding that non-paying acquirers outperform paying acquirers in the short run. The multivariate results also show that diversification has an insignificant impact on acquirers' gains, while the effect of the corporate payout is not affected by controlling for diversification.

Domicile: The impact of domicile of the deal on acquirers' gains is inconclusive in the existing literature. Doukas and Travlos (1988) find that firms benefit from

international expansion as additional growth opportunities are captured while Denis, et al. (2002) find that the cost of global diversification outweighs the benefits it generates. As reported in Table 3.4 Panel G, on average, acquirers gain 1.501 per cent when the target is a UK domestic company, compared to 1.256 per cent when the target is a foreign company. Non-paying acquirers gain more from cross-border acquisitions and paying acquirers are better off when the targets are domestic firms. The different domicile effects are also reflected in the multivariate framework. The domicile dummy is estimated to be insignificant positive in Model 3 and 5 and insignificant negative in Model 4. Non-paying acquirers gain significantly higher average abnormal return than paying acquirers at 2.165 per cent with a premium of 0.868 per cent for domestic deals. For cross-border deals, the difference in average abnormal returns between non-paying acquirers and paying acquirers is 1.455 per cent. The result provides further evidence that non-paying acquirers gain more.

Firm Size: Research studies, including Roll (1986), Moeller, et al. (2004) and Fuller, et al. (2002), suggest that large acquirers underperform. In the short run, the univariate results indicate that high market value acquirers gain 0.575 per cent while low market value acquirers gain 2.645 per cent. Non-paying high market value acquirers make an insignificant loss at -0.032 per cent, and high paying high market value acquirers experience an insignificant gain at 0.368 per cent. For low and median market value groups, non-paying acquirers consistently outperform paying acquirers, although the difference in average abnormal returns is insignificant. Multivariate analysis indicates that the size effect is significant among non-paying acquirers but has little impact on paying acquirers, and the payout effect still holds after controlling for the acquirers' size effect.

Deal to market ratio: Anderson, et al. (1994) finds that the market reacts to acquisitions differently according to the size of the targets. Draper and Paudyal (2008) also suggest that the true profitability of an acquisition is revealed only if they control for relative size, and find that acquirers gain higher abnormal return when takeovers involve larger targets. Our results support the suggestion that acquirers gain more from high deal-to-market-value deals. Low deal-to-market-value deals create insignificant wealth effects to acquirers, and a payout effect is not apparent among such deals. On the other hand, for high deal-to-market-value deals, non-paying acquirers perform better as indicated previously. Both univariate and multivariate analysis suggest the deal-to-market value has high explanatory power for the size of acquirers' gains. More importantly, the positive effect of the non-payout variable still holds when acquirers experience significant abnormal returns.

Toehold: Dosoung (1991), among others, suggest that toehold acquisitions are beneficial as such acquisitions provide a value enhancing transfer of control. However, the positive effect of a toehold is more likely to accrue to target firms than to acquirers. In addition, if the acquirer is already a shareholder of the target firm prior to the acquisition, the market is unlikely to display a significant reaction to announcement of the subsequent transfer of corporate control as it might be predicted prior to the announcement. According to Panel J in Table 3.4, only acquirers with no prior holdings in target firms gain significant abnormal returns. Others earn insignificant abnormal returns. For non-toehold acquirers, the results show a significant inverse relation between the acquirers' paying level and acquirers' abnormal returns. In the multivariate analysis, however, the toehold variable display little explanatory power compared to other control variables, such as payout.

Frequent Acquirer: Draper and Paudyal (2008) suggests that information asymmetry plays an important role in determining acquirers' gains. Because of the existence of asymmetric information, the market reacts significantly to acquirers' early acquisition announcements since they reveal additional information. When the acquirers engage in subsequent deals, the excess performance of acquirers is diminished as the level of the acquirers' asymmetric information diminishes. This suggestion may help us to explain why non-paying acquirers on average have a lower market to book ratio and consistently outperform the paying acquirers over the short run. If the higher abnormal normal return during the announcement period is caused by the information asymmetry before the announcement, we would expect that the higher abnormal return of the non-paying acquirers should only exist among initial bids. We investigate the average abnormal return of cumulated bids (Table 3.4 Panel K.1) and single bids (Table 3.4 Panel K.2) separately. Table 3.4 Panel K.1 shows that for acquirers engaging in multiple bids, the size of average abnormal return decreases as the number of bids increases. In Table 3.4 Panel K.2, although the diminishing trend does not exist, initial bids gain significantly higher returns than subsequent bids. The finding that acquirers gain the most on initial bids is also shown in the multivariate analysis. Comparing the gains of the non-paying acquirers to the paying acquirers, we find that outperformance by the non-paying acquirers only exists on initial bids, and paying acquirers display relatively stable performance and gain more than non-paying acquirers from the subsequent bids. This finding confirms our hypothesis that the higher abnormal return of the non-paying acquirers is mainly driven by market revaluation, and the results of subsequent bids also imply that paying acquirers have a lower level of asymmetric information and are more likely to engage in value-enhancing takeovers.

The short term event study, of both univariate and multivariate analyses, suggests that the non-paying acquirers outperform the paying acquirers, and this effect is consistent across various control variables. Our results for the short run investigation have several implications. First, acquirers experience positive gains from their acquisitions on average, and the gains of the acquirers are affected by different deal and target characteristics. Secondly, non-paying acquirers gain more than paying acquirers in the short run, and the high abnormal return is caused by market revaluation and only exists among the initial bids. Moreover, paying acquirers, especially high paying acquirers, experience positive gains from the acquisitions, and the size of the gains is relatively stable across both the initial and subsequent bids.

Although we are able to explain why the non-paying acquirers outperform the paying acquirers in the short run, the suggestion that the corporate payout policy enhances corporate performance is only implied in the test of frequent acquirers. If corporate payout policy has a positive effect on the acquirers' performance, we would expect such an effect not only to be reflected among subsequent deals but also in the stock performance in the post-acquisition period.

3.4.2 Long Run

We carry out the long term event study using both the mean BHAR and the Fama-French calendar time portfolio methods to estimate the acquirers' gains for 1-, 3- and 5-year post-acquisition periods. Tables 3.6 and 3.7 provide the results and test statistics for long term acquirers' wealth effects. The long run results confirm our suggestion that paying acquirers outperform non-paying acquirers in the long run. According to Table 3.6 Panel A, the difference in the average abnormal return between paying and non-paying acquirers is 4.382 per cent (1.099 per cent), 19.050 per cent (9.528 per cent) and 23.573 per cent (18.816 per cent) based on the equally

Table 3.6 Mean Buy and Hold Abnormal return and Payout

Panel A.1 Total payout (equally weighted)

Holding Period	ALL	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
1 Year	-4.210%***	-7.620%***	-4.408%***	0.841%	-3.238%***	-4.382%	0.0274	-8.461%	0.0096	-5.248%	0.0220
3 Year	-20.735%[a]	-35.568%***	-18.584%***	-7.639%***	-16.518%***	-19.050%	<.0001	-27.929%	<.0001	-10.946%	0.0127
5 Year	-30.851%[a]	-49.206%***	-28.652%***	-11.054%***	-25.633%***	-23.573%	<.0001	-38.152%	<.0001	-17.598%	0.0044

Panel A.2 Total payout (value weighted)

Holding Period	ALL	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
1 Year	-6.753%***	-7.809%*	-5.412%	-1.508%	-6.710%***	-1.099%	0.4271	-6.301%	0.2568	-3.904%	0.3829
3 Year	-18.983%***	-28.139%***	-22.145%***	-12.701%***	-18.611%***	-9.528%	0.0334	-15.438%	0.0897	-9.444%	0.2694
5 Year	-28.283%***	-46.363%***	-30.880%***	-14.922%***	-27.548%***	-18.816%	0.0047	-31.442%	0.0338	-15.958%	0.0930

Panel B.1 Dividend payout (equally weighted)

Holding Period	ALL	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
1 Year	-4.210%***	-7.620%***	-3.409%**	0.721%	-3.238%***	-4.382%	0.0274	-8.341%	0.0112	-4.130%	0.0795
3 Year	-20.735%***	-35.568%***	-16.690%***	-10.978%***	-16.518%***	-19.050%	<.0001	-24.590%	<.0001	-5.712%	0.2059
5 Year	-30.851%***	-49.206%***	-24.877%***	-16.638%***	-25.633%***	-23.573%	<.0001	-32.568%	<.0001	-8.240%	0.1944

Panel B.2 Dividend payout (value weighted)

Holding Period	ALL	Level of Payout				Difference (Pr>|t|)					
		NP	LP	HP	AP	NP vs. AP		NP vs. HP		LP vs. HP	
1 Year	-6.753%***	-7.809%*	-5.526%	1.254%	-6.710%***	-1.099%	0.4271	-9.063%	0.0881	-6.780%	0.1405
3 Year	-18.983%***	-28.139%***	-21.507%***	-12.929%***	-18.611%***	-9.528%	0.0334	-15.210%	0.1135	-8.578%	0.3416
5 Year	-28.283%***	-46.363%***	-29.189%***	-18.270%***	-27.548%***	-18.816%	0.0047	-28.094%	0.0689	-10.920%	0.2593

Note: The table represents the statistics of Buy and Hold Abnormal return for 1-, 3-, 5-year post event period based on the level of acquirers' payout ratio. The method measures the "average multiyear return from a strategy of investing in all firms that complete an event and selling at the end of a pre-specified holding period versus a comparable strategy using otherwise similar nonevent firms" (Mitchell and Stafford, 2000, p296). The BHAR formula is presented as follow:

$$BHAR_i = \prod_{i=1}^{T}(1 + R_{i,t}) - \prod_{i=1}^{T}(1 + R_{p,t})$$

where the *BHARs* are generated by holding long for acquirers' stock and short for reference portfolio. The mean BHAR is computed based on weighted average individual BHARs,

$$\overline{BHAR} = \sum_{i=1}^{N} w_i * BHAR_i$$

and *w* is calculated in terms of both equally-weighted and value-weighted. For value-weighted, the market value for each acquirer has been adjusted to 1999-2000 average price. The payout variables which are examined are: *Total payout* is industrial adjusted total payout to total asset ratio; *Dividend payout* is industrial adjusted cash dividends to total asset ratio. The industry of each acquirer is classified based on Fama-French 12 Industries Classification, and the industrial benchmarks are constructed based on the constitute firms of DEADUK, FBRIT and FAIM in Datastreams. The sample of paying firms has been divided into group of Low-Paying (LP) and High-Paying (HP) based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not pay out any cash as dividends or repurchases in past two years prior the announcement, then such acquirers are included in Non-Paying (NP) group. Both Low-Paying and High-Paying Acquirers are also classified as All-Paying (AP) group for further investigation. *T*-test is used to test the null hypothesis of abnormal return is equal to zero as well as the null hypothesis of the *Difference (Pr>|t|)* in abnormal returns between two groups is equal to zero. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

Table 3.7 Carhart (1997) 4 factors Calendar Time Portfolio Performance and Payout

Panel A. Total payout

Portfolio Holding Period	All		Level of Payout							
			NP		LP		HP		AP	
	EW	VW	EW	VW	EW	VW	EW	VW	EW	VW
1 Year	-0.337%	0.344%	-0.726%	0.614%	-0.304%	-0.084%	0.236%	0.627%	-0.115%	0.318%
3 Year	-0.653%*	0.199%	-1.104%**	0.315%	-0.690%*	-0.145%	-0.015%	0.418%	-0.440%	0.199%
5 Year	-0.591%*	0.234%	-1.026%**	0.411%	-0.609%*	0.083%	-0.063%	0.467%	-0.427%	0.232%
N	216	216	214	214	215	215	216	216	216	216

Panel B. Dividend payout

Portfolio Holding Period	All		Level of Payout							
			NP		LP		HP		AP	
	EW	VW	EW	VW	EW	VW	EW	VW	EW	VW
1 Year	-0.337%	0.344%	-0.726%	0.614%	-0.211%	0.014%	0.350%	0.953%	-0.115%	0.318%
3 Year	-0.653%*	0.199%	-1.104%**	0.315%	-0.714%*	-0.094%	-0.009%**	0.608%	-0.440%	0.199%
5 Year	-0.591%*	0.234%	-1.026%**	0.411%	-0.600%*	0.112%	-0.074%	0.617%*	-0.427%	0.232%
N	216	216	214	214	215	215	216	216	216	216

Note: The table represents the statistics of Carhart (1997) 4 factors calendar time portfolio performance for 1-, 3-, 5-year post event period based on the level of acquirers' payout ratio. The constant of each estimation is reported. The figures reported in the table are constant term α_i, which is the measure of abnormal performance, estimated based on Carhart (1997) 4 Factors model.

$$R_{pt} - R_{ft} = \alpha_i + \beta_i(R_{mt} - R_{ft}) + s_i SMB_i + h_i HML_i + u_i UMD_i + \varepsilon_i$$

where R_{pt} is portfolio return at time t, R_{ft} is monthly UK Treasury Bill 3 Month mid-rate, $R_{mt} - R_{ft}$ is market premium, SMB_i is size factor, HML_i is value factor, and UMD_i is momentum factor. Both equally weighted and value weighted portfolio are investigated. The payout variables which are examined are: *Total payout* is industrial adjusted total payout to total asset ratio; *Dividend payout* is industrial adjusted cash dividends to total asset ratio. The industry of each acquirer is classified based on Fama-French 12 Industries Classification, and the industrial benchmarks are constructed based on the constitute firms of DEADUK, FBRIT and FAIM in Datastreams. The sample of paying firms has been divided into group of Low-Paying (LP) and High-Paying (HP) based on 1st and 4th quartile in terms of payout ratio in ascending order. If the acquirers did not pay out any cash as dividends or repurchases in past two years prior the announcement, then such acquirers are included in Non-Paying (NP) group. Both Low-Paying and High-Paying acquirers are

also classified as All-Paying (AP) group for further investigation. *T*-test is used to test the null hypothesis of the constant term is equal to zero. Heteroskedasticity has been controlled using White method. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

weighted (value weighted) method for 1-, 3-, and 5-year post-event periods, respectively. The difference in abnormal returns is substantially increased when we compare the high paying acquirers to the non-paying acquirers.

We also conduct an investigation of long run acquirers' gains using Carhart's (1997) 4 factors in a calendar time portfolio framework in order to control the risk factors. For an equally weighted portfolio, the average abnormal return increases with the level of payout. For a value weighted portfolio, the high paying acquirers consistently show better post acquisition performance.

The long run excess performance based on univariate analysis reveals an important result. When we average the wealth effect across the acquirers in the sample within each payout group (equally weighted), the results support our hypothesis that paying acquirers perform better through acquisitions. The positive relation between average abnormal return and payout level in the long run suggests that high paying acquirers that, in theory, are well monitored by investors and have less agency issues and information asymmetry, acquire better quality targets. Such an effect, however, is only revealed in the long run as other factors, including asymmetric information for instance, appear to have a dominant effect on market reactions during short announcement windows. As the short run negative effect of the payout factor on the acquirers' abnormal return is reversed in long run, it is important to investigate whether corporate and deal characteristics affect acquirers' gains differently in the long run and whether the payout effect is robust using different control variables. Table 3.8 provides results based on the acquirers' long run performance. We find deal characteristics, including mode of payment, domicile, deal to market value, and frequent acquirers, have a significant and consistent impact on acquirers' gains compared to short term results. The cash flow factor has a stronger positive effect on

Table 3.8 Control variables, Payout and Acquirers' Gains (Multivariate, Long run)

Explanatory Variables	Model 1 3 year	Model 2 3 year	Model 3 3 year	Model 4 3 year	Model 5 3 year
Constant	-0.2129***	-0.2105***	-0.2663***	-0.5406***	-0.1916**
High payout	0.0780**				0.0980**
Low payout	-0.0039				-0.0397
Non payout	-0.1588***	-0.1609***	-0.1624***		
Payout Ratio	0.6312***				0.3894
Cash flow		0.2354***	0.2580***	0.2790***	-0.0523
Cash holding		-0.0010	-0.0008	-0.0008	-0.0667**
Market to book ratio			0.0014	0.00043	0.0014
Cash only			0.1279***	0.2447***	0.0930***
Stock only			-0.1291*	-0.1970**	-0.0311
Listed status			-0.0308	-0.0154	-0.0391
Focused			0.0802***	0.1797**	0.0545*
Domicile			0.0945***	0.1946***	0.0740**
MV			0.0001	0.0001	0.0001
Deal to market ratio			0.1203***	0.0386	0.1672***
Frequent Acquirers			-0.0058**	-0.0464***	-0.0025
Toehold			-0.1515***	-0.0740	-0.1933***
R-Squared	*1.34%*	*1.29%*	*3.51%*	*5.61%*	*3.00%*
Adj R-Sq.	*1.23%*	*1.18%*	*3.07%*	*3.83%*	*2.35%*
F-Value	*11.93*	*11.47*	*7.95*	*3.16*	*4.61*
N	*3,515*	*3,515*	*3,515*	*816*	*2,699*

Note: The table represents results of multivariate analysis based on the formula of:

$$R = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where R is dependent variable of cumulative abnormal returns for 3-year event window. X is set of independent variables. The test is based independent variables of cash (*Cash flow* is calculated as corporate cash flows normalized by book value of the firm; *Cash holding* is calculated as industrial adjusted cash and cash equivalent to sales ratio), *market to book ratio* (industrial adjusted market to book ratio 30 days before the announcement) and *market value* (market value of the acquirer 30 days before the announcement, the value is adjusted to average of 1999-2000 price). Additional dummy variables include: *Cash only* (1 if the payment is cash, and 0 otherwise), *Stock only* (1 if the payment is stock, 0 otherwise), *Listed status* (1 if acquired firm is listed firms), *Focused deal* (1 if the deal is focused deal and 0 if the deal is diversified deal), *Domicile* (1 if the deal is domestic and 0 if the deal is cross border), *Firm size* (the market value of the acquirer 30 days before the announcement), *Deal to market ratio* (1 if the deal to market value ratio is classified into first quartile of the sample and 0 otherwise. *Frequent acquirer* is the number of bids the acquirer announced in the past three years. Three payout variables are under the test. *High payout* is a dummy variable which is equal to 1 if the acquirer is classified as a high paying acquirer and 0 otherwise; *Low payout* is a dummy variable which is equal to 1 if

the acquirer is classified as a low paying acquirer and 0 otherwise; *Non payout* is a dummy variable takes value of 1 if the acquirer is a non-paying acquirer and 0 if the acquirer is a paying acquirer; and *Payout ratio* is a numerical variable of the payout level of the sample acquirer. Model 1 to 3 estimated based on the overall sample, while Model 4 and Model 5 focus on non-paying and all-paying group, respectively. *T*-test is used to test the null hypothesis of the estimated coefficient for each independent variable is equal to zero. Heteroskedasticity has been controlled using White method. Significance at 1%, 5% and 10% is represented by '***', '**' and '*', respectively.

acquirers' gains, especially for non-paying acquirers. If the periodic cash flows reflect acquirers' investment performance in the pre-acquisition period, it could also be a reliable factor in indicating acquirers' post-acquisition performance. The results for the cash variables from the long run multivariate analysis for the overall sample further reject Jensen's (1986) agency theory of free cash flows.

