THE UNIVERISTY OF HULL

Mergers and Acquisitions and Institutional Ownership in the United Kingdom

A Thesis submitted for the requirements of the Degree of Doctor of Philosophy

By

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Declaration

An earlier version of Chapter 2 has been presented in the 3rd International Conference of the Financial Engineering and Banking Society (FEBS), 2013, ESCP Europe Paris (Co-author Dr. Dimitris Andriosopoulos).

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Abstract

This thesis focuses on the topic of mergers and acquisitions (M&As) in the UK from 2000 to 2010. This thesis investigates and clarifies the determinants of takeover strategies employed by acquirers including, deal payment method, choice of target, influence exerted by institutional investors and the market reactions to the deal announcement. One of the most important factors documented in this thesis is the institutional ownership, the role it has in external monitoring and the reduction in information asymmetries and agency costs.

Institutional investors' control of the equity market has grown rapidly in the UK during the last decade, and they control approximately 50% of the UK equity market. This thesis finds that institutional ownership plays a significant role in the firms' M&A strategies.

The empirical evidence shows that the acquirer firms with high levels of institutional ownership have a higher probability of paying through cash while earn-outs are preferred when acquirer firms experiences financial crisis. Meanwhile, this research establishes that institutional investors are effective external monitors that should be involved in a firms' real strategies decision process. Specifically, high levels of institutional ownership have a positive relationship with cross-border M&As' full control and large transactions. Additionally, both institutional ownership concentration and foreign institutional ownership are significantly positively associated with cross-border deals. However, only the foreign institutional ownership positively associates with large size deals. Moreover, UK acquirers receive significant positive returns at the announcement time of the M&A deals. Both the high institutional ownership concentration and total institutional ownership are positively associated with post-M&A short-term abnormal returns.

Chapter 1. Introduction

Abstract

This chapter presents an introduction into the research topic of this thesis. This chapter has been divided into three main sections which include the introductory note, theoretical framework and motivation and the main findings and contributions. The introductory note provides an overview of the research area covered in this study. The theoretical framework and motivation introduce the research problem covered in this study and also identify the motivation and contribution of this study. The section for the main findings and contribution constitutes a summary of the key research findings of this study. The last section relates to the findings with the research problems identified in the theoretical framework and motivation. Finally, this chapter provides a summary of this research.

1.1. Introductory note

Mergers and acquisitions are important sources for external growth when the firms' organic growth is not possible or the cost is much lower than the organic growth, while other companies represent a constant threat to their continuing independent existence. Meanwhile, M&As are also a quick way of increasing the company's capacity and reducing competition (Ietto-Gillies, 2005). And taking over an already successful brand is a useful and convenient approach in developing new market share and launching new products. But on the other note, is the fact that especially, under the global industrial competition, M&As are a powerful strategy to reach the target in terms of time, sources and cost. The cross-border M&As are defined as the M&As activities involving the acquirer firm and target firm that are located in different home countries (Shimizu et al., 2004). With the development of FDI and globalization, M&As cross regions and cultures become an important part of world economic activities and their rapid increase. According to the UNCTAD (2000), the value of cross-border M&As already accounts for about 80% of the total value of global FDI. Based on UNCTAD (2011), this number is changed to approximately 60% in 2007, but since the financial crisis, M&As experience significant decline and the percentage dropped to only approximately 25% in 2009. In 2010, M&As experience a faster recovery compared with greenfield which shows more resilient during the financial crisis, and in the year of 2010 cross-border, M&As still account for approx. 30% of the total value of global FDI. In 2012 cross-border M&As declined by 45% compared with 2009 and 2010, due to the knock down in M&As activities in developed economies by financial crisis, which take approx 35% of the value of global FDI (UNCTAD, 2013).

Mergers and Acquisitions (M&As) among institutional investors date back to the 19th century. In the 1920s, 1960s and the 1980s, M&As activities reached historical heights and they corresponded to positive performance of the stock

exchange markets. In these periods, some characteristics were common to the M&As that occurred in the different times (Mortola et al., 1997). For instance, in the 1920s, most M&As involved a combination of firms within similar industries. The conglomerate approach emerged in the 1960s and 1980s where large amounts of debt were used by companies in financing M&As (Rossi and Volpin, 2004). In particular, the acquiring firms used large amounts of debt in financing the acquisition of target firms that had cheaply priced assets through the use of leverage payouts.