The payout effect is consistent with the long run univariate analysis. Within the paying group, the estimated coefficient on high (low) payout dummy, although it is insignificant, shows a positive (negative) effect on acquirers' gains, compared to a negative (positive) effect in the short run. Comparing non-paying with paying acquirers, the non-paying dummy reveals significant explanatory power in assessing acquirers' acquisition performance in the long run. The coefficient is estimated to be significant and consistently around -0.160 across three models (Model 1 to Model 3).

3.5 Conclusion

Motived by the recognition of the positive effect of corporate payout policy on the firm's performance, we investigate how corporate payout policy affects acquirers' gains. We test the hypothesis that acquirers with a high payout ratio gain more than acquirers with a low payout ratio, and that paying acquirers outperform non-paying acquirers.

For the short run event study, we find that the non-paying acquirers outperform the paying acquirers by a significant magnitude, and this outperformance is not affected by the deal and target characteristics. We suggest that the larger gain by the non-paying acquirers is caused by market revaluation. According to our sample of acquirers, the non-paying acquirers are featured by low cash flow, high cash holdings and low market to book ratio. Denis and Osobov (2008) suggest that non-paying firms are generally young firms which are at an early stage of the life cycle. If this is

the case, asymmetric information is likely to exist between the non-paying acquirer and the market, and such information asymmetry may indicate a low market to book ratio due to undervaluation. Thus, the takeover announcement by the non-paying acquirers can reduce the information asymmetry by revealing, for instance, the reason for the large cash holding, and this will trigger the market revaluation. However, such market revaluation should only exist in the initial bids as after the information asymmetry is reduced, the gains to subsequent bids should be mainly driven by the potential synergy. Our results confirm this suggestion. Non-paying acquirers outperform paying acquirers for initials bids but such outperformance disappears with subsequent bids. In addition, paying acquirers have a stable performance across all bids indicating that paying acquirers are more likely to engage in value enhancing acquisitions. The long run investigation suggests that paying acquirers outperform non-paying acquirers, and the payout ratio has a positive effect on the acquirers' gains in the long run. Our results imply that corporate payout has a positive effect on the acquirers' performance and the effect is more pronounced in the long term post-acquisition period.

Our results are robust across different measures of the acquirers' payout and different deal and target characteristics, and support the suggestion of a positive effect from the payout policy on the corporate performance in the payout literature.

Chapter 4 Factors Affecting an Owner's Decision to Sell

4.1 Introduction

The overwhelming majority of research studies on the effect of takeovers on shareholders focus on the gains to shareholders' of acquiring firms. The results of the studies generally suggest that acquiring firms experience small but positive gains over the short run but may suffer losses in the long run (Andrade, et al., 2001). It is not hard to understand why the investigation of the impact on the wealth of acquiring shareholders has preoccupied much of the literature. Acquisitions ought to be value-enhancing corporate activities and the financial return to acquirers is a key factor to assessing acquisition gains. For target firms, studies have typically been limited to the significant gains that accrue to the shareholders of targets at announcement (Asquith and Kim, 1982). The limited focus on the impact on target shareholders' wealth may be a reflection of the large premium shareholders receive for selling their shares. There is no question that on average takeovers are profitable for shareholders of acquired firms. However, the lack of detailed analysis specific to target firms provides a fertile area for exploration.

There are many factors that have to be taken into consideration when shareholders and managers agree to put their firms up for sale[25]. The likely positive gains to the acquired firms' shareholders provide only a limited explanation of the motivation for a sale. Graebner and Eisenhardt (2004) suggest that the traditional assumption that an acquisition is initiated and dominated by the acquirer could be misleading as a firm's managers can be actively looking for buyers when a sale is decided. Their study reframes acquisition as courtship and suggests that timing and emotional factors play

---

[25] Because it is difficult to identify whether the takeover is initiated by target firm, or the target owners simply face takeover bids, this study only concerns whether a firm is involved in takeover as a target.

a significant role from the beginning of the acquisition process. The study suggests that, other than strategic motives such as to overcome a business hurdle, personal motives including stress and fear-of-failure, can also trigger the decision to sell. Among the directors of their sample firms, half of the directors have an open view about a potential sale of the firm and 4 out of 12 directors actively sought potential buyers. In addition, 7 out of 12 targets were up for sale for funding reasons, and 10 out of 12 targets aimed to realize potential growth within a merged entity. However, there are several difficulties with the Graebner and Eisenhardt (2004) study. Their research is based on case studies of 12 entrepreneurial high tech firms. The limited range of industries from which their sample is drawn and limited sample size makes the results difficult to generalize. Using interviews as the primary research method suggests that personal preferences and motives could colour the statements the managers provide, and cause possible biases in the results.

To improve our understanding of acquisitions, this study focuses on the supply side of an acquisition. Although it is difficult, if not impossible, to identify whether the takeover is initiated by target firm or acquiring firm based on statistical analysis, we aim to provide quantitative evidence on the determinants of the decision to sell the firm as well as of the gains from sale. Study of these determinants can help us understand better possible causes of corporate takeovers that have been taken place.

This study uses logistic and OLS regression analysis. We investigate how three types of factors, namely a director and shareholder factor, a corporate factor, and a market factor, affect the decision to sell the firm, and how these factors affect the premium gained by the target's shareholders. We find that all three types of factor help to explain the sale of the firm. Our results suggest that the director factor has an important role in determining both the likelihood of a sale and the potential gains.

Whether or not to put the firm on sale can be affected by personal incentives that affect the directors. Long established (entrenched) directors of a target firm may weigh up their welfare in the existing firm against the potential job risk in the merged firm, before coming to a final decision. This is illustrated by the results for both the years of service and job security factor. The longer the director's years of service the lower the likelihood of sale, whilst job security for the directors of the target firm measured by employment in the merged firm in the post-acquisition period has a substantial effect on the size of the premium paid by the acquirer.

From the shareholders' perspective, we find the percentage of ownership held by the largest shareholder has a negative relationship to the likelihood of becoming a target. Maximising the potential gain from the sale and measuring and minimising the possible risks are major concerns during the decision making process. The results suggest that if the major shareholders are individuals they are more likely to receive cash (the dominant method of payment) and to gain a higher premium (by 5 per cent). When the major shareholders of the target are corporates they are likely to accept a lower premium and hope for potential gains from the merged entity by receiving stock as the form of payment. The decision to sell the firm can also be driven by externalities. Market conditions and changes in the industrial environment give advantages to certain firms and weaken the market position of others. Such influences can cause the sale of ownership and determine the premium paid by acquirers. We also find the size of a firm's liquid assets has a negative relationship on both the likelihood of sale and the gains from sale. The size of a firm's intangible assets enhances the gains to the shareholders of the target.

The study is structured as follow: following the introduction, we provide detailed discussion of how the key hypotheses are developed. Section 3 provides a description

of the data collected and the methodologies adopted. Section 4 provides the results and discussion. The study concludes in section 5.

4.2 Hypotheses Developed

The first question that needs to be answered is why the prime decision makers of the firm want/agree to sell[26]. Intuitively, the purpose of selling the firm is likely to be the potential gains from such a sale. In other words, if the owner can benefit from selling rather than continuing to hold shares in the company, selling the firm becomes a natural action. However, the owners of the firm are not the only people involved in making a decision. It is important to include anyone with a significant voice in the running of a firm. As Berle and Means (1932) and others such as Jensen and Meckling (1976) and Malmendier and Tate (2008) have recognized, directors with agency power and/or part ownership can also significantly influence decision making with regard to selling the firm. This makes the directors important stakeholders so that analysing directors' incentives can help us to understand why certain firms became targets and, among target firms, why some gain more than others. Although both directors and shareholders are treated as stakeholders in the firm, their decisions with regard to the sale of the firm may be driven by very different considerations. For directors, selling the firm may put his/her job at risk (Agrawal and Walkling, 1994). The risk to job security also includes the risk of losing executive power in the current firm. As job security and executive power directly affect a director's wealth, securing the agreement of the directors to the sale of the firm is likely to be more difficult unless such risks can be reduced or resolved. This leads us to the following hypothesis:

---

[26] In the context of this study, we take the decision maker of the firm to include anyone who has a significant voice in the decision making process relating to major corporate strategies. Thus, the decision maker can refer to the major shareholders of the firm, the directors of the firm, or both.

Hypothesis 1: Personal factors related to individual directors, including job security and entrenchment, significantly affect the sale of the firm and gains from such a sale.

For shareholders, the decision to sell the firm will mainly depend on whether the shareholder is better-off as a result of the sale. Bargeron, et al. (2008) suggest that targets with ownership highly concentrated into a few hands receive a higher premium from acquirers. If this is the case, we expect the proportion of shares held by the largest shareholder to have a significant effect on our results. In other words, if highly concentrated ownership can enhance the bargaining power of target firms, it may increase the premium received by shareholders in the target firm once agreement is reached. Thus, we suggest:

Hypothesis 2: The greater the degree of concentration in the ownership of the target the less likely it is that a sale will take place, or the greater the gains from the sale will be.

If the level of inside ownership increases, the objectives of the directors and shareholders are better aligned. In such cases, significant share ownership by the directors should show a similar effect as for shareholders. Such an effect is tested as part of our factors relating to directors.

Despite the importance of the personal factors relating to directors and shareholders, a firm's financial status cannot be ignored when investigating the sale of the firm. The firms' financial figures reflect its current financial position as well as its further prospects. If a firm has the ability to cover its financial obligations and future financing requirement, the decision makers of such firms might be willing to realise future gains within the firm rather than put it up for sale. Moreover, if the firm's assets are valued at a figure close to its terminal value, such a firm may be less favourable for potential acquirers as the future growth is limited. The possibility of

80

growth opportunities and undervalued intangible assets can attract potential buyers and such a firm is likely to receive a higher premium if the owners of the firm intend to sell.

Hypothesis 3: Corporate factors reflect a firm's financial position and affect both the likelihood of sale and the gain from the sale.

Hypotheses 1 to 3 consider the endogenous factors that affect both the likelihood of sale and the gain from the sale. The research literature, including Andrade, et al. (2001), Antoniou, et al. (2008), and Palepu (1986), suggest market and industrial factors can affect takeover activity. Factors that are commonly used to test market effects include market valuation and industrial clustering. We argue that although market valuation reflects investor sentiment, a high market valuation does not necessarily indicate a high probability of sale. High market valuation may indicate an overvaluation of a firm's equity, and such overvaluation discourages potential acquirers offering a high premium for the company. Clustering of takeovers within industries occurs in reaction to the changing industrial environment. Such changes may enhance the competitiveness of certain firms while putting others in a less favourable market position. The decision to sell the firm during such a period may arise from considerations of survival so that such deals may be associated with lower takeover premiums. The market borrowing rate may also help us to understand the owner's decision in selling the firm. High borrowing costs impose additional financing difficulties on financially weak firms. These effects reduce the bargaining power of the owner of the firm and in turn reduce the premium received by target shareholders.

Hypothesis 4: Market factors can change the firm's status and affect the decision to sell.

81

4.3 Data and Methodology

4.3.1 Data

Deal information related to acquisitions is collected from the Thomson One Banker database. The time period covered is from the beginning of 2004 to the end of 2010[27]. The targets must be domiciled in the UK and listed on the London Stock Exchange. As we are interested in the sale of the control of the target firms, we select deals in which the percentage owned by the acquirer after the acquisition is over 50 per cent and the percentage owned by the acquirer prior to the acquisition is below 50 per cent. We also require deals to have information related to deal value, payment structure, deal status and a valid ISIN code for the target company. These criteria leave us with a sample of 852 deals. To construct the non-target sample, we download all the constituent firms listed in the FBRIT, FAIM and DEADUK files from Datastream, and use the firms that did not receive any takeover bids during the period[28]. We also filter out non-target firms for which the ISIN codes do not start with "GB". 4,463 non-target firms are selected. The director and shareholder data required are collected from Fame. Director data includes date of birth, appointment and resignation dates, gender, and director function. Shareholder data include the direct and total shareholding of recorded shareholders[29]. The corporate financial data is collected from Fame and Datastream. The market data, such as market returns and LIBOR rate,

---

[27] The ownership data are collected from Fame in BvD database. Fame keeps archived data in the ownership database for the latest 10 years. This limits the beginning point of our sample period.

[28] A firm is defined as non-target firm if the firm did not receive any takeover bid within the announcement year of each target sample firm. The announcement years is controlled as the fixed effect in the logistic analysis.

[29] According to Fame, the shareholder's ownership is the percentage of voting shares owned by the shareholder. The total shareholding includes both direct ownership and indirect ownership. For instance, if firm A directly owns 30 per cent of firm B, then direct ownership is 30 per cent. On the other hand, if firm A directly owns 100 per cent of firm C, and firm C directly owns firm B 40 per cent, then firm A indirectly owns 30 per cent of firm B.

are also collected from Datastream[30]. After removing the firms (both target and non-target) which do not meet the data requirement, the final sample contains 306 target firms and 2,645 unique non-target firms.

4.3.2 Methodology

4.3.2.1 Logistic Method

The present study is to determine under what circumstance owners are more likely to sell their shareholdings. We adopt discriminant analysis to determine which factors have a dominant effect in determining the sale of the firm. One commonly used type of discriminant analysis is logistic regression. Logistic regression has been extensively used to analyse the relationship between a categorical dependent variable and a variety of independent variables to determine the likelihood of particular outcomes. In the corporate takeover literature, studies including Thompson (1997) and Powell (2004), adopt a logistic methodology to investigate and predict the likelihood of a firm becoming a takeover target. The most commonly used logistic model is binary logistic regression:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j (1 if the firm is target, 0 if not); X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}}\right)$ is the odds ratio. The normalization $\beta_0=0$ is imposed in order to estimate the parameters. Although the logit scale provides a linear relationship between the dependent variable and independent

---

[30] We also collect additional deal information from Thomson One Banker to form the industrial clustering proxy.

variables, it is more intuitive to interpret the model in probabilities. Thus, the logit model can be transformed as:

$$P_{i,j} = \frac{exp(\beta_j X_i)}{1 + \sum exp(\beta_j X_i)}$$

The parameters are estimated using the PROC LOGISTIC function in SAS, and interpretation of the results is based on the output produced by maximum likelihood estimation within the function. The variables employed for the estimation represent three types of factors.

4.3.2.2 OLS Method

The multivariate analysis of target gains focuses on the 306 target firms in our sample. We use the conventional OLS gains from the sale. The dependent variable is the premium received by target shareholders and the premium is computed as deal value divided by the market value of the proportion of ownership acquired.

The OLS regression model is in the form of:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

Where *Premium* is calculated as deal value divided by total value of target's shares acquired, and X_i is the set of independent variables that represent three types of factors.

4.4 Tested Factors

4.4.1 Director and Shareholder Factor

We collect information on directors for the sample firms from Fame. We focus on directors in office immediately before the takeover date[31]. We examine the following factors. *Director Age* is the biological age of selected directors and is calculated by using a takeover date minus the director's date of birth. *Years of Service* is the length of the time period for which the director holds office. We calculate the years of service as the number of years between the appointment of the director and the takeover date. *Director's Ownership* is the percentage of the firm's shares owned by the director. As director's ownership is not directly available in Fame, we collect shareholder and director information for each sample firm and match shareholders and directors. Total shareholding is used as a proxy for ownership. If this information is not available, direct percent of shareholding is used[32]. In addition to director age, years of service, and director's ownership, we use a further two variables for our analysis. *Gender* is a dummy variable which is equal to 1 if the director is female and 0 otherwise. *Job Security* is dummy variable which is equal to 1 if the director still holds the position at least one year after the takeover date and 0 otherwise.

Shareholder information is also collected from Fame. *Shareholding* is the total percent of shares of the reported largest shareholder and is used to measure the level of ownership concentration. If information on the total percent of shares is missing, the direct percent shareholding is used instead. *Controlling Shareholder* is an interactive variable which captures if the largest shareholder is also a controlling shareholder. The value of the interactive variable is equal to the percentage of

---

[31]If the director is appointed within 30 days before the announcement date or resigned from the job 30 days before the announcement date, the director is excluded from our sample.