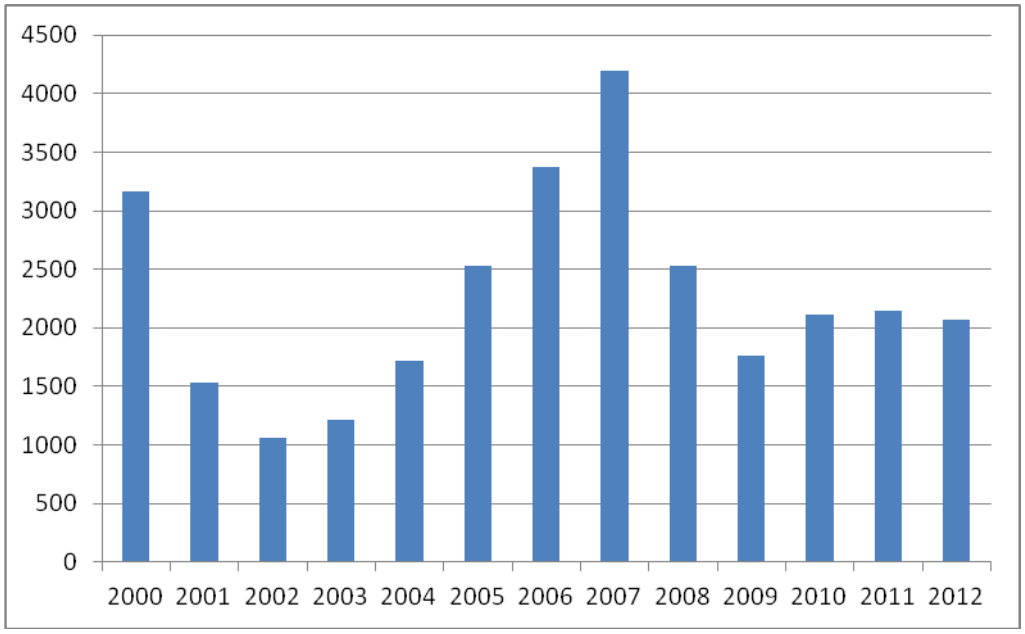
The M&As activities declined in 2001 and 2002 and they rose again in 2003. The wave of increased cross-border M&As reached its peak in 2003. However, the recent ones are yet to surpass some of the M&As transactions that were done earlier (Breinlich, 2008). According to the World Trade Organization (2008), in 2004, 30,000 acquisitions were reported globally and this indicates that they were made at the rate of one M&A transaction every 18 minutes for the whole year. In this year, the total value of the M&As was USD $1.9 trillion; this exceeds the GDP of many large countries.

According to Breinlich (2008), the presence of large institutional investors in M&As has played a crucial role in the shaping of operations in various industries. Initially, this phenomenon was observed in the US. Now, institutional M&As are exceedingly taking place in a number of countries, especially in Europe where the M&As activities have increased significantly, making the UK the second after US in the M&As transactions. A sharp increase in the M&As transaction was observed in the UK in 1990s after the introduction of the European Monetary Union, development of the London Stock Exchange market, further deregulation, privatization and growth in the technological industry (Baker et al., 2009).

The collapse of consumer confidence in 2001 and the dotcom bubble saw the pace of the M&As transactions in Europe reduced significantly like the rest in the world. This decline only lasted until 2003 when again there was a significant

increase in the number of M&As transactions both in the UK and in the world. In fact, the M&As in Europe increased significantly into the new millennium, exceeding the US M&As levels both in terms of the number of transactions and the value of the deals in 2007 (Baker et al., 2009). Baker et al. (2009) show an abrupt reduction in the number of M&As activities which dropped by 41% in 2007 as a result of the start of the economic crisis. This matched a similar drop in M&As in the rest of the world in terms of volume. The following figure 1.1 illustrates the distribution of volume of global M&As between 2000 to 2012.

Figure 1.1 Distribution of Value of global mergers and acquisitions (in billions of US dollars)



Data source: www.statista.com

According to Baker et al. (2009), from the many different corporate arrangements that businesses entered into, which include for instance licencing, franchising, mergers and acquisitions and amalgamation among others, the M&A arrangements are the most permanent forms of corporate arrangements. This form of business arrangement among corporations eliminates the challenges of governance and economic fairness which are experienced in the case of joint

ventures. The issue of building the wealth of the shareholders through M&As, and the success of the M&As, ultimately, rely on growth and the long-run profitability performance, which are always issues of M&As. Most corporations go global in search of resources, market, productive advantages, among other elements of competition and profits (Gorton et al., 2009; Matthias, 2010; Sudarsanam, 2010). These needs can easily be achieved through M&As and especially cross-border M&As, where cross-border M&As are argued to be motivated by the bidders' desire of exploiting complementarities between host countries' specific capabilities and the acquiring firms' "intangible technological advantages" (Nocke and Yeaple, 2007). Similar to strategic alliances, cross-border M&As need to value the target firms in terms of their projected performance in the market (Savor and Lu, 2009). Therefore, this indicates that the potential core competencies and the competitive advantage of the target firms serve as a key attraction to the acquisition.

Contrary to the struggles and scrapping for market shares and profits in the traditional domestic markets, the global market place offers significant growth potential. The desire for growth motivates large institutional investors to undertake cross-border M&As among many other market factors which can be grouped into micro and macro in their scope (Suddaby and Greenwood, 2005). The large institutional investors undertake the M&As transactions for various reasons which include: gaining access to strategic proprietary assets, enhancing market power, developing market synergies in both the local and global operations and across different industries, enhancing their risk diversification, exploiting business opportunities that they may be in possession of and those that others may desire from them among other factors (Michael et al., 2001). The fact that these factors are common in most entities indicates that the global competitive environment is just a playing ground that provides a platform on which players compete.

In the past two decades, the interactions between ownership structure, corporate governance and firm valuations have achieved recognition as a crucial

topic in corporate finance (Sudarsanam, 2010). Ownership has become more fractioned as many institutions have grown significantly, thus making the gap between the owners of the corporations and their managers to increase meaningfully (DeAngelo et al., 2008). Jensen et al. (1991) argue that many organizations will be characterized by concentrated ownership since the spread of ownership is an obsolete form of governance in organizations. Institutional investors are argued to play a significant monitoring role as shareholders (Gillan and Starks, 2000; Del Guercio and Hawkins, 1999; Woitdke, 2002; Hartzell and Starks, 2003). Furthermore, it is typical for institutional investors with a large share of ownership to have easy access to executives and this kind of access allows for significant influence on corporate decisions compared to smaller investors.

One key determinant of the flurry of activity in M&As is the increase in institutional investors as key shareholders in corporations around the world are making the institutional investors to increase their participation in international market (Woitke, 2002). According to the International Monetary Fund (2005), the participation of institutional investors accounts for total assets management exceeding US$45 trillion of which US$20 trillion are in equities. The institutional investors' shareholding now represents more than 70% of the U.S. equities, up from approximate 20% in 1970s (Gillan and Starks, 2007). According to the records from the Office of National Statistics, approx. 50% of the UK equity market is controlled by institutional investors nowadays. The increase in institutional financial demands in entities has put managers and CEOs under pressure to produce wealth for their shareholders by focusing on their daily activities and developing their businesses. At the same time, UK managers do not have the same freedom as their US counterparts and therefore institutional investors are more able to co-ordinate and become actively involved in the monitoring activities (Short and Keasey, 1999). Meanwhile, UK institutional investors are proved to experience much lower turnover rate compared with the

US market (Black and Coffee, 1994; Aguilera et al., 2006) which suggest that the UK institutional shareholdings are stable and may contribute more to the monitoring role. Moreover in the UK, firms are traditionally widely held, and the presence of large shareholder could be an additional contribution to the corporate governance (Slovin et al., 2000). Therefore, this thesis will also include the examination of the impacts from both the largest institutional ownership and institutional ownership concentration.

Traditionally, the US and the UK are the greatest acquirer and target countries for M&As transactions. Over the period 2003-2005, developed countries accounted for a total of 85% of the total USD $465 billion cross-border M&As of which 47% was accounted by the European Union and 23% to the US firms (Faccio and Stolin, 2006; Baker et al., 2009). Despite the increased significance of both domestic and cross-border M&As, the motivation for these activities still remains unclear because, though initially countries like the UK were known to be preferred to their high levels of economic stability and high economic growth prospects. Currently, other economies, like China and Brazil, are emerging with more having higher economic growth prospects. This makes the M&As to present a complex phenomenon which has attracted a lot of interest in this research area.

Moreover, most of the takeover target firms of the UK market (approx. 80%) are privately held companies (Chang, 1998; Conn et al., 2005; Draper and Paudyal; 2006). Chang (1998) provides evidence that the returns of bidder firms with stock offers are positively related with the presence of new blockholders from the target firms. This supports the notion that large shareholders are effective monitors of managerial performance.

Financing of M&As is similar to private placements of equity because the ownership of private targets are highly concentrated which, invariably, results in creation of new block shareholders via share payment (Chang, 1998). Meanwhile, Draper and Paudyal (2006) suggest that M&As' motivation of small private firms

will be less by the desire of enhancing managers' private benefits and more by potential synergies from the transactions and the desire of maximizing the shareholders' wealth.

The purpose of this thesis is to explore the impacts of institutional shareholders as they relate to the firms' M&As strategies and performances. To achieve the aim of this thesis, I identify a diversified M&As sample listed firms from UK between 2000 and 2010 which covers the period of both fifth M&As wave and also the 2007-2008 financial crisis. The institutional ownership data are hand-collected for bidders firms from Thomson One Banker. This sample allows me to analyze the existing theories relating to M&As and institutional ownership monitoring roles; to examine and identify the impacts of institutional ownership during the M&As target selecting strategies; and to deal with payment methods choice as well as the influence on the shareholder wealth being created around the deal announcement period. Also this research identifies what are the influence factors for the bidders to choose the deal payment method; motives of selecting identified targets; and finally, what is the market reaction to the M&As announcement.

1.2. Theoretical Framework and Motivation

Significant attention has been paid towards the implications of heterogeneity among investors and equity ownership structure. The interactions between corporate governance, firm value and firm ownership structure receive considerable attentions as an important topic in corporate finance (Stoughton and Zechner, 1998). This has developed significant understanding of the relationship between corporate finance and the underlying institutional makeup of the modern financial markets (Breinlich, 2008). Institutional investors are known by trading off the benefits of institutional ownership against the costs and benefits of having intermediaries that generate information. According to Gompers and Metrick (2001), the firms which anticipate lower benefits from institutional ownership set

lower market prices for their shares in order to ensure that they increase the relative spreads which are associated with the trading of shares and inducing provision of more information from market intermediaries.

Commentators have always documented that the shareholders that have large stakes in firms have significant abilities to be involved in the monitoring activities and to limit agency problems, improving corporate governance and therefore improving firms' performance (Shleifer and Vishny, 1986; Admati et al., 1994; Maug, 1998; Noe, 2002; Admati and Pfleiderer, 2009). The comparative advantage of the institutional investors having significant potential in monitoring managers is three fold (Wahal, 1996). Firstly, institutional investors control larger blocks of votes, thus making the managers more amenable to their demands. The institutional investors can easily induce changes in the governance of institutions, structures and the real activities that firm conduct by mounting pressure on these companies through sponsorships and public targeting of firms which have poor performance (Woitke, 2002). The institutional investors also have greater incentives to monitor performance since they cannot always dispose the shares of the firms that underperform in the market. Secondly, institutional investors are able to exploit economies of scale since they own large numbers of stocks in many corporations (Faccio and Stolin, 2006). Finally, the institutional investors generate additional indirect monitoring as most commentators tend to focus more on the stock and monitor operations of firms that attract significant institutional interest in the market. All these factors indicate that institutional investors create value through mitigation of value dissipating activities within firms.