[32] See footnote 27

shareholding if the largest shareholder is the controlling shareholder and 0 otherwise. *Controlling Director* is a dummy variable which equals 1 if the controlling shareholder is also a director of the firm and 0 otherwise.

4.4.2 Corporate Factor

Corporate factors reflect a firm's financial status and are expected to have a significant effect on both the likelihood of sale, and the gains from the sale. There are three corporate variables included in our tests. *P/E Ratio* is the de-trended annual P/E ratio of each sample firm 30 days before the takeover date. *Liquidity* is calculated as the difference between current assets and inventory divided by current liabilities. *Intangibles* is the firm's intangible to total assets ratio [33]. Both liquidity and intangibles take the reported annual figure for each sample firm one year before the announcement.

4.4.3 Market Factor

The market factor captures market conditions and industrial events. We adopt three variables to test the market effect. Market valuation is measured by *Market P/E Ratio* which is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date[34]. *LIBOR* is the average LIBOR rate 30 days before the event date for each sample firm. *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same calendar year as the event date of each sample firm, and industries are classified using the Fama-French 12 industries classification.

---

[33] According to Worldscope, intangibles (source code 02649) includes goodwill, patents, copyrights, trademarks, formulae, franchises of no specific duration, capitalized software development costs/computer programmes, organizational costs, customer lists, licenses of no specific duration, capitalized advertising cost, mastheads (newspapers), capitalized servicing rights, and purchased servicing right.

[34] According to Antoniou, et al. (2008), the market P/E ratio has an upward trend over time and can cause a systematic bias if the trend is not controlled.

4.5 Results and Discussion

4.5.1 Director and shareholder

To examine whether entrenched managers/directors have a significant impact on the likelihood of sale, for each sample firm, we select the director with the longest years of service from each sample firm and consider the director's age, years of service, and size of shareholding[35]. Consistent with our entrenchment hypothesis, as shown in Table 4.1 Panel A, the existence of directors with long service with the company significantly reduces the chance (log ratio) of the company becoming a target (by 0.026). The director age and ownership variables also have a negative effect on the likelihood of selling the firm, although the coefficients are statistically insignificant. These results suggest a strong relationship between the characteristics of the director and the firm's attitude towards its sale. As discussed earlier, a long serving director is likely to accumulate power and to see a convergence between corporate objectives and personal objectives. This enhanced agency power not only affects a director's wealth but also their welfare. Jensen and Ruback (1983) suggest that the possibility of losing power, prestige and the value of organization-specific human capital after a takeover may cause the directors to oppose the idea of selling the firm. In such a case, long serving directors might resist changes of corporate control unless it is in the director's own interest. Agrawal and Walkling (1994) suggest that senior executives, especially those with high compensation, do not, on the whole, survive in their existing job position following a takeover bid and are unlikely to find another senior position in other public firms within three years of the acquisition. If the risk to job

---

[35] There are 556 types of unique director title reported in FAME. Most of the directors recorded in the Fame database do not have any description of job function. Selecting the director with available information of the job function greatly reduces our sample size. As this study investigates the effect of the executive power of entrenchment director, such effect would be most likely to be captured by the director's years of service. Long served directors are likely to have better knowledge about the firm and convert corporate objectives to their personal objectives. We also carried similar analysis based on the oldest director of each sample firm but the results are insignificant.

security and its associated wealth effect influences a director's actions during decision making relating to major corporate activities, this effect ought to be captured by the takeover premium received by the target firm. In addition, although logistic analysis suggests that the percentage of shares held by directors has little effect on the likelihood of sale, it is expected to have a significant effect on the premium paid for the target.

 Table 4.1 Panel B shows how factors related to directors affect the size of premium received by the target's shareholders. The results suggest that, once the firm is for sale, a director's age and tenure has no significant effect on the size of the premium paid by an acquirer. The ownership interest and job security of directors, on the other hand, has a significant effect on the gains. Because the holding of shares by directors better aligns the directors' interests with the shareholders' interests, director's holdings enhance the director's motivation to bargain for a better price during the negotiation process. This is confirmed by a statistically significant coefficient for the director's ownership variable. Securing a position in the merged firm gives a director an incentive to cooperate with the acquirer. Such job security enhances the director's own interest over that of the shareholders' and leads to a lower takeover premium. According to our results, securing a job position in the merged firm reduces the premium paid by the acquirers by 18 per cent. This result strongly suggests that directors may pursue personal benefit at the cost of shareholders. Studies, such as Olsen and Cox (2001) and Martin, et al. (2009), find that females put greater weight on risk control compared to male counterparts when making financial decisions. The gender effect may determine the risk preference relating to the trade-off between possible withdrawal from a takeover when bargaining over a higher price and acceptance of a lower selling price to secure the success of the sale. The results show

Table 4.1 Director Factor, Likelihood of Sale, and Gains from Sale

Panel A Logistic Analysis

	Director Factor			
	Director with longest tenure (Pr>|χ|)			
Intercept	-3.6564***	-3.8018***	-4.0366***	-3.5665***
	<.0001	<.0001	<.0001	<.0001
Director Age	-0.0065			-0.0041
	0.3001			0.5185
Years of Service		-0.0264**		-0.0243**
		0.0311		0.0517
Director's Ownership			-0.1166	-0.1136
			0.3577	0.3631
Likelihood Ratio	*39.16*	*42.84*	*42.33*	*47.24*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
Wald Test	*36.96*	*40.42*	*37.01*	*41.74*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
N	*306/10,743*	*306/10,743*	*306/10,743*	*306/10,743*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. By selecting the director with the longest years of service of each target firm, there are three factors tested. Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director. Year is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.1 cont.

Panel B Multivariate Analysis

			Director Factor			
			Director with longest tenure (Pr>|t|)			
Intercept	1.1348***	1.4568***	1.3954***	1.4665***	1.3961***	1.3403***
	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
Director Age	0.0044					0.0029
	0.2228					0.4122
Years of Service		-0.0073				-0.0058
		0.2589				0.3767
Director's Ownership			0.5195***			0.5425***
			<.0001			<.0001
Job Security				-0.1953***		-0.1845***
				0.0004		0.0006
Gender					-0.0259	0.0168
					0.8503	0.8988
F Value	1.71	1.12	35.02	10.46	0.02	9.57
Pr>F	0.1917	0.2914	<.0001	0.0014	0.8944	<.0001
R-Square	0.58%	0.38%	10.58%	3.43%	0.01%	14.08%
Adj R-Sq	0.24%	0.04%	10.28%	3.10%	-0.33%	12.61%
N	297	297	297	297	297	297

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on *F*-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables. By selecting the director who has the longest years of service of each target firm, there are five factors tested. Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director; Job Security is a dummy variable which equals to 1 if the director continue to work in merged entity for at least one year after the effective date; and Gender is the gender of selected director. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.1 cont.

Panel C Logistic Analysis

	Director Factor			
	Shareholding director (Pr>|χ|)			
Intercept	-3.7858***	-3.9903***	-4.1418***	-3.6920***
	<.0001	<.0001	<.0001	<.0001
Director Age	-0.0076			-0.0047
	0.5411			0.7186
Years of Service		-0.0291		-0.0246
		0.2292		0.3305
Director's Ownership			-0.0092	-0.0087
			0.3079	0.3373
Likelihood Ratio	*8.54*	*9.73*	*9.37*	*10.84*
Pr> χ	*0.2869*	*0.2044*	*0.2271*	*0.2862*
Wald Test	*6.53*	*7.61*	*7.24*	*8.66*
Pr> χ	*0.4793*	*0.3674*	*0.4035*	*0.4687*
N	*64/4,498*	*64/4,498*	*64/4,498*	*64/4,498*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. By selecting the director who is also a shareholder of each target firm, there are three factors tested. Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director. Year is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.1 cont.

Panel D Multivariate Analysis

			Director Factor			
			Shareholding director (Pr>|t|)			
Intercept	0.9204***	1.3475***	1.4134***	1.5714***	1.4671***	1.0578***
	0.0024	<.0001	<.0001	<.0001	<.0001	0.0007
Director Age	0.0099*					0.0078
	0.0707					0.1063
Years of		0.0162				0.0051
Service		0.1665				0.5947
Director's			0.0059			0.0034
Ownership			0.2109			0.4760
Job Security				-0.2423**		-0.1943**
				0.0127		0.0279
Gender					-0.0891	-0.0125
					0.1608	0.9008
F Value	*3.75*	*2.14*	*2.28*	*5.94*	*0.09*	*1.99*
Pr>F	*0.0577*	*0.1490*	*0.1363*	*0.0179*	*0.7602*	*0.0949*
R-Square	*5.97%*	*3.50%*	*3.72%*	*9.14%*	*0.16%*	*15.30%*
Adj R-Sq	*4.38%*	*1.86%*	*2.09%*	*7.60%*	*-1.53%*	*7.60%*
N	*61*	*61*	*61*	*61*	*61*	*61*

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables. By selecting the director who is also a shareholder of each target firm, there are five factors tested. Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director; Job Security is a dummy variable which equals to 1 if the director continue to work in merged entity for at least one year after the effective date; and Gender is the gender of selected director. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

a negative but statistically insignificant coefficient for the gender factor[36]. Both logistic analysis and multivariate OLS analysis are used to analyse the impact on takeovers of directors with shareholdings. The results are shown in Table 4.1 Panel C and D. The age of a director who is also a shareholder has a negative relationship to the likelihood of sale, and a significant positive relationship to the takeover premium when the factor is tested independently under each model. This finding suggests that aging owners place greater weight on the risks generated from selling their future income stream (i.e. the shares of the firm) and require a higher premium to compensate them for such risks. However, this effect is dominated by job security when the interactions among independent factors are tested. Logistic analysis reveals insignificant results.

Whilst our analysis of the impact of directors' personal interests focuses on how they affect the likelihood of a sale and the potential gains from such an event our analysis of shareholders examines the impact of concentration of ownership. Table 4.2 Panel A suggests a negative relationship between the largest shareholder's holding and the likelihood of sale. Specifically, a 1 per cent increase in the largest shareholder's holding reduces the log ratio of the probability of sell over the probability of not sell by 0.023. If the ownership of the firm is highly concentrated with a major single shareholder, such ownership may represent a significant amount of the shareholder's wealth. The potential opportunity cost of losing income by selling the shares may be one determinant of the negative relationship. The shareholding factor shows an insignificant relationship to the takeover premium in multivariate analysis. To capture the effect of a controlling shareholder, we add an interactive variable of a controlling shareholder into our analysis. Our results show that once the target firm is controlled

---

[36] Job security and gender variable are not tested under the logistic analysis. This is because the job security can only be identified in the target firm and the quasi-complete separation is identified by SAS when add gender into logistic regression.

Table 4.2 Shareholder Factor, Likelihood of Sale, and Gains from Sale

Panel A logistic Analysis			
	Shareholder Factor		
	Largest Shareholder (Pr>|χ|)		
Intercept	-3.4226***	-4.0384***	-3.4202***
	<.0001	<.0001	<.0001
Shareholding	-0.0233***		-0.0233***
	<.0001		<.0001
Controlling Director		-0.2024	-0.0963
(1 if director is also the controlling shareholder)		0.6014	0.8046
Likelihood Ratio	*140.38*	*38.38*	*140.45*
Pr> χ	*<.0001*	*<.0001*	*<.0001*
Wald Test	*98.18*	*36.15*	*98.37*
Pr> χ	*<.0001*	*<.0001*	*<.0001*
N	*306/10,743*	*306/10,743*	*306/10,743*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. By selecting the largest shareholder of each target firm, there are three factors tested. Shareholding the percentage of ownership held by the largest shareholder; Controlling Director is the dummy which equals to 1 if the controlling shareholder is also a director, 0 otherwise. Year is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.2 cont.

Panel B Multivariate Analysis

	Shareholder Factor		
	Largest shareholder (Pr>|t|)		
Intercept	1.4069***	1.3879***	1.3359***
	<.0001	<.0001	<.0001
Shareholding	-0.0006		0.0040
	0.7800		0.2388
Controlling Shareholder			-0.0066*
(Interactive variable which equals to the percentage of shareholding if top shareholder is also the controlling shareholder, 0 otherwise)			0.0643
Controlling Director		0.3257	0.3000
(1 if director is also the controlling shareholder)		0.1088	0.1308
F Value	*0.10*	*2.82*	*2.58*
Pr>F	*0.7503*	*0.0940*	*0.0537*
R-Square	*0.03%*	*0.95%*	*2.57%*
Adj R-Sq	*-0.30%*	*0.61%*	*1.58%*
N	*297*	*297*	*297*

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium= \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables. By selecting the largest shareholder of each target firm, there are three factors tested. Shareholding the percentage of ownership held by the largest shareholder; Controlling Shareholder is an Interactive variable which equals to the percentage of shareholding if top shareholder is also the controlling shareholder, 0 otherwise; Controlling Director is the dummy which equals to 1 if the controlling shareholder is also a director, 0 otherwise. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

by a single shareholder, the higher the level of ownership the lower the premium on takeover. This is contrary to our previous suggestion that the potential opportunity cost of losing further returns from selling the ownership should be compensated by a higher premium. To understand why this relationship is negative, we identify whether the largest shareholder is a corporate shareholder or an individual shareholder, and test the relationship between the shareholder's status and the mode of payment. A large corporate shareholder significantly reduces the proportion of takeovers made for cash (by 17.45 per cent). This finding is consistent with Davidson III and Cheng (1997) who indicate that target shareholders receive lower premiums when a deal is financed by stock. We suggest that this finding reflects the difference between the risk preference of corporate and individual shareholders. Corporate shareholder's behaviour is mainly driven by strategic considerations. In addition, corporate shareholder may have a higher risk tolerance when dealing with financial decisions as consequence of their greater diversification. A higher proportion of payment with stock indicates a willingness to share the risk as well as future returns relating to the merged enterprise in the post takeover period. Individual shareholders are likely to place more weight on the certainty of current wealth and avoid the volatility of future returns. This can be achieved by requiring cash as the payment mode and setting a higher sale price.

The results for the director's and shareholder's factors suggest that the trade-off between current wealth and the uncertainty of further return significantly influences both decision making relating to a firm's sale, and the gains from the sale. Shareholders consider the size of the gain from the sale, the potential risk of losing their capital, and the ability to bear the risk relating to potential returns in the future, while directors focus more on the benefits of their current position and wealth effects

from possible loss of job security. Both shareholders and directors find a way that best serves their own interests.

4.5.2 Corporate Factor

The analysis of possible corporate factors is carried out from a strategic point of view. Table 4.3 Panel A and B provides the results of the logistic analysis relating to the likelihood of sale and multivariate analysis of the gains from the sale, respectively. Of three corporate variables, only the liquidity ratio has a statistically significantly negative effect on the likelihood of sale. Regardless of the director's and shareholder's preferences, if M&A activity is motivated by growth opportunities, a high liquidity ratio is not in the acquirer's favour since liquid assets are likely to be valued at a fair value making it difficult to enhance growth. This is also suggested in Table 4.3 Panel B; higher liquidity decreases the takeover premium by 2.3 per cent[37]. Following this argument, we would expect a high P/E ratio and a high proportion of intangibles to increase the probability of sale. However, our logistic analysis suggests that neither factor has a significant effect on the probability of sale. This generates the question that if the P/E ratio and the relative size of intangible assets are the key determinant of potential growth, why should the owner of a firm with high P/E ratio and high intangible assets be reluctant to sell? A possible explanation is whether the firm has the ability to realize the potential growth within the firm, or needs to share such growth with an outside acquirer. The average solvency ratio, computed as the percentage of shareholders' funds over total assets, of non-target firms is over 9 per cent higher than the solvency ratio of target firms. Together with the liquidity effect, this suggests that if the firm has the ability to meet its liabilities and to grow, the owner of such a firm may be unwilling to sell. Although the P/E ratio and intangibles

---

[37] A similar effect is also found from a test of the current ratio of the sample firms.

Table 4.3 Corporate Factor, Likelihood of Sale, and Gains from Sale

Panel A Logistic Analysis

	Corporate Factor			
	(Pr>|χ|)			
Intercept	-4.0063***	-3.7782***	-4.0086***	-3.7750***
	<.0001	<.0001	<.0001	<.0001
P/E ratio	-0.0001			-0.0001
	0.6611			0.7321
Liquidity		-0.1030***		-0.1028***
		0.0005		0.0006
Intangibles			-0.0014	-0.0015
			0.7589	0.7541
Likelihood Ratio	*43.78*	*72.17*	*43.70*	*72.65*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
Wald Test	*40.22*	*51.00*	*40.14*	*51.18*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
N	*261/7,213*	*261/7,213*	*261/7,213*	*261/7,213*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. There are three factors tested. P/E ratio is the de-trended annual P/E ratio of sample firm 30 days before the announcement; Liquidity is the liquidity ratio of the sample firm before the announcement, and is calculated as the difference between current asset and inventory divided by current liability; Intangibles is the intangible assets to total assets of the sample firm before the announcement. Year is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.3 cont.