Previous studies indicate that institutional investors play a crucial and effective role in contemporary corporate finance, for instance, their important role in curbing managerial opportunism (Fama and Jensen, 1983; Walsh and Seward, 1990) and reducing the pressure that compels managers' myopic investment behavior (Bushee, 1998). Due to their important voting power, institutional

shareholders can shape the corporate risk-taking activities and monitor firm's strategies and corporate decision making, thereby enhancing corporate performance (Wright et al., 1996). Analysis into the firms that are targeted by pension fund CalPERS indicates a positive reaction of stock prices when the target firms adopt the changes (Huston, 2001). A positive reaction is also reported when corporations reach a settlement which on proposals for governance that are made by the United Shareholders Association. In both studies, it is established that the benefits to the shareholders are more than the costs. Another study that was conducted to examine the performance of 42 companies that are targeted by CalPERS in 1987-1992 indicates that the stock prices in these companies performed poorly as compared to those of the S&P 500 index by 66% for a period of five years; however, they later outperformed the S&P 500 index by 52.5% for the rest of years (Huston, 2001).

The ever growing significance of institutional investors in the capital markets has made monitoring need to be essential in the modern business environment. Institutional investors play significant monitoring role in corporate governance which can impact a firm's both current and future performance and further developing strategy. Based on their professional financial acknowledgement and sufficient information, institutional investors prefer to invest in firms which are financially healthy or with increasing growth prospects (Hessel and Norman, 1992; Lakonishok et al., 1992; Del Guercio, 1996). Therefore, institutional investors can influence companies indirectly through their preference and stock trading, thus firms would choose their strategic investment proposals which are preferred by institutional investors, especially large institutional investors (Hartzell and Starks, 2003; Tihanyi et al., 2003).

Furthermore, institutional investors can provide effective monitoring as 'active investors' by focusing on managers' behaviour and the firms' developing strategy. Therefore, institutional investors influence both the current and future firm

performance and strategy (Hansen and Hill, 1991; Jensen, 1991; Bushee, 1998). High levels of institutional ownership can help reduce firm risk through effectively monitoring management which can enhance the managerial efficiency and the corporate decision-making quality (Hill and Snell, 1988; Roberts and Yuan, 2010). Institutional investors' monitoring effect can significantly reduce the pressure that compels managers' myopic investment behavior (Bushee, 1998). As institutional investors have significant voting power, they can shape the corporate risk-taking activities and monitor firm's strategies and corporate decision making, by which it could enhance corporate performance (Wright et al., 1996; Dhaliwal et al., 2010).

Foreign institutional investors are suggested to enjoy a strategic and long-run information advantage compared to domestic investors as foreign institutional ownership is strongly and positively associated with both contemporaneous and subsequent firm performance (Grinblatt and Keloharju, 2000; Dvorak, 2005; Huang and Shiu, 2009). Meanwhile, foreign institutional investors can help improve firm performance and deduct capital expenditures (Gillan and Stark, 2003; Ferreria and Matos, 2008), reduce cultural distance, transaction costs and internal information asymmetry, and contribute to international investment (Ferrieira et al. 2010).

Acquiring firms have a number of acquisition methods available to them. Some of the payment methods that are available include cash, shares, or a combination of the two (Van Knippenberg et al., 2002). The main question here is: which factors drive the decision on the method of payment that is adopted by acquiring firms? And considering the important impact of institutional ownership on firms' corporate performance, such as risk control and operating performance (Dhaliwal et al., 2010; Robort and Yuan, 2010), leverage liability (Faccio and Masulis, 2005; Robort and Yuan, 2010), better investment choice (Lakonishok et al., 1992; Del Guercio, 1996), and institutional ownership should be considered as influence factors on the choice of payment methods. However, there is scant evidence on the

impact of institutional ownership on the payment method choice. Jensen (1991) suggests that higher institutional blockholdings tend to reduce the likelihood of a stock payment of their investment activities which can keep the share voting. Martin (1996) also finds that higher institutional ownership leads to a lower probability of stock payment deal types especially for firms with institutional ownership between 5%-25%. However, no research (to my knowledge) has specifically been conducted for the UK to determine the impact of institutional ownership on the method of payment adopted in M&As.

Furthermore, previous studies confirm that not all institutional investors are equal in the monitoring role, including the impacts on investment decision making, and shareholders wealth creation (Brickley et al., 1988; Hoskisson et al., 2002; Almazan et al., 2005; Cornett et al., 2007). So far, according to the existing literature, there is still no specific investigation about the role of different types of institutional investors deciding the appropriate payment method for M&As.

Research on the role of institutions as potential monitors has primarily been focused on three key aspects of: public targeting, valuation and corporate real activities. There is mixed evidence on the finding that has been documented on the research into the effectiveness of institutional investors as monitors. On one hand, Smith (1996) and Strickland et al. (1996) report a positive reaction for the firms that are targeted by institutional investors which negotiated settlements. On the other hand, however, Wahal (1996) Del Guercio and Hawkins (1999) and Gillan and Starks (2003) do not find sufficient evidence to support the argument that the targets of the large institutional investors experience a change in their shareholders' wealth for a sample of firms that received proposals of corporate governance.

Another strand of the literature indicates that institutional investors have significant influence on the anti-takeover amendment and R&D investment decisions (Bushee, 1998; Wahal and McConnell, 2000). Huston (2001) also establishes that CalPERS intervention has a positive effect on the value of the target

firms. This is further supported by Hartzell and Starks (2003) when they demonstrate that institutional presence improves the incentive structure of executive compensation. All these discussions indicate that while evidence from valuation and real activities suggests a possible monitoring role for institutional investors; these are mixed results to these issues. In the case of M&As, institutional investors and professional money managers that focus on maximizing returns are more likely to facilitate value-enhancing M&As and resist "economic patriotism." As it will be established in this study, research into the M&As tend to develop a long discipline that harnesses many different aspects that are considered crucial in making decisions on various strategies that are employed in effecting M&As transactions among the institutional investors (DeAngelo et al., 2008). This research investigates into the issue of institutional and financial developments on M&As focusing on the UK.

Despite the paradox to the popularity of the M&As among institutional investors, the acquisitions appear to provide mixed results of both positive and negative performance in the market (Breinlich, 2008). For instance, while the shareholders of the target firms enjoy positive short-term returns in the market, investors in the firms constantly experience underperformance in their share prices in the months preceding the announcement of the M&A deals. Other theories also indicate that the executive of the acquiring firms report that only 56% of the acquisitions are considered successful against the initial objectives that are set by the target firms (Anderson and Van Wincoop, 2004). This is a relatively low performance which is expected to discourage the M&A transactions; however, they still continue to occur in the market. The significant increase in the number of M&As raises interesting questions among the shareholders: do merger and acquisitions announcements create value for the shareholders of the acquirer companies in the short term? The central question is trying to establish whether shareholders are better off compared to the return on the required returns which are

often set as the benchmark level results. This question has been studied based on different samples across different periods and countries, while having varieties of different results from positive or negative or zero (Kennedy and Limmack, 1996; Sudarsanam et al., 1996; Rau and Vermaelen, 1998; Akhigbe and Martin, 2000; Sudarsanam and Mahate, 2003; Conn, et al, 2005; Freund et al., 2007). Based on the UK samples, Danbolt (1995) suggests significant negative abnormal returns prior and during the announcement date for foreign bidders. Meanwhile, Conn et al. (2005) provide evidence that the announcement returns are different for different UK groups of acquirers: negative announcement returns for acquirers with domestic public targets, zero announcement returns for acquirers with cross-border public targets and positive announcement returns for acquirers with private targets. This study is exploring this question based on UK M&As, including those M&As occurring during the 2007-2008 financial crisis, providing opportunity to examine the announcement returns for UK acquirers and assess the impact of the financial crisis.

The net effect of the M&As activity remains unclear despite the large number of studies and the continued existence of research into this research subject (Faccio and Stolin, 2006). However, research into the impact of these announcements on the shareholders of the acquirer companies remains popular as researchers come up with mixed evidences indicating an increase in the wealth of the shareholders while others indicate a decline in the shareholder's wealth (Sudarsanam, 2010). Previous studies provide some evidence about the influence of institutional ownership relating to the M&As value creations such as Stulz et al. (1990) conclude that higher institutional ownership is positively associated with lower takeover premiums. Duggal and Millar (1999) find that institutional ownership has a positive impact on acquirers' returns, while they find that this positive relationship is primarily driven by firm size. Qiu (2006) proves public pension funds can improve long-term M&As performance. Gasper et al. (2005) show that

the acquirers experience more negative announcement abnormal returns when they have more short-term institutional investors. However, there is still no specific analysis of the relationship between institutional ownership and announcement returns. Meanwhile announcement returns to shareholders of acquirers are different across different sample and period, from positive or negative or even zero. The mixed results form the basis for the other research issue that is addressed in this research which seeks to establish the impact of institutional ownership on the shareholder wealth creation of M&As announcements of the acquirer companies. This thesis addresses detailed impacts of institutional ownership including foreign institutional ownership, block institutional ownership, institutional ownership concentration and total institutional ownership with the view to analyzing the short-term market reactions to the M&As announcement based on UK sample.

Glamour acquirers (high level market-to-book value) are argued to be more likely to make value-decreasing M&As decisions due to the fact that hubris plays an important role in the decision making process of glamour acquirer firm managers, therefore the mangers may be overconfident about their ability to manage a merger deal (Roll, 1986). According to Jenson's overinvestment hypothesis that the average abnormal return in response to announcement of foreign acquisitions is smaller for overinvesting (i.e. poorly managed or low q value) than for value maximizing (i.e. well managed or high q value) firms (Jenson, 1986). Doukas (1995) finds evidence to support the overinvestment hypothesis that bidders with value maximizing ($q>1$) experience larger announcement returns than over investing ($q<1$) bidders. It may suggest that when bidder's with low q value make foreign acquisition announcement, it signals to the market that its internal investment opportunities are worse (i.e. less valuable) than previously believed, because it has to invest outside the firm in a foreign location.