Panel B Multivariate Analysis

	Corporate Factor (Pr>|t|)			
Intercept	1.3745***	1.4158***	1.3067***	1.3415***
	<.0001	<.0001	<.0001	<.0001
P/E ratio	0.0001***			0.0001***
	0.0027			0.0004
Liquidity		-0.0234**		-0.0220**
		0.0110		0.0122
Intangibles			0.2907**	0.2650**
			0.0102	0.0185
F Value	*1.40*	*4.01*	*5.82*	*3.52*
Pr>F	*0.2381*	*0.0464*	*0.0166*	*0.0157*
R-Square	*0.55%*	*1.55%*	*2.24%*	*4.02%*
Adj R-Sq	*0.16%*	*1.17%*	*1.85%*	*2.88%*
N	*256*	*256*	*256*	*256*

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables. There are three factors tested. P/E ratio is the de-trended annual P/E ratio of sample firm 30 days before the announcement; Liquidity is the liquidity ratio of the sample firm before the announcement, and is calculated as the difference between current asset and inventory divided by current liability; Intangibles is the intangible assets to total assets of the sample firm before the announcement. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

have a less dominant effect on the likelihood of sale compared to the liquidity ratio, these two factors have a significant effect on the premium received by the shareholders once the firm became a target. According to Table 4.3 Panel B, both P/E ratio and intangibles significantly enhance the size of premium received by the target. The analysis of corporate factors is consistent with our hypothesis that the valuation of the firm's assets and future growth significantly affect takeover activity. The effect is more pronounced in determining the selling price. Such results suggest that the owners of targets will choose the best corporate strategy to maximize their return.

4.5.3 Market Factor

The impact of market factors is displayed in Tables 4.4 Panel A and B. Consistent with our hypothesis, the clustering of takeovers within industries has a significant effect on the likelihood of selling the firm. Previous literature, including Andrade, et al. (2001) and Powell (2004), suggest that industrial shocks, including introducing new technology and changes in the regulatory environment, often trigger an increase in acquisition activities. Our results suggest that within the same industries, an increase in the volume of acquisitions significantly increases the probability of sale. Yet, neither the market P/E ratio nor LIBOR has a significant effect on the likelihood of sale, which further implies that industrial clustering is the main determinant of selling the firm. Nevertheless, the results of our multivariate analysis are consistent with our hypothesis. Each of our three variables has a negative relationship to the size of premium, and the coefficients of market P/E ratio and industrial clustering are statistically significant. A high market P/E ratio indicates an optimistic view about market performance. However, if the market value of the target is high only because of overall investors' sentiment, such an increase in value may make the potential synergy gains more expensive to acquire. An acquiring firm would be more cautious

Table 4.4 Market Factor, Likelihood of Sale, and Gains from Sale

Panel A Logistic Analysis

	Market Factor			
	(Pr>|χ|)			
Intercept	-3.4357***	-3.8267***	-4.6219***	-4.4218***
	<.0001	<.0001	<.0001	<.0001
Market P/E ratio	-0.0085			-0.0210
	0.4623			0.1012
LIBOR		0.0574		0.0093
		0.1390		0.8259
Industrial Clustering			0.0065***	0.0070***
			<.0001	<.0001
Likelihood Ratio	*150.02*	*151.74*	*166.30*	*169.66*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
Wald Test	*147.70*	*149.25*	*160.45*	*163.83*
Pr> χ	*<.0001*	*<.0001*	*<.0001*	*<.0001*
N	*306/10,743*	*306/10,743*	*306/10,743*	*306/10,743*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. There are three factors tested. Market P/E ratio is the de-trended annual P/E ratio of FTSE ALL SHARE 30 days before the announcement; LIBOR is the annual LIBOR 30 days before the announcement; Industrial Clustering is the number of deal of listed target in sample firm's industrial same year as the sample firm's announcement year. Industry, which is classified based on Fama French 12 Industries Classification, is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 4.4 cont.

Panel B Multivariate Analysis

	Market Factor			
	(Pr>|t|)			
Intercept	1.6933***	1.4321***	1.4617***	1.8408***
	<.0001	<.0001	<.0001	<.0001
Market P/E ratio	-0.0186***			-0.0193***
	0.0021			0.0012
LIBOR		-0.0081		-0.0161
		0.7168		0.4885
Industrial Clustering			-0.0114*	-0.0109*
			0.0676	0.0871
F Value	*8.24*	*0.13*	*1.93*	*3.58*
Pr>F	*0.0044*	*0.7168*	*0.1655*	*0.0143*
R-Square	*2.72%*	*0.04%*	*0.65%*	*3.53%*
Adj R-Sq	*2.39%*	*-0.29%*	*0.31%*	*2.55%*
N	*297*	*297*	*297*	*297*

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium= \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables. There are three factors tested. Market P/E ratio is the de-trended annual P/E ratio of FTSE ALLSHARE 30 days before the announcement; LIBOR is the annual LIBOR 30 days before the announcement; Industrial Clustering is the number of deal of listed target in sample firm's industrial same year as the sample firm's announcement year. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

in the size of the premium that it offers for a target firm. For the industrial clustering variable, the increase in acquisition activity is a logical response to changes in the industrial environment. Such changes create growth opportunities that favour particular types of firms, and these firms are most likely to become acquirers or acquired. Changes in the environment may also put some firms in a less favourable position. Changes in the industrial environment shift bargaining power from target firms to acquiring firms and the deals during industrial clustering are result in lower premiums.

To test how different types of factors interact with each other, and to find out the most significant variables, we use all our control variables[38]. The results are shown in Tables 4.5 Panel A and B. For the analysis of the likelihood of sale, we find that director age, years of service, shareholding, and firm liquidity all have significant coefficients. For the OLS analysis, job security, shareholding, firm liquidity, market P/E ratio, and industrial clustering are important dominant effect. Except for director age in the logistic analysis and shareholding in the OLS analysis, all other variables have significant effects, consistent with our earlier investigation. The results indicate that the same variable does not necessarily have a dominant effect on both the likelihood of sale and the gains from sale. For instance, years of service influences a director's incentive on whether to agree to sell the firm, and this factor has a significant effect during the decision making process. Once the decision to sell is made, other factors, job security for example, start to reveal a dominant effect on the selling price. Looking at the overall results, we find that shareholding, firm liquidity, and industrial clustering have a significant influence on both the decision making and the valuation process. This finding suggests that concentration of ownership, financial

---

[38] Because the market factor analysis is used as the categorical variable to control the fixed effect for logistic analysis, the market variables are not included in Table 5 Panel A.

Table 4.5 All Factors, Likelihood of Sale, and Gains from Sale

Panel A Logistic Analysis

	All Factors (excl. Market)
	(Pr>|t|)
Intercept	-1.0336**
	0.0404
Director Age	-0.0233***
	0.0016
Years of Service	-0.0798***
	<.0001
Director's Ownership	-3.2267
	0.7658
Shareholding	-0.0238***
	<.0001
Controlling Director	0.0571
(1 if director is also the controlling shareholder)	0.9029
P/E ratio	-0.0001
	0.6972
Liquidity	-0.0866***
	0.0029
Intangibles	-0.0019
	0.7803
Likelihood Ratio	*184.81*
Pr> χ	*<.0001*
Wald Test	*130.45*
Pr> χ	*<.0001*
N	*261/7,213*

Note: The sample includes 306 target firms and 2,645 unique non-target firms. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

The dependent variable is log of odd ratio of firm *i* belong to event *j* which is equal to 1 if the firm is target and 0 otherwise. The significance of the model is tested by maximize likelihood method and the likelihood ratio is reported. X_i is the set of independent variables. Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director; Shareholding the percentage of ownership held by the largest shareholder; Controlling Director is the dummy which equals to 1 if the controlling shareholder is also a director, 0 otherwise; P/E ratio is the de-trended annual P/E ratio of sample firm 30 days before the announcement; Liquidity is the liquidity ratio of the sample firm before the announcement, and is calculated as the difference between current asset and inventory divided by current liability; Intangibles is the intangible assets to total assets of the sample firm before the announcement. Year is set as categorical variable of logistic analysis in order to control the fixed effect. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively. Due to the different categorical variable which is used to control the fixed effect of logistic analysis, market variables are not included in this analysis.

Table 4.5 cont.

Panel B Multivariate Analysis

	All Factors
	(Pr>|t|)
Intercept	1.7347***
	<.0001
Director Age	0.0005
	0.8820
Years of Service	-0.0023
	0.7366
Director's Ownership	1.0762
	0.4562
Job Security	-0.1518***
	0.0059
Gender	-0.1631
	0.2015
Shareholding	0.0062*
	0.0968
Controlling Shareholder	-0.0048
(Interactive variable which equals to the percentage of shareholding if top	0.1539
shareholder is also the controlling shareholder, 0 otherwise)	
Controlling Director	0.0884
(1 if director is also the controlling shareholder)	0.7199
P/E ratio	0.0001
	0.1628
Liquidity	-0.0279***
	0.0002
Intangibles	0.1591
	0.1612
Market P/E ratio	-0.0154***
	0.0086
LIBOR	-0.0129
	0.6075
Industrial Clustering	-0.0161**
	0.0170
F Value	*2.37*
Pr>F	*0.0043*
R-Square	*12.08%*
Adj R-Sq	*6.98%*
N	*256*

Note: The sample includes 306 target firms (the number of observations for each regression may vary according to the available data of control variables). The multivariate analysis of target gains is estimated by using the OLS regression model as:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

The dependent variable *Premium* is calculated as deal value divided by the market value of acquired shares 30 days before the announcement. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. X_i is the set of independent variables; Director Age is the biological age of selected directors for sample firm; Years of Service as a Director is the years of which the selected director has been in director position till the event date; Director's Ownership is the percentage of shares held by selected director; Job Security is a dummy variable which equals to 1 if the director continue to work in merged entity for at least one year after the effective date; and Gender is the gender of selected director; Shareholding the percentage of ownership held by the largest shareholder; Controlling Shareholder is an Interactive variable which equals to the percentage of shareholding if top shareholder is also the controlling shareholder, 0 otherwise; Controlling Director is the dummy which equals to 1 if the controlling shareholder is also a director, 0 otherwise; P/E ratio is the de-trended annual P/E ratio of sample firm 30 days before the announcement; Liquidity is the liquidity ratio of the sample firm before the announcement, and is calculated as the difference between current asset and inventory divided by current liability; Intangibles is the intangible assets to total assets of the sample firm before the announcement; Market P/E ratio is the de-trended annual P/E ratio

of FTSE ALLSHARE 30 days before the announcement; LIBOR is the annual LIBOR 30 days before the announcement; Industrial Clustering is the number of deal of listed target in sample firm's industrial same year as the sample firm's announcement year. The outliers are controlled by studentized residual method and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

ability to cover the firm's liabilities, and industrial change are three important aspects in understanding the intention to, and outcome from, the sale of the firm.

4.6 Conclusion

This study investigates on owners' decision to sell their firm, and how the gains received by the shareholders of the target company are affected. We analyse why the decision makers want/agree to sell the firm and how they can benefit from such a sale. We find that three types of factors, director and shareholder factor, corporate factor and market factor have a significant effect on the likelihood of the sale and the premium received from the sale. A director's years of service, percentage of ownership held by the largest shareholder and the corporate liquidity ratio all significantly reduce the likelihood of the sale of the firm. The extent to which other firms in the same industry are taken over also affects the chance of a sale. For gains from the sale, the director's job security, the controlling shareholder's shareholding, the corporate liquidity ratio, the market P/E ratio and industrial clustering all have a negative relationship with the size of the premium received by the target. The extent of director's ownership and size of intangible assets also affect the premium.

Our finding has several implications. First, agency issues exist in target firms and have a significant effect on the decision to sell the firm as well as the size of the premium paid by the acquirer. The directors of the firm are affected by their executive power accumulated over the years and the potential job risk in the merged firm in the post-takeover period. If such issues can be reduced or resolved, the directors may be willing to cooperate with the acquirers by accepting a lower premium. Secondly, the shareholders of the firm will choose the best option in maximizing their wealth by considering the related risk and returns. As our results show, the shareholders of the firm require a higher premium to compensate for the

possible lost income and may accept a lower premium if future growth of the merged firm can be shared. Individual shareholders may reveal high risk aversion and prefer certainty by accepting cash as the dominant payment mode, while corporate shareholders are looking from a more strategic point of view and accept the stock as payment with a view to sharing potential synergies. Moreover, the acquisition activity is largely determined by the market environment. Changes in the market environment reflect changes in investors' sentiment and industrial structure, and such changes result in corporate restructuring.

Chapter 5 Acquisitions of Private Acquirers

5.1 Introduction

M&A activity involving listed companies has been widely examined. However, relatively little work has related to private acquirers. The Thomson One Banker M&As database reveals that for the UK over the past two decades, private acquirers participated in around 34 per cent of all acquisitions. To our knowledge, the only empirical study that investigates the effect of an acquirer's listed status is Bargeron, et al. (2008). Bargeron, et al. (2008) investigate the difference in the size of premium paid by public and private acquirers and find that private firm acquirers pay less than public firm acquirers. Their study suggests that the main determinant of the lower premium paid by private acquirers is the ownership structure of both the acquiring and target firm. According to Bargeron, et al. (2008), concentrated ownership in the acquiring firm is related to a lower premium, whilst dispersion of ownership of the target firm reduces the selling premium. The managers may be more willing to cooperate, and such firms become targets of the private acquirer. Bargeron, et al. (2008) study examines the U.S. market, there appears to be no evidence available for the UK. In addition to concentrated ownership, private acquirers also feature low liquidity (Antoniou, et al., 2007). The low liquidity of private acquirers can impose financial constraints and limit their ability to finance deals. In our sample, over 93 per cent of the private acquirers engage in cash only deals compared to around 45 per cent of public acquirers. Whether this financing constraint leads private acquirers to take over specific type of targets, and the type of target that attracts private acquirers is of interest and may enhance our understanding of overall takeover activity. Antoniou, et al. (2008), suggest that market valuation affects takeover behaviour. The previous chapter found that a market factor affects the takeover premium. Together

with the possible financial constraints, private acquirers may engage in takeovers under particular market conditions, and this may also help us to answer the question of why private acquirers behave differently from public acquirers.

We construct a sample of 127 UK domestic takeover deals from 2004 to 2011 with 51 deals involving private acquirers and 76 deals involving public acquirers. Among our sample deals, we find that private acquirers pay less for a target than public acquirers. The targets of private acquirers are offered 15 per cent less than the targets of public acquirers and the difference in premium offered by acquirers is greatest for cash only deals. We suggest that deal, target and market characteristics have substantial effects on the size of the premium offered by acquirers as well as on the likelihood of involvement of private acquirers. Private acquirers may engage in acquisitions for different purposes than public acquirers. Private acquirers, for example, may take over a shell public firm in order to acquire listed status at lower costs than for an IPO. Private acquirers in reverse takeovers offer a lower (average) premium (0.9) than all other acquirers (1.3). Private acquirers are also more likely to walk away from deals than public acquirers. In our sample, deals involving withdrawal of one party are more likely to be associated with demands for a higher premium and the targets in these deals are more likely to receive competing offers. Private acquirers are more cautious with regard to cost control and do not face a negative reaction from outside investors if the deals are withdraw. Additionally, the absence of market pressure implies that private acquirers are less likely to encounter the winner's curse (Giliberto and Varaiya, 1989). This enables private acquirers to avoid overpaying for a target. Furthermore, private acquirers are more likely to secure a job for the directors of the target in the merged entity in the post-acquisition period. The direct effect of offering job security to the directors of the target is to reduce the purchasing premium. Job security enhances the target director's personal interests and the possible conflict of

interest between the directors' and the shareholders' in the listed targets makes the directors willing to cooperate and facilitate the acquisition, and accept a lower premium. Finally, although we find that market factors including the market P/E ratio, the borrowing rate and the industrial clustering affect the premium offered by acquirers, the market factors have no significant differentiable effect on the involvement of private acquirers. This suggests that the involvement of private acquirers and the difference in premium paid by private and public acquirers are mainly driven by the deal and target characteristics.

This study is structured as follow. Following the introduction, we discuss how our hypotheses are developed. Section 3 describes the data collected, the methodology adopted, and the control variables we use for our analysis. The results and the discussion of our findings are in section 4. Section 5 is the conclusion.

5.2 Hypotheses Developed

A well-recognized corporate characteristic that distinguishes the private firm from the public firm is the concentration of ownership in a few hands (Bargeron, et al., 2008; Boot, et al., 2006; Draper and Paudyal, 2006). Research studies, including Jensen (1986) and Aggarwal and Samwick (2003), suggest that managers may use the firm's resource to finance acquisitions in order to achieve personal objectives. Boot, et al. (2006) find that even though disagreements exist in private firms, such disagreements are not caused by a divergence of objectives. In this case, we would expect that private ownership can reduce agency costs below those of the public firms and enhance the bargaining power of private acquirers during the negotiations involved in a takeover. Thus, we suggest the following hypothesis:

Hypothesis 1: Private acquirers offer less than public acquirers.

One question raised by Bargeron, et al. (2008) is why targets accept offers from private acquirers rather than selling out to public acquirers in order to gain a higher premium. We suggest that the private acquirers may engage in different type of takeovers and may acquire different type of targets from those of public listed acquirers. Investment in private firms is characterised by less liquid ownership (Boot, et al., 2006). More liquid ownership and a lower cost of raising capital are advantages of public listed firms. Such advantages can encourage the owners of private firms to move from private to public ownership. Although the most common approach to going public is through an initial public offering (IPO), a reverse takeover provides an alternative with a similar outcome. Adjei, et al. (2008) suggests that a reverse takeover is a cheaper and faster process for the private firm which does not meet listing requirements to go public, and one tenth of private firms chose a reverse takeover as a way of accessing the capital market, according to their sample. In addition, Gleason, et al. (2005) finds that reverse takeovers involve poorly performing public firms. This result supports the cost saving argument. If cost saving is a major consideration for the private firm causing them to engage in a reverse takeover, poorly performing public firms are ideal "Shell" candidates which can be acquired cheaply.