Previous studies still have conflicts about the glamour acquirers' announcement returns. Some studies argue that glamour acquirers experience

significantly higher announcement returns than value acquirers (Lang et al., 1989; Servaes, 1991; Rau and Vermaelen, 1998; Megginson et al., 2004). In contrast, both Freund et al. (2007) and Francis et al. (2008) report significant positive announcement returns for US acquirers with fewer future growth opportunity measured by Tobin'Q. Also, Alexandridis et al. (2008) report a statistically insignificant relationship between the market-to-book value and returns to acquirers' announcement returns based on event window (-2, +2). So, this study is going to examine the glamour acquirers' and value acquirers' announcement returns, in the hope to provide new evidence for this argument. Moreover, high level institutional ownership can help to reduce firms' risk levels through effectively monitoring management which can enhance the managerial efficiency and the corporate decision-making quality (Roberts and Yuan, 2010). As a further test of the role of acquirers' institutional ownership, it may be asked: how institutional holdings influence agency problems in glamour acquirers?

Additionally, the overwhelming majority of empirical evidence in this field primarily stems from the US and Canada with a limited number of research studies from the UK, even though the UK is the second largest country in the number of M&As activities both in value and volume just right after the USA (Breinlich, 2008; Sudarsanam, 2010). Due to the recent trends in the business environment, there is need for new investigations into the wealth effects of the announcements of the M&As, involving institutional investors in order to extend the understanding of M&As activities in Europe from the modern perspective. This, therefore, serves as the motivation of this study which is mainly targeted at investigating into various issues surrounding institutional ownership and M&As activities in the UK in the recent times.

In order to address the above issues, this study is going to investigate the monitoring role of institutional ownership relating to the firms' M&As activities including deal payment method choice, target strategies and also the shareholder

wealth creation around the deal announcement date. The specific research questions addressed in this research are as follows:

Firstly, does institutional ownership have a significant impact on the M&As payment method choice in UK acquirer firms? If there are important monitoring roles of institutional ownership among the payment method choices, then are there any differences between different institutional investors when considering the deal payment method?

Secondly, what is the influence of institutional ownership of the M&As target preference or selection? Moreover, what is the impact of foreign institutional ownership concentration and long-term horizon institutional ownership? Does the 2007-2008 financial crisis affect M&As strategies?

Finally, what is the market reaction to the M&As announcement of UK listed companies from 2000-2010? Does the 2007-2008 financial crisis have a negative impact on the market reaction to M&As and on shareholder wealth creation? What is the influence of institutional ownership, namely, foreign institutional ownership and long-horizon institutional ownership on the M&As announcement?

1.3. Main Findings and Contribution

This research employs the sample of M&As undertaken by UK listed non-financial companies between 2000 to 2010 including both domestic and cross-border transactions. Detailed institutional ownership data is collected from Thomson One Banker, while financial records of UK acquirer firms are obtained from Worldscope.

To investigate the research questions in chapter 2 a standard probit analysis is employed, and in chapter 3 both standard probit and tobit analyses are used, while in chapter 4 the standard event study methodology is employed to calculate the cumulative abnormal returns.

The first research objective identified above, which is establishing the impact of institutional ownership on the choice of payment methods in M&As, is based on data of institutional ownership of acquirer firms in the UK. The study into this research objective aims at establishing how the form of institutional ownership in M&As influences the method of payment that is employed in making payment for M&As transactions. Moreover, this research investigates the impact of firm size, profitability, liquidity and potential growth on the choice of the payment method adopted by firms.

This research shows that acquirer firms with high levels of institutional ownership have a higher chance of paying with cash, while it has a lower probability of share payment. This is in line with the US based evidence presented in Jensen (1991) and Martin (1996) which this gives the first evidence based on the UK market that higher institutional ownership will lower the probability of share payment. The preference of cash payment is related with the UK M&As characteristics that the UK market is overpopulated with private targets which do not prefer to accept overprice equity (Chang, 1998). Meanwhile, UK listed companies experience large proportion and stable institutional ownership. The institutional investor plays significant external monitoring role and also can help to provide easier access to external financing resources (Hartzell and Starks, 2003; Robert and Yuan, 2010). According to Amihud et al. (1991), corporate insiders who value control will prefer financing investment by cash or debt rather than by issuing new stock which will result in diluted holdings and increasing the risk of losing control. Therefore, in order to keep their voting power, block institutional investors tend to reduce the probability of a stock payment of the investment activities which can keep the share voting power and support their important outside monitoring role of managerial behavior (Jensen 1991; Martin 1996).

Meanwhile, earn-outs are preferred during the periods when firms experience the 2007-2008 financial crisis; this is based on the fact that, during the periods of

financial crises, most firms experience a liquidity problem which limits the ability of the firms to rely on cash payments. Through this research, it is also evident that pressure-intensive institutional investors play a substantial role in influencing the choice of payment method for M&As transactions. In the study into the impact of firm characteristics on the choice of payment, this research indicates that firm size, profitability, liquidity and potential growth are the major determinants for payment method choice.

The second research objective which is investigating how Institutional ownership influences the M&As strategies will be aimed at establishing whether the institutional investors are effective external monitors that should be involved in the real strategies decision processes. This research confirms that, indeed, institutional investors are effective external monitors that should be involved in a firms' real strategies decision process. In this case, high levels institutional ownership has a positive relationship with the Cross-border M&As deals, full control and large transactions. In addition, both institutional ownership concentration and foreign institutional ownership are significantly positively associated with cross-border deals; however, only the foreign institutional ownership positively related within large size deals.