Private acquirers also have limitations on the method of payment. Bargeron, et al. (2008) find that private acquirers pay less than public acquirers based on an investigation of cash only deals. Bargeron, et al. (2008) suggest the use of comparisons based on the same method of payment because private firm are not publicly traded. However, the mode of payment not only reflects the acquirer's financial status but also reflects possible asymmetric information between the acquirer and the target. Hansen (1987) suggests that acquirers would prefer offering stock if the target is likely to have proprietary information. Because the option of

using stock to finance a takeover in which the target has asymmetric information, is not available for the private acquirer, private acquirers may only acquire targets with less uncertainty as to their value. Additionally, Davidson III and Cheng (1997), among others, find that target firms experience higher gains when shareholders receive cash and earn less when shareholders receive stock. Thus, Bargeron, et al.'s (2008) finding that private acquirers pay less than public acquirers may not be generalised to overall acquisition activities.

If cost control is a major consideration when private acquirers make bids, private acquirers may be more likely to drop the bid if the price becomes too high. This is also suggested by Bargeron, et al. (2008) but not well investigated. Furthermore, Bargeron, et al. (2008) find that private acquirers choose targets where the managers are willing to cooperate. Our previous chapter finds that job security has a significant negative relationship with the premium paid by the acquirers. In this case, we expect private acquirers to be more likely to offer job security to the directors of the target firm. This leads to the following hypothesis:

Hypothesis 2: Private acquirers act differently from public acquirers. The deal and characteristics of the target affect the premium offered by the acquirer and the likelihood of involvement of private acquirers.

We also suggest that the takeover activities of private acquirers can be affected by market conditions. Market valuation and industrial clustering can significantly affect the value of the target and the premium paid by the acquirer. Private acquirers may choose to engage in the acquisition market in particular market condition in order to control costs. Another important market factor is the borrowing rate. Private firms have limited options with regard to finance. The absence of publicly traded shares means that private firms are likely to rely on debt financing. In such a case, the

market borrowing rate directly affects the private acquirers financing ability, and can also affect the timing of their involvement.

Hypothesis 3: Market conditions affect both the timing of the involvement of private acquirers and the premium offered.

5.3 Data and Methodology

5.3.1 Data

Deal information is collected from Thomson One Banker. Date covers the period from the beginning of 2004 to the end of 2011. The targets are listed firms and the acquirers are both listed and unlisted. Both acquiring and target firms are UK domiciled firms. Completed and unsuccessful bids are included. We remove the deals without information on either the effective date or withdrawal date. If the deal does not have completed information as to the payment mode, the deal is removed from our sample. We also require the percentage owned by the acquirer after the takeover to be over 50 per cent and the percentage owned by the acquirer prior to the takeover to be less than 50. This leaves us 609 deals. Target firms are required to have a valid ISIN code and available stock information, including stock price and trading volume available from Datastream for at least one year before the announcement date. Date information, including date of incorporation, IPO date and/or delisted date, and director and ownership information, are collected from Fame. Financial information relating to the target is collected from Worldscope. If the target firm does not have the required information, the deal is not included in our sample. The final sample includes 127 deals of which 76 are made by the public acquirers and 51 by the private acquirers. Among 95 completed deals, private acquirers are engaged in 33 deals and public acquirers are engaged in 62 deals.

5.3.2 Methodology

This study investigates why private acquirers pay less (on average) than public acquirers. The analysis is carried out in two stages. The first stage investigates the factors that affect the size of the premium paid by acquirers, regardless of the listing status of the acquirers. To estimate the relationship between the control factors and the target premium, we adopt a regression model of the form:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired.

The second stage of the analysis is the use of discriminant analysis to investigate how the control factors relate to the likelihood of involvement of the private acquirers. We use binary logistic regression for the likelihood estimation:

$$logit(P_{i,j}) = log \left(\frac{P_{i,j}}{1 - P_{i,j}} \right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j (1 if the acquirer is a public acquirer, and 0 otherwise); X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}} \right)$ is the odds ratio. The normalization $\beta_0 = 0$ is imposed in order to estimate the parameters. The parameters are estimated using the Proc Logistic function in SAS, and interpretation of the results is based on the output produced by maximum likelihood estimation within the function.

We suggest that private acquirers pay less than public acquirers and that different types of factors, namely the deal characteristics, target characteristics and market characteristics, can help explain why the difference in premium paid by private and public acquirers exists. 12 control variables are used and each control variable is classified as belonging to one of three types of characteristics.

Draper and Paudyal (1999) and Davidson III and Cheng (1997), amongst others, find that the deal characteristics have a significant effect on the gains accruing to takeover participants. Investigation of the deal characteristics can help us understand whether the difference in the premium, if any, paid by the private and public acquirers is due to private acquirers engaging in different type of takeovers, or behaving differently during the acquisition process. Four deal variables are used in our analysis. The mode of payment includes cash and stock. *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise, and *Stock Only* is a dummy variable that takes the value 1 if the deal is 100 per cent financed by stock and 0 otherwise. *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. A reverse takeover is taken to occur if the acquirer is a private firm and the target is not delisted within 3 months of the effective date of the deal. *Withdrawal* is a dummy variable relating to deal status. If the deal is eventually withdrawn, then *Withdrawal* is equal to 1 and 0 otherwise.

In addition to the deal characteristics, we argue that private acquirers pay differently from public acquirers because the two groups take over different type of targets, and these effects should be captured by the characteristics of the target. We classify target characteristics into two: Uncertainty and ownership factors. For the uncertainty factor, we test how the volume of turnover and the value of the intangible assets of the target affect the premium offered by the acquirers and the likelihood of involvement by

private acquirers. *Volume* is the annual average share volume turnover calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target. *Intangibles* is the ratio of the value of the target's intangible assets divided by the value of total assets of the target, one year before announcement[39]. Ownership information on the target is collected from BvD Fame. *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm. *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise. *Job Security* is a dummy variable that takes the value 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise[40].

Three market variables are used. *Market P/E ratio* is a proxy for the market valuation and is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date. *LIBOR* is the proxy for the market borrowing rate and is the annual average LIBOR rate 30 days before the announcement date of each takeover. *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified according to the Fama-French 12 industries classification.

5.4 Results and Discussions

To find whether there is a difference in the premium offered between private and public acquirers, we compare the mean of the premium offered by each type of acquirer. As the majority of the deals made by private acquirers are fully financed by

---

[39] According to Worldscope, intangibles (source code 02649) includes goodwill, patents, copyrights, trademarks, formulae, franchises of no specific duration, capitalized software development costs/computer programmes, organizational costs, customer lists, licenses of no specific duration, capitalized advertising cost, mastheads (newspapers), capitalized servicing rights, and purchased servicing right.

[40] We select the director with the longest years of service in each target firm. For more discussion about this selection criteria please refer to the previous chapter.

cash, and the findings of Bargeron, et al. (2008) is based on cash only deals, we first of all compare the target premium of the cash only deals made by private and public acquirers. Table 5.1 Panel A, reveals that private acquirers offer 16 per cent less than public acquirers. In case the difference only exists when the deal is financed by cash, we also compare the premium between private acquirers of cash deals and public acquirers of stock deals. Although the difference is smaller, public stock acquirers still offer more. Overall, private acquirers offer 15 per cent less than public acquirers. However, although there is an observable difference in the premium offered by private and public acquirers, the difference is insignificant according to our t-statistics and multivariate analysis. We carry out the same test on the sample of all completed deals (Table 5.1 Panel B). We find that the difference in the premium is larger than suggested by the results based on all sample deals, but the t-test fails to suggest any statistical significance at conventional levels. The multivariate analysis (Table 5.2) reveals a significant coefficient according to the acquirers listed status. For cash only deals, the private acquirer reduces the premium offered by 24 per cent, and 17 per cent for all deals. Both figures are significant at the 5 per cent level. The results for the multivariate analysis are insignificant[41]. To find out why private acquirers offer less than public acquirers, we investigate how different deal, target and market characteristics affect the premium paid by the acquirer and how these characteristics affect the likelihood of receiving an offer from a private acquirer.

---

[41] We also carried out a similar test based on cash dominated deals and stock dominated deals, which are defined as if the proportion of cash is over 50 per cent of the payment and if the proportion of the stock is over 50 per cent. The results are consistent with the findings reported.

Table 5.1 Takeover Premium by Public Acquirers and Private Acquirers

(Univariate Analysis)

Panel A All sample deals

		Premium	
	Public cash acquirer	Private cash acquirer	Difference
Mean	1.4154	1.2526	0.1628
Pr>|t|			0.2037
N	*34*	*47*	
	Public stock acquirer	Private cash acquirer	difference
Mean	1.3016	1.2526	0.0490
Pr>|t|			0.7306
N	*24*	*47*	
	All public acquirer	All private acquirer	Difference
Mean	1.4030	1.2495	0.1534
Pr>|t|			0.1390
N	*76*	*51*	

Panel B Completed sample deals

		Premium	
	Public cash acquirer	Private cash acquirer	Difference
Mean	1.4267	1.2075	0.2192
Pr>|t|			0.1735
N	*29*	*30*	
	Public stock acquirer	Private cash acquirer	difference
Mean	1.3191	1.2075	0.1116
Pr>|t|			0.5482
N	*19*	*30*	
	All public acquirer	All private acquirer	Difference
Mean	1.4237	1.2062	0.2175
Pr>|t|			0.1091
N	*62*	*33*	

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The results represented in this table are the comparison of the premium paid by different type of acquirers. Public cash acquirers are the public acquirers of cash only deals; public stock acquirers are the public acquirers of stock only deals; private cash acquirers are the private acquirers of cash only deals; Premium is calculated as the deal value divided by the target market value 30 days before the announcement date. The significance of the different is calculated by the t-test and the equality of variance is tested. If the variances are significant different, the significance of the difference is reported based on Satterthwaite method, otherwise Pooled method is used. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.2 Takeover Premium by Public Acquirers and Private Acquirers
(Multivariate Analysis)

Panel A All sample deals

	Premium (Pr>|t|)		
	Cash acquirer	Public stock acquirer & private cash acquirer	All acquirer
Intercept	1.3571***	1.2232***	1.2971***
	<.0001	<.0001	<.0001
Acquirer dummy	-0.0844	0.0496	-0.0293
(1 if private, 0 otherwise)	0.3174	0.5400	0.6354
F Value	*1.01*	*0.34*	*0.22*
Pr>F	*0.3179*	*0.5646*	*0.6368*
R-Square	*1.35%*	*0.52%*	*0.19%*
Adj R-Sq	*0.01%*	*-1.03%*	*-0.66%*
N	*76*	*66*	*118*

Panel B Completed deals

	Premium (Pr>|t|)		
	Cash acquirer	Public stock acquirer & private cash acquirer	All acquirer
Intercept	1.3584***	1.2198***	1.2937***
	<.0001	<.0001	<.0001
Acquirer dummy	-0.2458**	-0.1073	-0.1735**
(1 if private, 0 otherwise)	0.0276	0.3384	0.0490
F Value	*4.92*	*0.78*	*4.41*
Pr>F	*0.0307*	*0.3830*	*0.0387*
R-Square	*8.21%*	*1.70%*	*4.77%*
Adj R-Sq	*6.54%*	*-0.49%*	*3.69%*
N	*57*	*47*	*89*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The multivariate analysis is based on the OLS estimation:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired. Acquirer dummy is a dummy variable which is equal to 1 if the acquirer is a private acquirer and 0 otherwise. Cash acquirers are the acquirers of cash only deals; public stock acquirers are the public acquirers of stock only deals; private cash acquirers are the private acquirers of cash only deals. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. The outliers are controlled by studentized residual method (<2) and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

5.4.1 Deal Characteristics

Mode of payment is an important factor in determining the premium offered to a target. Our hypothesis suggests that the acquirers may choose different financing methods related to uncertainty as to the potential synergy. Davidson III and Cheng (1997) and Draper and Paudyal (1999), among others, find that targets gain more when deals are financed with cash. According to Table 5.3 Panel A, the premium received by the target is improved when the deal is fully financed with cash. The increase in the premium is over 5 per cent across all sample deals (Table 5.3 Panel A) and over 2 per cent for the sample of completed deals (Table 5.3 Panel B). The stock payment is negatively related to the premium, which is consistent with the previous argument that the target receives a low price when the deal is financed with shares.

The reverse takeover factor is only tested on completed deals as it can only be identified with information of the target's listed status after the effective date. Our results show that private acquirers in reverse takeovers offer a significantly lower premium than others regardless of the public status of the acquiring firm. We carry out an additional test to compare the premium offered to targets where the private acquirers are involved in reverse takeovers with public firms, and between private acquirers involved in reverse takeovers with other private acquirers. We find (Table 5.4) that private acquirers involved in reverse takeovers offer significantly less than public acquirers. On average, private acquirers in reverse takeovers offer about 50 per cent less to the target than public acquirers (univariate analysis) and 37 per

Table 5.3 Factors Affecting Takeover Premium (Multivariate Analysis)

Panel A All sample deals

	Cash Only	Stock Only	Reverse	Withdrawal	Volume (%)	Intangibles	Largest Shareholder (%)	Director Ownership	Job Security	Market P/E Ratio	LIBOR (%)	Industrial Clustering
							Control variables (Pr>|t|)					
Intercept	1.2432***	1.2878***	n.a.	1.2443***	1.3717***	1.2588***	1.2257***	1.2592***	n.a.	1.3592***	1.4312***	1.3659***
	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
Premium	0.0503	-0.0646		0.1174*	-0.2312**	0.0638	0.0007	0.0496		-0.0045	-0.3608	-0.0010
	0.3622	0.3513		0.0522	0.0182	0.5323	0.6008	0.4392		0.3449	0.0368	0.0077
F Value	*0.71*	*0.80*		*3.32*	*5.27*	*0.31*	*0.38*	*0.65*		*0.93*	*2.87*	*6.24*
Pr>F	*0.4002*	*0.3735*		*0.0709*	*0.0235*	*0.5788*	*0.5386*	*0.4203*		*0.3361*	*0.0927*	*0.0139*
R-Square	*0.61%*	*0.68%*		*2.79%*	*4.38%*	*0.27%*	*0.33%*	*0.56%*		*0.80%*	*2.42%*	*5.14%*
Adj R-Sq	*-0.25%*	*-0.17%*		*1.95%*	*3.55%*	*-0.59%*	*-0.54%*	*-0.30%*		*-0.06%*	*1.58%*	*4.32%*
N	*118*	*118*		*118*	*118*	*118*	*118*	*118*		*118*	*118*	*118*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. The multivariate analysis is based on the OLS estimation:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired. *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* is a dummy variable takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is the annual average volume turnover which is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* is a dummy variable that takes value of 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date of each takeover; *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified based on Fama-French 12 Industries Classification. *Reverse* and *Job Security* are not tested here as they can only be tested in the sample of completed deals. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. The outliers are controlled by studentized residual method (<2) and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.3 cont.

Panel B Completed sample deals

	Cash Only	Stock Only	Reverse	Withdrawal	Volume (%)	Intangibles	Largest Shareholder (%)	Director Ownership	Job Security	Market P/E Ratio	LIBOR (%)	Industrial Clustering
						Control variables (Pr>|t|)						
Intercept	1.2297***	1.2686***	1.2801***	n.a.	1.2979***	1.2319***	0.7631***	1.2220***	1.3272***	1.2954***	1.3764***	1.3244***
	<.0001	<.0001	<.0001		<.0001	<.0001	0.0008	<.0001	<.0001	<.0001	<.0001	<.0001
Premium	0.0252	-0.0487	-0.3782**		-0.1513	0.1054	0.0052**	0.0911	-0.1677**	-0.0027	-0.2717	-0.0008*
	0.7276	0.5715	0.0203		0.2841	0.4259	0.0238	0.3191	0.0170	0.6675	0.1574	0.0904
F Value	*0.10*	*0.29*	*6.08*		*1.08*	*0.54*	*5.50*	*1.08*	*5.35*	*0.18*	*1.01*	*2.28*
Pr>F	*0.7534*	*0.5933*	*0.0156*		*0.3011*	*0.4661*	*0.0213*	*0.3016*	*0.0231*	*0.6702*	*0.3188*	*0.1348*
R-Square	*0.11%*	*0.33%*	*6.61%*		*1.24%*	*0.62%*	*6.02%*	*1.23%*	*5.86%*	*0.21%*	*1.16%*	*2.58%*
Adj R-Sq	*-1.03%*	*-0.83%*	*5.52%*		*0.09%*	*-0.54%*	*4.92%*	*0.09%*	*4.76%*	*-0.94%*	*0.01%*	*1.45%*
N	*89*	*89*	*89*		*89*	*89*	*89*	*89*	*89*	*89*	*89*	*89*

Note: Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The multivariate analysis is based on the OLS estimation:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired. *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* is a dummy variable takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is the annual average volume turnover which is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* is a dummy variable that takes value of 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date of each takeover; *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified based on Fama-French 12 Industries Classification. *Withdrawal* is not tested here as it can only be tested among all sample deals. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. The outliers are controlled by studentized residual method (<2) and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.4 Takeover Premium and Reverse Takeovers

Panel A Univariate analysis			
	Premium		
	Public acquirer	Reverse acquirer	Difference
Mean	1.4237	0.9019	0.5219*
Pr>t			0.0653
N	62	5	
	Non-reverse private acquirer	Reverse acquirer	Difference
Mean	1.2606	0.9019	0.3587
Pr>t			0.2621
N	28	5	
	Non-reverse acquirer	Reverse acquirer	Difference
Mean	1.3730	0.9019	0.4711
Pr>t			0.1036
N	90	5	

Note: Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The results represented in this table are the comparison of the premium paid by different type of acquirers. Reverse acquirers are the acquirers of reverse takeovers. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal. Premium is calculated as the deal value divided by the target market value 30 days before the announcement date. The significance of the different is calculated by the t-test and the equality of variance is tested. If the variances are significant different, the significance of the difference is reported based on Satterthwaite method, otherwise Pooled method is used. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.4 cont.

Panel B Multivariate analysis			
	Premium (Pr>|t|)		
	Public acquirer & Reverse acquirer	Private acquirer	All acquirer
Intercept	1.2937***	1.1606***	1.2801***
	<.0001	<.0001	<.0001
Reverse	-0.3918**	-0.2587	-0.3782**
(1 if reverse takeover, 0 otherwise)	0.0187	0.1514	0.0203
F Value	*5.90*	*1.57*	*6.08*
Pr>F	*0.0181*	*0.2205*	*0.0156*
R-Square	*8.82%*	*4.96%*	*6.61%*
Adj R-Sq	*7.32%*	*1.79%*	*5.52%*
N	*63*	*31*	*89*

Note: Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The multivariate analysis is based on the OLS estimation:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired. *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. The outliers are controlled by studentized residual method (<2) and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

cent according to the multivariate analysis. The comparison between the private acquirers involved in reverse takeovers and other private acquirers reveals that although the difference in the premium is reduced, the private acquirers in reverse takeovers still offer 35 per cent and 25 per cent less according to the univariate analysis and multivariate analysis, respectively[42].

Bargeron, et al. (2008) suggests that one possible reason for private acquirers paying less than public acquirers is because private acquirers find it easier to walk away from a deal without the negative market response that public acquirers may suffer. Our result confirms Bargeron, et al. (2008)'s presumption. According to Table 5.3 Panel A and Table 5.5 Panel A, withdrawal deals are associated with a higher offered premium and private acquirers have a higher probability of withdrawing their bids. The finding on the withdrawal factor is consistent with our earlier univariate analysis. The difference in the average premium paid between private and public acquirers (Table 5.1) is enlarged when we move from examining all sample deals to examining completed deals. These results imply that the private acquirer is more likely to avoid overpayment than the public acquirer. One possible explanation for this phenomenon is that private firms have less issue with regard to the separation of ownership from control compared to public firms. The concentrated ownership and/or the closer alignment of objectives between the owners and managers can reduce the possible costs which are generated from agency incentives and/or hubris effects (Roll, 1986).

---

[42] The average premium paid by the private acquirers of a reverse takeover is just over 90 per cent of the market value of the target ownership acquired with a median of 104 per cent.

Table 5.5 Factors affecting the likelihood of the Involvement of Private Acquirers

Panel A All sample deals

	Cash Only	Stock Only	Reverse	Withdrawal	Volume (%)	Intangibles	Largest Shareholder (%)	Director Ownership	Job Security	Market P/E Ratio	LIBOR (%)	Industrial Clustering
							Control variables (Pr> |χ|)					
Intercept	n.a.	n.a.	n.a.	-0.6418***	-0.6490**	-0.1060	0.9584	-0.4055*	n.a.	0.0763	-0.7939	-0.5378*
				0.0044	0.0218	0.6907	0.1683	0.0756		0.8996	0.2264	0.0725
Acquirer dummy (1 if private, 0 otherwise)				0.8360**	0.5992	-1.2382	-0.0157**	-0.0220		-0.0261	0.8785	0.0013
				0.0495	0.3865	0.1148	0.0365	0.9565		0.3975	0.5423	0.6526
Likelihood Ratio				*3.89*	*0.74*	*2.58*	*4.60*	*0.01*		*0.72*	*0.37*	*0.20*
Pr> χ				*0.0484*	*0.3873*	*0.1078*	*0.0319*	*0.9565*		*0.3942*	*0.5387*	*0.6534*
Wald Test				*3.85*	*0.75*	*2.48*	*4.37*	*0.01*		*0.71*	*0.37*	*0.20*
Pr> χ				*0.0495*	*0.3865*	*0.1148*	*0.0365*	*0.9565*		*0.3975*	*0.5423*	*0.6526*
N				*47/118*	*47/118*	*47/118*	*47/118*	*47/118*		*47/118*	*47/118*	*47/118*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j (1 if the acquirer is a private acquirer, and 0 otherwise); X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}}\right)$ is the odds ratio; *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* is a dummy variable takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is the annual average volume turnover which is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* is a dummy variable that takes value of 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days

before the takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date of each takeover; *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified based on Fama-French 12 Industries Classification. *Reverse* and *Job Security* are not tested here as they can only be tested in the sample of completed deals. *Cash Only* and *Stock Only* are not tested here because of the quasi-complete separation of data points are detected by SAS. . The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.5 cont.

Panel B Completed sample deals

| | Cash Only | Stock Only | Reverse | Withdrawal | Control variables (Pr> \|χ\|) | | | | | | | |
					Volume (%)	Intangibles	Largest Shareholder (%)	Director Ownership	Job Security	Market P/E Ratio	LIBOR (%)	Industrial Clustering
Intercept	n.a.	n.a.	n.a.	n.a.	-0.5841*	-0.4911	0.2634	-0.6257**	-1.2040***	-0.4605	-0.9579	-0.9157**
					0.0717	0.1165	0.8379	0.0154	0.0003	0.5158	0.2206	0.0104
Acquirer dummy					-0.2923	-0.6833	-0.0097	-0.0029	1.2040**	-0.0089	0.6859	0.0031
(1 if private, 0 otherwise)					0.7507	0.4519	0.4675	0.9954	0.0102	0.8057	0.6885	0.3439
Likelihood Ratio					*0.10*	*0.57*	*0.51*	*0.00*	*6.84*	*0.06*	*0.16*	*0.88*
Pr> χ					*0.7484*	*0.4471*	*0.4711*	*0.9954*	*0.0089*	*0.8053*	*0.6859*	*0.3460*
Wald Test					*0.10*	*0.56*	*0.52*	*0.00*	*6.60*	*0.06*	*0.16*	*0.89*
Pr> χ					*0.7507*	*0.4519*	*0.4675*	*0.9954*	*0.0102*	*0.8057*	*0.6885*	*0.3439*
N					*31/89*	*31/89*	*31/89*	*31/89*	*31/89*	*31/89*	*31/89*	*31/89*

Note: Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j (1 if the acquirer is a private acquirer, and 0 otherwise); X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}}\right)$ is the odds ratio; *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* is a dummy variable takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is the annual average volume turnover which is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* is a dummy variable that takes value of 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date of each takeover; *Industrial Clustering* is calculated as the number of

takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified based on Fama-French 12 Industries Classification. *Withdrawal* is not tested here as it can only be tested in the sample of completed deals. *Cash Only, Stock Only* and *Reverse* are not tested here because of the quasi-complete separation of data points are detected by SAS. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.6 Competition, Withdrawal, Intangibles and Stock Payment

Panel A Withdrawal and competition

	Control Variable (Pr> |χ|)
	Compete[a]
Intercept	-1.5261
	<.0001
Withdrawal	1.7920***
(1 if the deal is withdrawal, 0 otherwise)	0.0001
Likelihood Ratio	*19.55*
Pr> χ	*<.0001*
Wald Test	*14.54*
Pr> χ	*0.0001*
N	*31/118*

Panel B Stock payment and intangibles

	Control Variable (Pr> |χ|)			
	Intangibles[a]	Intangibles[a]	Intangibles[b]	Intangibles[b]
Intercept	-1.9393***	-1.9027***	-1.7504***	-1.6630***
	<.0001	<.0001	<.0001	<.0001
Stock Only	1.8200**	1.7384**	1.4009	1.2335
	0.0431	0.0462	0.1629	0.2044
Likelihood Ratio	*4.10*	*3.96*	*1.92*	*1.58*
Pr> χ	*0.0428*	*0.0466*	*0.1649*	*0.2075*
Wald Test	*4.09*	*3.97*	*1.94*	*1.61*
Pr> χ	*0.0431*	*0.0462*	*0.1629*	*0.2044*
N	*23/118*	*23/123*	*18/89*	*18/91*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j; X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}}\right)$ is the odds ratio. In Panel A, the dependent variable of *Withdrawal* takes value of 1 if the deal is withdrawn and 0 otherwise; the independent variable *Compete* is number of competing offers for each sample target. In Panel B, the dependent variable is *Stock Only* which equals 1 if the deal is fully financed by stock and 0 otherwise; the independent variable is the target *Intangibles*. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

[a] The estimation is based on all sample deals;

[b] The estimation is based on completed sample deals.

Another explanation is that private acquirers are less likely to experience the winner's curse. Giliberto and Varaiya (1989) suggest that there is a positive relationship between the number of competitors and the size of winning bids. If the target receives competing offers from other acquirers, the private acquirer can drop out of the competition to avoid overpaying. This may not be so easy for public acquirers. Studies, such as Dodd and Ruback (1977), find that the acquirer experiences large negative abnormal returns in the post-announcement period if the deal is withdrawn. The negative effect of withdrawal on the acquirer's stock value is not applicable to private acquirers as they do not have publicly traded stocks. Thus, public acquirers may stay in the competition and pay a price that is higher than the target's real value. To test whether withdrawal from a deal is caused by bidding competition, we use logistic analysis to estimate the likelihood of a deal being withdrawn given a number of competing offers. We find (Table 5.6 Panel A) that an increase in the number of competing offers significantly increases the log ratio of withdrawal by 1.8. Since withdrawal is more likely with private acquirers, this result confirms our argument that the private acquirer is more likely to walk away if the price is too high due to bidding competition.

5.4.2 Target Characteristics

Private acquirers may offer less than public acquirers simply because they are acquiring different type of target firms. To test this, we examine the characteristics of targets. According to our hypothesis, private acquirers mainly use cash as the mode of payment and may seek targets with lower asymmetric information. If this is the case, the premium offered by the private acquirer would be lower as the target can be valued more accurately. Table 5.3 Panel A and Table 5.5 Panel A reveals that the turnover by volume is negatively related to the target premium among all sample

deals and has no significant effect on the likelihood of the involvement of private acquirers. No significant relationships are found for completed deals (Table 5.3 Panel B and Table 5.5 Panel B). For the value of intangible assets, we suggest that the effect of target intangibles is caused by their risk and return characteristics. A high value for intangibles implies future growth once the value of the intangibles can be realised. However, intangibles are also an uncertain feature of the target's valuation. These characteristics of intangible assets explain why private and public acquirers behave differently. To deal with the uncertainty associated with the valuation of intangible assets, public acquirers can choose to use stock as the mode of payment (Hansen, 1987). In addition, Roll (1986) suggests that overconfident managers may overestimate their ability and overpay the target's shareholders. The value of intangible assets requires more analysis and judgement than valuing tangible assets. If the managers of the acquiring firm are overconfident or overvalue the intangible assets of the target, they are likely to offer a higher premium than to targets with a lower level of intangible assets. For private acquirers, using tradable stocks to finance the deal is simply not an option. Moreover, private acquirers may also have fewer agency issues because of the limited financing options available and the concentrated ownership. We find that the intangible assets of the target positively relate to the size of the premium offered by the acquirers. More importantly, the likelihood of involvement of private acquirers is reduced when the value of intangibles of the target is high. Table 5.6 Panel B shows that the value of the target's intangible assets is significantly positively related to the likelihood of using the stock to finance the deal. These findings confirm our suggestion that private acquirers give greater consideration to certainty as to the target's value when making bids.

As the previous chapter has suggested, an increase in the proportion of shares held by the largest shareholder of the target should enhance the premium offered by acquirers

when various characteristics are controlled. Bargeron, et al. (2008) also suggest that an increase in the concentration of ownership of the target leads to a higher premium being paid by public acquirers, whilst private acquirers are more involved in acquisitions in which the managers of the target are willing to cooperate. Our analysis arrives at a similar conclusion: as shown in Table 5.3, an increase in the level of the largest shareholder's ownership in the target improves the premium received by the target. Table 5.5 also suggests that an increase in the level of the largest shareholder's ownership in the target significantly decreases the probability of involvement of private acquirers. We also test the effect of director's ownership of the target firm and find a similar result [43] (Table 5.3 and Table 5.5). These results imply that the concentration of ownership and the alignment of objectives between directors and shareholders may enhance the bargaining power of the target. This enhanced bargaining power can improve the selling price but private acquirers may avoid issuing bids for such targets or, if necessary, withdraw bids in order to control costs. To test whether private acquirers are more likely to engage in takeovers with the cooperation of the target directors, we investigate how the target director's job security affects the premium received by the target and the likelihood of involvement of the private acquirer. Consistent with the finding in the previous chapter, in Table 5.3 Panel B, job security of the target directors significantly reduces the premium paid by the acquirer. This suggests that the director of the target overrides the shareholders' interests with his/her personal interests when a conflict of interest exists. The logistic analysis on the likelihood of involvement of private acquirers also confirms Bargeron, et al.'s (2008) suggestion of that private acquirers seek the target

---

[43] The target director's ownership effect is based on the estimation of a director's ownership dummy variable, which is equal to 1 if the target director is the longest served director and holds shares of the target firm, and 0 otherwise. We also test the percentage of the director's shareholdings. The effect the likelihood of the engagement of private acquirer is consistent with the finding of the director's ownership dummy but the effect on the premium received by the target is insignificant and inconsistent.

director's cooperation to facilitate the takeover. According to Table 5.5 Panel B, job security significantly increases the log ratio of involvement of the private acquirer by 1.2 and this figure is statistically significant at a 5 per cent significance level. We suggest that the incentive of the private acquirer to offer a job to a target's director may not be limited to considerations of cost control. As the corporate structure of a public firm is quite different from that of a private firm, offering a job to a target director in the merged firm may enhance the integration of the two firms in the post-takeover period.

5.4.3 Market Characteristics

In addition to the deal and target characteristics, we suggest that market conditions can also influence the size of target gains and the involvement of private acquirers. Market factors are an important determinant of the value of the firm, its financing ability, and changes in industrial structure. As discussed previously, private acquirers are more cautious about cost control. If the overall market is potentially overvalued, this is not a desirable time for a private acquirer to enter the takeover market. The borrowing rate (LIBOR) is expected to have a negative relationship with the premium paid by the acquirer as expensive financing may cause acquirers to be reluctant to pay high prices, and may reduce the bargaining power of the target if the decision to sell is due to the requirement for additional funds. This negative relationship is expected to be more significant for private acquirers suggesting that private acquirers may be discouraged from engaging in the takeover market during periods when LIBOR is high as private acquirers rely heavily on debt financing. Moreover, industrial clustering creates an opportunity for acquirers to exploit additional growth. During a period of industrial clustering, the premium paid by the acquirer is expected to be low as the shift in market power may weaken the bargaining power of the target firm. For

private acquirers, engaging in the takeover market during a period of industrial clustering may lead to benefits from the potential growth arising from the assets of the acquired firms. Although we found earlier that private acquirers are more likely to walk away if there are competing bids, and that the number of acquirers is likely to increase during period of industrial clustering, the increase in the number of target candidates may imply that private acquirers are not necessarily facing severe competition. Except for the estimation of the borrowing rate, the economic value of the coefficient of the market P/E ratio and the industrial clustering is consistent with our argument, although most of the estimations are statistically insignificant (Table 5.3 and 5.5).

Tables 5.7 Panel A and B represents the results of both multivariate and logistic analysis when we include all our control variables in the model. Among all the control variables, we find that cash payment, deal status (withdrawal), reverse takeover, and largest shareholder's shareholding all have a consistent and dominant effect on the premium paid by the acquirers, and only job security has significant effect on the likelihood of involvement of the private acquirers.