The third research objective evaluates the impact of M&As announcements on the market valuation of companies. This research finds that during 2000 to 2010, UK acquirers receive significant positive returns at the announcement of the M&As deals; however, negative short-term post-M&As returns and in this case the domestic deals outperform cross-border deals. Consequently, institutional investors can be more effective in processing information and effective monitors. Institutional investors play important roles in the financial market, not only because of their increasing and high shareholding proportion, but also because they are often considered informed traders due to their lower average costs of acquiring information. Both the high institutional ownership concentration and

total institutional ownership are positively associated with post-M&A short-term abnormal returns. Finally, there is strong evidence that the 2007-2008 financial crisis brings significant negative impacts on the shareholder wealth creation which can be explained that the M&As activity is disrupted by the steep decline in stock markets and a subsequent period of economic recession.

This research has been categorized into three streams which cover the three key research objectives on the issue of institutional ownership identified above. In order to ensure that this research is presented in a systematic manner, each of the research objectives has been covered separately where each of them is divided into five key sections which include: introduction, literature review, data and methodology section, empirical results and finally, the summary and conclusion.

Chapter 2. The Impact of Institutional Ownership on the Choice of M&A Payment Methods

Abstract

Institutional ownership plays an important role in corporate performance, while there is limited evidence on whether institutional ownership influences the takeover payment method choice. I employ a detailed set of institutional ownership data of UK acquirer firms and show that acquirer firms with high level institutional ownership experience higher cash payment probability. Meanwhile, the evidence shows that only pressure-insensitive institutional investors are proved to play a significant role in deal payment choice. Furthermore, the evidence indicates that firm size, profitability, liquidity and potential growth are the major determinants for payment method choice. Finally, I also find that earn-out is the most popular payment method under the financial crisis environment.

2.1. Introduction

This chapter analyzes the determinants of the payment method for mergers and acquisitions, along with the impact of institutional ownership on payment method choice. The evidence in the literature suggests that institutional ownership has a positive impact on firm performance (Hartzell and Starks, 2003; Robert and Yuan, 2010). The majority of the existing literature examining the impact of institutional investors on corporate performance is based on the US stock market (Gillan and Starks 2000; Hartzell and Starks 2003; Almazan et al. 2005; Cornett et al. 2007), while international evidence is scarce. According to records from the Office of National Statistics, in the early 2000s approximately 50% of equity shares listed on the London Stock Exchange are owned by institutional investors, while this number decreased to 43.4% in 2008 and 41% in 2010. The main reason for this decline is that the ownership of insurance company and pension funds keep decreasing during the last 10 years. This high level ownership of institutional investors in the UK market, gives the potential chance of institutional owners being effective external monitors.

Meanwhile, M&As transactions by UK bidders are overpopulated by privately held companies. Conn et al. (2005) report 1140 cross-border and 3204 domestic M&As cases undertaken by UK listed acquirers from 1984 to 1998 where private targets account for 89% (1,009) cross-border and 82% (2,628) domestic transactions. According to Draper and Paudyal (2006), the majority of UK target firms are private firms, between 1981 and 2001 there are approximately 30,000 UK domestic M&As cases, while over 26,000 (88%) of the targets are unlisted firms. When the target firm is privately held, financing of M&As is similar to private placements of equity as there is only one or a small number of shareholders of target firms (Chang, 1998).

The choice of M&As payment method among cash, equity or other financing methods gives public an inside views, such as how the insiders of bidder firm values their own stock, the confidence and ability to unlock value through the M&As transaction. According to Reuer et al. (2004), the methods of payment that are used in firms can significantly influence the valuation of the participating firms and this will therefore affect the wealth of the participating shareholders in firms. Therefore, as an important process of investment strategies, payment method choice requests high attention among the management decision.

Faccio and Masulis (2005) conduct an empirical study of M&As payment choices of European bidders including UK bidders and find that both the deal characteristics and bidder firms' financial factors can significantly affect the choice of payment method. Barbopoulos and Sudarsanam (2012) examine the determinants of UK bidders offering contingent payment mainly based on deal characteristics and bidder financial situation variables. Previous studies based on the US confirm the important influence of institutional ownership on choosing the financing method for M&As (Travlos, 1987; Jensen, 1991; Martin, 1996). While Faccio and Masulis (2005) and Barbopoulos and Sudarsanam (2012) investigate the choice of payment method for M&As in the UK, there is no study, to my knowledge, that assesses the detailed impact of institutional ownership and its different types on the M&As payment method.

As institutional investors can serve as effective external monitors, it is also argued that they can play an important role in M&A's transaction process from the very beginning of proposal period. Previous studies confirm the impact of institutional investors on M&As such as deal size (Peng et al. 2010) and announcement abnormal returns (Duggal and Millar; 1999; Gaspar et al., 2005). However, there is not enough evidence, to my knowledge, confirming the influence of institutional investors on the payment method of M&As transactions. The first contribution of this chapter is to examine whether institutional ownership can drive

the acquirers' preference of payment method. I find evidence that total institutional ownership is significantly and positively related to cash payment, suggesting that strong institutional ownership encourages bidders to provide a cash offer rather than a share offer. This is also consistent with Jensen (1991) and Martin (1996) suggestion that institutional investors prefer cash offers than share offers in order to protect their monitoring position.