Table 5.7 All Factors and Takeover Premium

	All sample deals	Completed sample deals
	Premium (Pr>|t|)	Premium (Pr>|t|)
Intercept	1.1988***	0.9768***
	<.0001	0.0005
Cash Only	0.0807	0.1199*
	0.1826	0.0998
Stock Only	0.0100	0.0171
	0.8949	0.8342
Reverse	n.a.	-0.4055*
		0.0587
Withdrawal	0.1841***	n.a.
	0.0029	
Volume (%)	-0.2472**	-0.1439
	0.0167	0.3089
Intangibles	-0.0374	0.1550
	0.7221	0.3118
Largest Shareholder (%)	0.0030**	0.0049*
	0.0275	0.0673
Director Ownership	0.0241	0.0552
	0.7000	0.4949
Job Security	n.a.	-0.0823
		0.2137
Market P/E ratio	-0.0036	-0.0045
	0.4604	0.4284
LIBOR (%)	-0.0788	-0.1153
	0.7191	0.6415
Industrial Clustering	-0.0011**	-0.0010*
	0.0156	0.0678
F Value	*2.13*	*2.17*
Pr>F	*0.0281*	*0.0248*
R-Square	*16.60%*	*23.90%*
Adj R-Sq	*8.80%*	*12.89%*
N	*118*	*89*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The multivariate analysis is based on the OLS estimation:

$$Premium = \alpha + \sum_{i=1}^{N} \beta_i X_i + \varepsilon_i$$

where X_i is the set of independent variables and the dependent variable, *Premium*, is calculated as the deal value divided by the market value of the total target's shares acquired. *Cash Only* is a dummy variable that is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* is a dummy variable takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* is a dummy variable that equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date of the deal; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is the annual average volume turnover which is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* is a dummy variable that takes value of 1 if the director still holds the position at least one year after the takeover effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days before the

takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date of each takeover; *Industrial Clustering* is calculated as the number of takeovers in each sample firm's industry in the same year as the takeover date of each deal, and industries are classified based on Fama-French 12 Industries Classification. *Withdrawal* is only tested among all sample deals and *Reverse* and *Job Security* are only tested among completed deals. The significance of model is reported based on F-statistics, and both R^2 and Adjusted R^2 are reported. The outliers are controlled by studentized residual method (<2) and the significance of the coefficient is tested by using *t*-statistics. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

Table 5.8 All Factors and the Involvement of Private Acquirers

	All sample deals	Completed sample deals
	Private acquirer	Private acquirer
	(Pr> |χ|)	(Pr> |χ|)
Intercept	1.0261	-0.9360
	0.3705	0.5755
Cash Only	n.a.	n.a.
Stock Only	n.a.	n.a.
Reverse	n.a.	n.a.
Withdrawal	0.6762	n.a.
	0.1748	
Volume (%)	0.2372	-0.5551
	0.7540	0.5785
Intangibles	-1.1578	-0.5975
	0.1738	0.5661
Largest Shareholder (%)	-0.0132	-0.0017
	0.1252	0.9068
Director Ownership	-0.3692	0.0725
	0.1252	0.8986
Job Security	n.a.	1.2747**
		0.0105
Market P/E ratio	-0.0383	-0.0057
	0.2930	0.8969
LIBOR (%)	0.9693	-0.1845
	0.5723	0.9298
Industrial Clustering	0.0017	0.0033
	0.5970	0.3838
Likelihood Ratio	*10.94*	*9.11*
Pr> χ	*0.2046*	*0.3329*
Wald Test	*9.52*	*8.40*
Pr> χ	*0.3002*	*0.3949*
N	*47/118*	*31/89*

Note: The full sample includes 127 deals of which 76 are made by the public acquirers and 51 are made by the private acquirers. Among 95 completed deals, 62 deals are made by the public acquirers and 33 deals are made by the private acquirers. The logistic analysis is based on logit regression model which as:

$$logit(P_{i,j}) = log\left(\frac{P_{i,j}}{1 - P_{i,j}}\right) = \sum_{j=0} \beta_j X_i$$

where $P_{i,j}$ is the probability that firm i belong to outcome j (1 if the acquirer is a private acquirer, and 0 otherwise); X_i is the vector of measured independent variables of firm i ; β_j is the vector of parameters of distinctive independent variables; $\left(\frac{P_{i,j}}{1-P_{i,j}}\right)$ is the odds ratio; *Cash Only* is equal to 1 if the deal is 100 per cent financed by cash and 0 otherwise; *Stock Only* takes the value of 1 if the deal is 100 per cent financed by stock and 0 otherwise; *Reverse* equals 1 if the deal is a reverse takeover and 0 otherwise. The deal is defined as a reverse takeover if the acquirer is a private acquirer and the target is not delisted within 3 months after the effective date; *Withdrawal* is equal to 1 if the deal is withdrawn and 0 otherwise; *Volume* is calculated as the annual average of the daily value of the target shares traded divided by the daily market value of the target; *Intangibles* is the ratio of the value of the target intangibles divided by the value of total assets of the target one year before the announcement; *Largest Shareholder* is the percentage ownership held by the largest shareholder of the target firm; *Director Ownership* is a dummy variable which equals 1 if the director is also a shareholder of the target and 0 otherwise; *Job Security* takes value of 1 if the target director holds the position at least one year after

the effective date and 0 otherwise; *Market P/E ratio* is the de-trended annual FTSE All Share P/E ratio 30 days before the takeover date; *LIBOR* is the annual average LIBOR rate 30 days before the announcement date; *Industrial Clustering* is the number of takeovers in each sample firm's industry in the same year as the takeover date, and industries are classified based on Fama-French 12 Industries Classification. *Withdrawal* is only tested among all sample deals and *Job Security* are only tested among completed deals. *Cash Only*, *Stock Only* and *Reverse* are not tested here because of the quasi-complete separation of data points are detected by SAS. The significance of the coefficient is tested by using *Chi*-statistics for logistic analysis. "***", "**", and "*" represents significant level of 1, 5, and 10 per cent, respectively.

5.5 Conclusion

We investigate the difference in the premium paid by private and public acquirers and possible causes of this difference. We find that, on average, private acquirers pay around 15 per cent less than public acquirers. To explain why such a difference exists, we test how deal characteristics, target characteristics and market characteristics affect the size of the premium paid by acquirers and the likelihood of involvement of private acquirers, and find that deal and target characteristics have the dominant effects.

We find that private acquirers behave differently from public acquirers. Private acquirers may engage in a reverse takeover of a public target with the aim of attaining listed status and access to the traded capital markets. Reverse takeovers provide an alternative route for private firms to go public involving lower cost and faster processing time than for IPOs[44]. Because cost is a prior concern when engage in a reverse takeover, the premium paid by the private acquirer of a reverse takeover is likely to be low or even at a discount. Our investigation also reveals that, consistent with Bargeron, et al. (2008), private acquirers find it easier to walk away from a deal. We find that non-completed deals are on average associated with a higher deal value and the number of competing bids increases the likelihood of a deal not being completed. Although such effect of bidding contest on the premium offered to the targets is indirect, it implies that private acquirers carefully control the costs of takeover by avoiding bidding competition and only progress if the price is right. We also find that private acquirers are more likely to acquire a target for which uncertainty as to the value of the assets is lower. The effect of the value of intangible assets of a target suggests a negative relationship between the size of intangibles and

---

[44] Although a reverse takeover can be financed with a lower cost for acquirers, Adjei, et al. (2008) find that long term outcome may not be desirable.

the likelihood of involvement of private acquirers. Although intangibles can reflect potential growth, private acquirers may weigh the inherent risk of intangibles higher than public acquirers. Moreover, private acquirers may also attempt to minimize the purchase price by seeking to cooperate with the directors of the target firm. Taking advantage of a possible conflict of the interest between the directors and shareholders of the target enables private acquirers to secure the deal at the lowest possible price. Another possible advantage of securing a job for a target director is that it enhances the integration of the businesses in the post-takeover.

Although our results confirm our proposed hypotheses, the findings raise questions that are worthy of further investigation. Our results suggest that the main reason that private acquirers can manage the cost of takeovers is due to their concentrated ownership, less pronounced agency issues, less risk taking, and avoidance of the winner's curse of overpayment. If this is the case, then we would expect private acquisitions to be more successful than public acquisitions. Thus, the question we should ask is why public acquirers pay so much rather than, as Bargeron, et al. (2008) proposed, why do private acquirers pay so little. Although the winner's curse and/or the hubris hypothesis may help to answer this question, if public acquirers are well aware of overpayment and still progress with a deal to avoid the negative market reaction if they withdraw, this may cast doubt on the assumption of market rationality. Another issue which is not captured by this study is whether private acquirers, in general, have similar intentions when engaged in mergers and acquisitions as public acquirers. Healy, et al. (1992) and Heron and Lie (2002), find that operating synergy can be realised in the post-takeover period. Whether this is also the case for private acquirers require an investigation of changes in the operating performance in the post-takeover period. Further research should help to answer these questions and enhance our understanding of takeover activities.

Chapter 6 Conclusion

6.1 Introduction

The development of research in M&A in recent three decades enhances our understanding about acquisitions activity from different aspects. Early studies, including Manne (1965), suggest that the existence of the market for corporate control enhances efficiency of the managerial performance and the allocation of resource. Lintner (1971) and Mandelker (1974), among others, find that acquirers gain a normal return from acquisitions and an abnormal stock performance of target firms can be observed around the completion of the takeover. Additional evidence provided by Asquith, et al. (1983), Jensen and Ruback (1983) and Andrade, et al. (2001) all suggest that acquirers gain an insignificant abnormal return during the announcement period, and Asquith, et al. (1983) and Andrade, et al. (2001) also find acquirers experience losses in the long run in the post-acquisition period. Research studies identify different deal and target characteristics, including mode of payment (Wansley, et al., 1983; Travlos, 1987; Loughran and Vijh, 1997; Draper and Paudyal, 1999), the size of the target (Fuller, et al., 2002; Moeller, et al., 2004), diversification (Graham, et al., 2002; Ueng and Wells, 2001), cross-border (Moeller and Schlingemann, 2005), target listed status (Chang, 1998; Ang and Kohers, 2001; Fuller, et al., 2002; Draper and Paudyal, 2006) have a significant effect on acquirers' gains. Jensen (1986) and Harford (1999), among others, also find that managerial incentives can also explain acquisitions activity and its effect on shareholders' wealth.

Based on the review of existing literature, we identify three empirical issues in M&As. First of all, corporate cash has been suggested as the main conflict of interest between shareholders and managers, and managers are motived to waste corporate cash on

non-value-enhancing acquisitions for their own interest at costs of shareholders (Jensen, 1986; Harford, 1999). Research studies in corporate payout provide evidence which suggest that corporate payout policy enhances shareholders' wealth by efficiently monitoring the managerial behaviour (La Porta, et al., 2000; DeAngelo and DeAngelo, 2006; Denis and Osobov, 2008). In such a case, we would expect corporate payout to reduce the possible agency costs and enhance acquirers' performance. However, how the corporate payout affect acquirers' gains are unclear. Secondly, investigations that are carried out by the majority of M&A research studies are based on the assumption that acquisitions are initiated and dominated by acquirers. Graebner and Eisenhardt (2004) argue that acquisitions can also be initiated from target side. Their study shows that corporate strategic considerations and personal factors affect managers/owners' decision to sell their firms. However, because their findings are difficult to generalise since the small sample size and the primary research method, factors that affect owners' decision of sell and their gains from the sale are still need to be identified. Thirdly, although how the target listing status affects shareholders' gains has been widely investigated, the effect of acquirer's listing status on acquisition outcomes is still lack of evidence. Even though Bargeron, et al. (2008) find that private acquirers pay less than public acquirers, additional investigation is still worthy to carry out to understand how and why private acquirers behave differently than public acquirers.

In this thesis, we carry out three empirical investigations in order to answer these questions. The result of each of our empirical chapters reveals important implications. This chapter provides the conclusion we arrived at from each of our three empirical studies. Constraints of the present studies and suggestions of possible future research directions are also discussed.

6.2 Main Findings

6.2.1 Corporate Payout and Gains from Acquisitions

The monitoring effect of corporate payout has been recognised in corporate finance literature (La Porta, et al., 2000). We test the hypothesis that corporate payout enhances acquirers' gains. There are 4,465 acquisitions under the test. We find that the 5-day cumulative abnormal return earned by non-paying acquirers (acquirers do not distribute any cash within two years proceeding to acquisition) is 1.06 per cent higher than paying acquirers (acquirers distribute cash through either dividend, or repurchase or both within two years proceeding to acquisition). The difference in 5-days acquirers' abnormal returns increases to 1.167 per cent when compares non-paying acquirers to high-paying acquirers (acquirers of which payout level is in the 4th quartile when the sample is sorted based on the payout level in descending order). The higher abnormal return gained by non-paying acquirers is significant across different deal and target characteristics, and consistent in both the univariate and multivariate analysis.

We suggest that such difference in the abnormal return gained by non-paying acquirers and paying acquirers can be explained by the life cycle stage which is indicated by corporate payout level (Denis and Osobov, 2008). We find that non-paying acquirers are smaller firms with an average market capitalization of £391 million, which is around 1/5 of the average market capitalization of paying acquirers and 1/7 of high paying acquirers. In addition, non-paying acquirers in our sample are more likely to use stock or mixed payment method to finance deals, having higher cash holdings, more likely to engage in focused deals and on average having a low market to book ratio. All these features imply that, consistent with literature, non-paying acquirers are young firms that at early stage of corporate life cycle, and the

abnormal return gained by non-paying acquirers are likely to be caused by reduction in information asymmetry. Following Draper and Paudyal (2008), we test the announcement performance of acquirers' stock if acquirers engage in multiple bids. Consistent with our suggestion and Draper and Paudyal's (2008) evidence, we find that non-paying acquirers gain the most with initial bids. Among initial bids, the difference in the abnormal return gained by non-paying acquirers and paying acquirers is significantly positive at 2.12 per cent and 2.37 per cent when comparing to high paying acquirers. However, with subsequent bids, the average abnormal return gained by non-paying acquirers is around 1 per cent lower than paying acquirers. This result suggests that paying acquirers have a better and stable performance in an acquisition programme, whilst the large gain accruing to non-paying acquirers with initial bids is mainly caused by the market revaluation.

To investigate the long run performance, we use both calendar time portfolio and BHAR methods. We find that paying acquirers significant outperform non-paying acquirers. The multivariate analysis of the long run performance also shows that payout ratio significantly improves acquirers' performance in the post-acquisition period.

Our results have several implications. First of all, our findings for both the short and long run analysis suggest that the corporate payout enhances the corporate performance. Secondly, non-paying firms are likely to be small firms that at early phrase of the corporate life cycle, and such firms are likely to gain from the market revaluation due to previous information asymmetry. Finally, our investigation does not generate any supporting evidence for the agency argument on corporate cash.

6.2.2 Factors Affecting an Owner's Decision to Sell

Graebner and Eisenhardt (2004) argue that acquisitions can be dominated by targets, and find evidence that target managers are motivated by strategic and personal factors and are actively looking for buyers. In order to provide additional and more generalizable evidence, in Chapter 4, we use both the logistic and multivariate regression analysis and test the hypothesis that a director and shareholder factor, a corporate factor and a market factor has an effect on the owner's decision to sell the firm and their gains from the sale. We find that director's years of service has a dominant effect on the likelihood of sale. Increases in director's years of service significantly decrease the log ratio of sale (the log ratio of the probability of sale over the probability of not sale). For gains from the sale, job security of target managers significantly reduces the premium received by target shareholders. In addition, percentage of ownership held by the largest shareholder and the corporate liquidity ratio are also negatively related to the likelihood of sale, whilst variables such as P/E ratio and industrial clustering all reduce the size of the premium paid by acquirers.

Our results confirm Graebner and Eisenhardt's (2004) suggestion that the decision of sale and the premium paid by acquirers can be determined from target side. First of all, the agency incentive of target managers significantly affects the decision of sale and gains from the sale. Managers of target firms highly value their executive power accumulated over years and evaluate the potential risk of job loss if their firms are taken over. If concerns of the job security and the future personal welfare can be resolved, managers would not oppose a sale of the firm and may be willing to engage in talk with potential buyers. Secondly, shareholders' decision to sell the firm is determined by the consideration of the related risk and return. In other words, shareholders would sell their firm only if such a sale can maximize their wealth. In

addition, our results imply that individual and institutional shareholders have different preference for the mode of payment. Individual shareholders are likely to request cash to enhance the certainty of their wealth whilst institutional shareholders are willing to accept stock to share any potential synergy and bear related risks. Finally, our results also show that the market environment reflects time-varying investors' sentiment and significantly affect the acquisition activity and shareholders' gains.

6.2.3 Acquisitions of Private Acquirers

The investigation of the involvement of private acquirers is first carried out by Bargeron, et al. (2008). They find private acquirers pay less than public acquirers. Following Bargeron, et al. (2008), we carry out a further study to investigate whether and why private acquirers pay differently than public acquirers. The main hypothesis of our test is that private acquirers pay less than public acquirers and the difference in the premium paid by private acquires and public acquirers are due to the fact that private acquirers takeover different types of targets. We find that the average premium paid by private acquirers is 15 per cent less than public acquirers. The lowest takeover premium is observed when private acquirers engage in reverse takeovers. In addition, we find that private acquirers are more likely to withdraw bids than public acquirers, and the number of competing bids has a significant positive relationship to the likelihood of withdrawal. Moreover, our results show that private acquirers are more likely to provide a job position to the target manager in merged entity after the takeover, and such job security is found to be related to a lower takeover premium.

Our findings suggest that private acquirers behave different than public acquirers. Private acquirers may engage in reverse takeovers which is an alternative way access public fund. As cost is a prior concern for engaging in reverse takeover, private

acquirers will only proceed in reverse takeovers if cost is minimized. In addition, private acquirers suffer less from market pressure than public acquirers. This enables private acquirers to avoid winner's curse and have a better control over costs for acquisitions. Moreover, private acquirers are more likely to seek cooperation from target managers by offering a job position. Having target managers in merged entity enables private acquirers to acquire target firms at a lower possible cost and may enhance the efficiency of the post-acquisition integration.

6.3 Constraints and Future Research Direction

We notice that there are several constraints with our studies and further research may be carried out to enhance our understanding about related issues.

First of all, our results show that non-paying acquirers experience insignificant losses with subsequent deals and paying acquirers gain a significant positive abnormal return across deals in an acquisition programme. If the positive gains for paying acquirers are from expected synergy, the cause of non-paying acquirers to engage in subsequent deals is less clear. Doukas and Petmezas' (2007) self-attribution can be an explanation, and further research in the difference in the managerial behaviour between non-paying and paying firms may help to answer this question. Secondly, our control variables are highly focused on deal and target characteristics, market variables, such as investors' sentiment, may also explain the size of gains for different acquirers. Finally, it is possible that managers carefully control the payout level to accumulate cash. Investigating the relationship between corporate payout and cash and its effect on acquirers' gains can provide direct test on Jensen's (1986) free cash flow hypothesis. However, low frequent accounting data for UK firms makes it difficult for us to perform the test. Thus, future research studies may investigate the

relationship between the corporate cash level and payout level by extending the tested period proceeding to acquisitions.

For the investigation of the seller's side of story, our study uses a director's years of service, shareholdings and job security as proxies to test a director's wealth effect. Future research may use additional variables such as changes in a director's salary, annual compensation and pension scheme to test acquisition effect on a director's wealth. In addition, our analysis does not capture firms of which managers/shareholders are willing to sell but do not receive any takeover bid during our sample period. The question of why owners of firms want to sell but fail to secure an offer could be explained by some personal, corporate and market characteristics which are not observable in our sample, and future research may help to resolve this issue.

Finally, our study of the involvement of private acquirers reveals that private acquirers pay less than public acquirers and such underpayment is because that private acquirers take over different type of targets. If this is the case, we would expect acquisitions by private acquirers are more successful than by public acquirers. However, this suggestion is based on the investigation of takeover premium received by targets, whether acquisitions by private acquirers are more successful in the long run is still unclear. Thus, investigation on the operating performance of merged entity in post-acquisition period may answer this question.

Bibliography

Adjei, Frederick, Ken Cyree, and Mark Walker, 2008, The determinants and survival of reverse mergers vs ipos, *Journal of Economics & Finance* 32, 176-194.

Aggarwal, Rajesh K., and Andrew A. Samwick, 2003, Why do managers diversify their firms? Agency reconsidered, *Journal of Finance* 58, 71-118.

Agrawal, Anup, and Ralph A. Walkling, 1994, Executive careers and compensation surrounding takeover bids, *Journal of Finance* 49, 985-1014.

Allen, Franklin, Antonio E. Bernardo, and Ivo Welch, 2000, A theory of dividends based on tax clienteles, *Journal of Finance* 55, 2499-2536.

Amihud, Yakov, Baruch Lev, and Nickolaos G. Travlos, 1990, Corporate control and the choice of investment financing: The case of corporate acquisitions, *Journal of Finance* 45, 603-616.

Anderson, Don, Andrea Haynes, and Richard Heaney, 1994, Company takeovers and equity returns: The target size effect, *Australian Journal of Management* 19, 1.

Andrade, Gregor, Mark Mitchell, and Erik Stafford, 2001, New evidence and perspectives on mergers, *Journal of Economic Perspectives* 15, 103-120.

Ang, James, and Ninon Kohers, 2001, The take-over market for privately held companies: The us experience, *Cambridge Journal of Economics* 25, 723-748.

Antoniou, Antonios, Guo Jie, and Dimitris Petmezas, 2008, Merger momentum and market valuations: The uk evidence, *Applied Financial Economics* 18, 1411-1423.

Antoniou, Antonios, Dimitris Petmezas, and Huainan Zhao, 2007, Bidder gains and losses of firms involved in many acquisitions, *Journal of Business Finance & Accounting* 34, 1221-1244.

Asquith, Paul, Robert F. Bruner, and David W. Mullins Jr, 1983, The gains to bidding firms from merger, *Journal of Financial Economics* 11, 121-139.

Asquith, Paul, and E. Han Kim, 1982, The impact of merger bids on the participating firm's security holders, *Journal of Finance* 37, 1209-1228.

Baker, Malcolm, and Jeffrey Wurgler, 2004, A catering theory of dividends, *Journal of Finance* 59, 1125-1165.

Barber, Brad M., and John D. Lyon, 1997, Detecting long-run abnormal stock returns: The empirical power and specification of test statistics, *Journal of Financial Economics* 43, 341-372.

Bargeron, Leonce L., Frederik P. Schlingemann, Rene M. Stulz, and Chad J. Zutter, 2008, Why do private acquirers pay so little compared to public acquirers?, *Journal of Financial Economics* 89, 375-390.

Berle, A, and G Means, 1932, The modern corporation and private property.

Bhattacharya, Sudipto, 1979, Imperfect information, dividend policy, and "the bird in the hand" fallacy, *Bell Journal of Economics* 10, 259-270.

Bhattacharyya, Nalinaksha, Amin Mawani, and Cameron Morrill, 2008, Dividend payout and executive compensation: Theory and evidence, *Accounting & Finance* 48, 521-541.

Boot, Arnoud W. A., Radhakrishnan Gopalan, and Anjan V. Thakor, 2006, The entrepreneur's choice between private and public ownership, *The Journal of Finance* 61, 803-836.

Bradley, Michael, 1980, Interfirm tender offers and the market for corporate control, *The Journal of Business* 53, 345-376.

Brown, Stephen J., and Jerold B. Warner, 1980, Measuring security price performance, *Journal of Financial Economics* 8, 205-258.

Brown, Stephen J., and Jerold B. Warner, 1985, Using daily stock returns : The case of event studies, *Journal of Financial Economics* 14, 3-31.

Burns, Arthur Robert, 1933, The process of industrial concentration, *Quarterly Journal of Economics* 47, 277-311.

Carhart, Mark M., 1997, On persistence in mutual fund performance, *Journal of Finance* 52, 57-82.

Carroll, Carolyn, and John M. Griffith, 2001, Free cash flow, leverage, and investment opportunities, *Quarterly Journal of Business & Economics* 40, 141.

Chang, Saeyoung, 1998, Takeovers of privately held targets, methods of payment, and bidder returns, *Journal of Finance* 53, 773-784.

Chen, Sheng-Syan, and Kim Wai Ho, 2000, Corporate diversification, ownership structure, and firm value, *International Review of Financial Analysis* 9, 315.

Comanor, William S., 1967, Vertical mergers, market powers, and the antitrust laws, *American Economic Review* 57, 254.

Davidson III, Wallace N., and Louis T. W. Cheng, 1997, Target firm returns: Does the form of payment affect abnormal returns?, *Journal of Business Finance & Accounting* 24, 465-479.

DeAngelo, Harry, and Linda DeAngelo, 2006, The irrelevance of the mm dividend irrelevance theorem, *Journal of Financial Economics* 79, 293-315.

DeAngelo, Harry, Linda DeAngelo, and Ren M. Stulz, 2006, Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory, *Journal of Financial Economics* 81, 227-254.

Denis, David J., Diane K. Denis, and Atulya Sarin, 1997, Agency problems, equity ownership, and corporate diversification, *Journal of Finance* 52, 135-160.

Denis, David J., Diane K. Denis, and Keven Yost, 2002, Global diversification, industrial diversification, and firm value, *Journal of Finance* 57, 1951-1979.

Denis, David J., and Igor Osobov, 2008, Why do firms pay dividends? International evidence on the determinants of dividend policy, *Journal of Financial Economics* 89, 62-82.

Devos, Erik, Palani-Rajan Kadapakkam, and Srinivasan Krishnamurthy, 2009, How do mergers create value? A comparison of taxes, market power, and efficiency improvements as explanations for synergies, *Review of Financial Studies* 22, 1179-1211.

Dodd, Peter, and Richard Ruback, 1977, Tender offers and stockholder returns: An empirical analysis, *Journal of Financial Economics* 5, 351-373.

Dosoung, Choi, 1991, Toehold acquisitions, shareholder wealth, and the market for corporate control, *Journal of Financial & Quantitative Analysis* 26, 391-407.

Doukas, John A., and Dimitris Petmezas, 2007, Acquisitions, overconfident managers and self-attribution bias, *European Financial Management* 13, 531-577.

Doukas, John, and Nickolaos G. Travlos, 1988, The effects of corporate multinationalism on shareholders' wealth: Evidence from international acquisitions, *Journal of Finance* 43, 1161-1175.

Draper, Paul, and Krishna Paudyal, 1999, Corporate takeovers: Mode of payment, returns and trading activity, *Journal of Business Finance & Accounting* 26, 521-558.

Draper, Paul, and Krishna Paudyal, 2006, Acquisitions: Private versus public, *European Financial Management* 12, 57-80.

Draper, Paul, and Krishna Paudyal, 2008, Information asymmetry and bidders' gains, *Journal of Business Finance & Accounting* 35, 376-405.

Easterbrook, Frank H., 1984, Two agency-cost explanations of dividends, *American Economic Review* 74, 650.

Eckbo, B. Espen, 1983, Horizontal mergers, collusion, and stockholder wealth, *Journal of Financial Economics* 11, 241-273.

Ellert, James C., 1976, Mergers, antitrust law enforcement and stockholder returns, *Journal of Finance* 31, 715-732.

Fama, Eugene F., 1970, Efficient capital markets: A review of theory and empirical work, *The Journal of Finance* 25, 383-417.

Fee, C. E., and S. Thomas, 2004, Sources of gains in horizontal mergers: Evidence from customer, supplier, and rival firms, *Journal of Financial Economics* 74, 423-460.

Ferreira, Miguel A., and Antonio S. Vilela, 2004, Why do firms hold cash? Evidence from emu countries, *European Financial Management* 10, 295-319.

Fuller, Kathleen, Jeffry Netter, and Mike Stegemoller, 2002, What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions, *Journal of Finance* 57, 1763-1793.

Ghosh, Aloke, and William Ruland, 1998, Managerial ownership, the method of payment for acquisitions, and executive job retention, *Journal of Finance* 53, 785-798.

Giliberto, S. Michael, and Nikhil P. Varaiya, 1989, The winner's curse and bidder competition in acquisitions: Evidence from failed bank auctions, *Journal of Finance* 44, 59-75.

Gleason, Kimberly C., Leonard Rosenthal, and Roy A. Wiggins, 2005, Backing into being public: An exploratory analysis of reverse takeovers, *Journal of Corporate Finance* 12, 54-79.

Gomes, Joao, and Dmitry Livdan, 2004, Optimal diversification: Reconciling theory and evidence, *Journal of Finance* 59, 507-535.

Graebner, Melissa E., and Kathleen M. Eisenhardt, 2004, The seller's side of the story: Acquisition as courtship and governance as syndicate in entrepreneurial firms, *Administrative Science Quarterly* 49, 366-403.

Graham, John R., Michael L. Lemmon, and Jack G. Wolf, 2002, Does corporate diversification destroy value?, *Journal of Finance* 57, 695-720.

Gregory, Alan, 2005, The long run abnormal performance of uk acquirers and the free cash flow hypothesis, *Journal of Business Finance & Accounting* 32, 777-814.

Gregory, Alan, Rajesh Tharyan, and Angela Huang, 2009, The fama-french and momentum portfolios and factors in the uk, *SSRN Working Paper* 31.

Hansen, Robert G., 1987, A theory for the choice of exchange medium in mergers and acquisitions, *Journal of Business* 60, 75-95.

Harford, Jarrad, 1999, Corporate cash reserves and acquisitions, *Journal of Finance* 54, 1969-1997.

Healy, Paul M., Krishna G. Palepu, and Richard S. Ruback, 1992, Does corporate performance improve after mergers?, *Journal of Financial Economics* 31, 135-175.

Heron, Randall, and Erik Lie, 2002, Operating performance and the method of payment in takeovers, *Journal of Financial & Quantitative Analysis* 37, 137-155.

Hertzel, Michael, and Richard L. Smith, 1993, Market discounts and shareholder gains for placing equity privately, *The Journal of Finance* 48, 459-485.

Hogarty, Thomas F., 1970, The profitability of corporate mergers, *The Journal of Business* 43, 317-327.

Hope, Ole-Kristian, and Wayne B. Thomas, 2008, Managerial empire building and firm disclosure, *Journal of Accounting Research* 46, 591-626.

Hudson, Henry, 1890, The southern railway & steamship association, *Quarterly Journal of Economics* 5, 70-94.

Jarrell, Gregg A., and Michael Bradley, 1980, The economic effects of federal and state regulations of cash tender offers, *Journal of Law and Economics* 23, 371-407.

Jensen, Michael C., 1986, Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review* 76, 323.

Jensen, Michael C., and William H. Meckling, 1976, Theory of the firm: Managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305-360.

Jensen, Michael C., and Kevin J. Murphy, 1990, Performance pay and top-management incentives, *Journal of Political Economy* 98, 225-264.

Jensen, Michael C., and Richard S. Ruback, 1983, The market for corporate control, *Journal of Financial Economics* 11, 5-50.

Kim, E. Han, and Vijay Singal, 1993, Mergers and market power: Evidence from the airline industry, *American Economic Review* 83, 549.

La Porta, Rafael, Florencio Lopez-De-Silanes, Andrei Shleifer, and Robert W. Vishny, 2000, Agency problems and dividend policies around the world, *Journal of Finance* 55, 1-33.

Lang, Larry H. P., and René M. Stulz, 1994, Tobin's q, corporate diversification, and firm performance, *Journal of Political Economy* 102, 1248.

Lang, Larry H. P., Rene M. Stulz, and Ralph A. Walkling, 1991, A test of the free cash flow hypothesis: The case of bidder returns, *Journal of Financial Economics* 29, 315-336.

Lang, Larry H. P., Rene M Stulz, and Ralph A. Walkling, 1989, Managerial performance, tobin's q, and the gains from successful tender offers, *Journal of Financial Economics* 24, 137-154.

Langetieg, Terence C., 1978, An application of a three-factor performance index to measure stockholder gains from merger, *Journal of Financial Economics* 6, 365-383.

Lintner, John, 1971, Expectations, mergers and equilibrium in purely competitive securities markets, *American Economic Review* 61, 101-111.

Loughran, Tim, and Anand M. Vijh, 1997, Do long-term shareholders benefit from corporate acquisitions?, *Journal of Finance* 52, 1765-1790.

Lyon, John D., Brad M. Barber, and Chih-Ling Tsai, 1999, Improved methods for tests of long-run abnormal stock returns, *Journal of Finance* 54, 165-201.

Malmendier, Ulrike, and Geoffrey Tate, 2005, Ceo overconfidence and corporate investment, *Journal of Finance* 60, 2661-2700.

Malmendier, Ulrike, and Geoffrey Tate, 2008, Who makes acquisitions? Ceo overconfidence and the market's reaction, *Journal of Financial Economics* 89, 20-43.

Mandelker, Gershon, 1974, Risk and return: The case of merging firms, *Journal of Financial Economics* 1, 303-335.

Mann, S. V., and N. W. Sicherman, 1991, The agency cost of free cash flow: Acquisition activity and equity issues, *Journal of Business* 64, 213-227.

Manne, Henry G., 1965, Mergers and the market for corporate control, *Journal of Political Economy* 73, 110.

Martin, Anna D., Takeshi Nishikawa, and Melissa A. Williams, 2009, Ceo gender: Effects on valuation and risk, *Quarterly Journal of Finance & Accounting* 48, 23-40.

Martin, Kenneth J., 1996, The method of payment in corporate acquisitions, investment opportunities, and management ownership, *Journal of Finance* 51, 1227-1246.

Martynova, Marina, and Luc Renneboog, 2008, A century of corporate takeovers: What have we learned and where do we stand?, *Journal of Banking & Finance* 32, 2148-2177.

Matsusaka, John G., 1993, Takeover motives during the conglomerate merger wave, *RAND Journal of Economics (RAND Journal of Economics)* 24, 357-379.

Mitchell, Mark L., and J. Harold Mulherin, 1996, The impact of industry shocks on takeover and restructuring activity, *Journal of Financial Economics* 41, 193-229.

Mitchell, Mark L., and Erik Stafford, 2000, Managerial decisions and long-term stock price performance, *Journal of Business* 73, 287.

Moeller, Sara B., and Frederik P. Schlingemann, 2005, Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions, *Journal of Banking & Finance* 29, 533-564.

Moeller, Sara B., Frederik P. Schlingemann, and René M. Stulz, 2004, Firm size and the gains from acquisitions, *Journal of Financial Economics* 73, 201-228.

Morck, Randall, Andrei Shleifer, and Robert W. Vishny, 1990, Do managerial objectives drive bad acquisitions?, *Journal of Finance* 45, 31-48.

Myers, Stewart C., 1984, The capital structure puzzle, *Journal of Finance* 39, 575-592.

Myers, Stewart C., and Nicholas S. Majluf, 1984, Corporate financing and investment decisions when firms have information that investors do not have, *Journal of Financial Economics* 13, 187-221.

Olsen, Robert A., and Constance M. Cox, 2001, The influence of gender on the perception and response to investment risk: The case of professional investors, *Journal of Psychology & Financial Markets* 2, 29-36.

Palepu, Krishna G., 1986, Predicting takeover targets : A methodological and empirical analysis, *Journal of Accounting and Economics* 8, 3-35.

Powell, Ronan G., 2004, Takeover prediction models and portfolio strategies: A multinomial approach, *Multinational Finance Journal* 8, 35-72.

Raghavendra Rau, P., and Theo Vermaelen, 1998, Glamour, value and the post-acquisition performance of acquiring firms, *Journal of Financial Economics* 49, 223-253.

Roll, Richard, 1986, The hubris hypothesis of corporate takeovers, *Journal of Business* 59, 197-216.

Santalo, Juan, and Manuel Becerra, 2008, Competition from specialized firms and the diversification performance linkage, *Journal of Finance* 63, 851-883.

Sapienza, Paola, 2002, The effects of banking mergers on loan contracts, *Journal of Finance* 57, 329-367.

Servaes, Henri, 1991, Tobin's q and gains from takeovers, *Journal of Finance* 46, 409-419.

Shleifer, Andrei, and Robert W. Vishny, 1989, Management entrenchment: The case of manager-specific investments, *Journal of Financial Economics* 25, 123-139.

Stulz, Rene M., 1990, Managerial discretion and optimal financing policies, *Journal of Financial Economics* 26, 3-27.

T. C, G., 1904, The merger case, *Harvard Law Review* 17, 474-478.

Thompson, Steve, 1997, Takeover activity among financial mutuals: An analysis of target characteristics, *Journal of Banking & Finance* 21, 37-53.

Travlos, Nickolaos G., 1987, Corporate takeover bids, methods of payment, and bidding firms' stock returns, *Journal of Finance* 42, 943-963.

Travlos, Nickolaos G., 1987, Corporate takeover bids, methods of payment, and bidding firms' stock returns, *Journal of Finance* 42, 943-963.

Travlos, Nickolaos G., and George J. Papaioannou, 1991, Corporate acquisitions: Method of payment effects, capital structure effects, and bidding firms' stock returns, *Quarterly Journal of Business & Economics* 30, 3-23.

Ueng, C. Joe, and Donald W. Wells, 2001, Corporate diversification, manager's incentive, and shareholder wealth, *Journal of Applied Business Research* 17, 13.

Wansley, James W., William R. Lane, and Ho C. Yang, 1983, Abnormal returns to acquired firms by type of acquisition and method of payment, *Financial Management (1972)* 12, 16-22.

Wruck, Karen Hopper, 1989, Equity ownership concentration and firm value: Evidence from private equity financings, *Journal of Financial Economics* 23, 3-28.