According to the tax argument[1], cash payment requires higher premium, while stock payment is argued to lower the managerial power as it can dilute the shareholdings (Huang and Walking, 1987; Franks et al. 1988). Stulz (1988) argues that financing investment from internal financing resources, either by debt or cash rather than equity financing, can solidify the control of managers-owners, thereby serving as mergers and acquisitions resistance strategy. Amihud et al. (1991) conclude that in corporate acquisitions, the cash financing or debt financing will be preferred rather than stock payment, which diluted the shareholdings and therefore, increase the risk of losing control.

Meanwhile, not all institutional investors are equally contributing to the improvement of investment decision making and increasing shareholders wealth. Several studies already confirm differences between varying types of institutional investors in the M&As process. Peng et al. (2010) suggest that some types of institutional ownership have a significant influence on deal size. For instance, the qualified foreign institutional investors and security investment funds can increase the acquisition size of those over-acquisition firms, while the social security funds have an inverse relationship with the acquisition size. Qiu (2006) shows that public pension funds are effective monitors of the firms' M&As activities which may be

[1] Tax argument: Cash payment M&As requires cash target shareholders to exchange ownership for cash, the transaction is necessarily taxable. Transactions that use other payment methods (e.g., convertible preferred stocks) can be tax-deferred or taxed immediately, depending on the specific situation. Tax-deferred M&As require target shareholders to continue ownership in the combined firm after acquisition. A stock transaction that involves exchange of voting shares is tax-deferred (Huang and Walkling, 1987).

associated with a reduced frequency of merger bids, and also provides evidence that public pension funds can improve the long-term M&As performance.

The existing literature provides evidence on the impact that varying types of institutional ownership have on M&As and corporate governance in general. This is the first study, to my knowledge, that provides clear and direct evidence on the impact of different institutional ownership types on choosing a payment method for M&As. This research finds that the presence of investment advisors and hedge funds as shareholders, which are part of the press-insensitive investors, serves as an effective monitor and induces a higher likelihood for a cash payment on M&As. While the presence of pension funds has a negative impact on cash payments, but a positive impact on share payments. Meanwhile, the evidence shows that there is low level pressure-sensitive institutional ownership (Bank & Trust, Insurance Company) for UK acquirers and therefore, these institutional investors are not effectively involved in the transaction processes of M&As.

Furthermore, the sample covers the time period of the financial crisis, starting from 2007. Due to the shocks brought upon global financial industries and corporate performance (Campello et al., 2010; Ivashina and Scharfstein, 2010; Erkens et al., 2012), M&A activities experienced a significant decline following 2007. On the other hand, the financial crisis arguably brings the potential opportunities for M&As as more financial troubled companies are picked up as deal targets by strategy investors (Sánchez et al., 2011) and bidders are more aggressive and can also benefit more from M&As deals during the financial crisis (Wan and Yip, 2009). Hence, I assess the potential impact of financial crisis on the payment method of M&As deals.

Finally, I include in this analysis a number of control factors that are established in the literature as having a strong influence in the payment method.

Such factors are, asymmetric information [2] (Linn and Switzer, 2001), deal characteristics (Chang and Mias, 2000; Fuller, 2003; Faccio and Masulis, 2005), and firm level characteristics (Martin, 1996; Faccio and Masulis, 2005; Swieringa and Schauten 2008). The rest of this chapter is structured as follows: Section 2 discusses the literature review and formulated the hypotheses. Section 3 shows the sample overview and methodology, Section 4 provides the empirical results and section 5 gives the conclusion.

2.2. Literature Review and Hypotheses Setting

2.2.1. Monitoring Role of Institutional Investors

Institutional investors play a positive monitoring role in corporate governance which can impact a firm's developing strategy as well as its current and future performance. Firstly, institutional investors can self-select those firms which are financially healthy or with increasing growth prospects. Hessel and Norman (1992) reveal that institutions prefer to choose firms with both good short-term performance and good long-term performance. Empirical evidence shows that the percentage of institutional shareholding increases when R&D expenditure, firm size, and return on long-term assets increase. Lakonishok et al. (1992) and Del Guercio (1996) also suggest that institutional investors would tilt their investment toward the 'good' or 'glamour' equity rather than on basis of objective risk characters, especially for the banks and mutual funds.

Secondly, institutional investors serve as effective monitors by focusing on the managers' behaviour and the firms' developing strategy. Therefore, institutional shareholders can influence both the current and future performance of a firm, hence they are also known as 'active investors' (Hansen and Hill, 1991; Jensen, 1991;

[2] See also Myers and Majluf, (1984); Jensen, (1987); Fishman, (1989), Travlos, (1987); Berkovitch and Narayanan, (1990); Cornu and Isakov, (2000).

Bushee, 1998). This is further supported with a wealth of evidence from the literature suggesting that institutional investors have a significant impact on a firm's monitoring and performance (McConnell and Servaes, 1990; Bushee, 1998; Hartzell and Starks, 2003; Robert and Yuan, 2010). Institutional investors' monitoring effect can significantly reduce the pressure that compels managers' myopic investment behavior (Bushee, 1998).

Several studies provide evidence that institutional ownership has positive impacts on the firm's performance. Firstly, it is argued that institutional investors can self-select those firms which are financially healthy or with increasing growth prospects. Hessel and Norman (1992) reveal that the institutions prefer to choose the firms with both good short-term performance and long-term performance. Empirical evidence shows that percentage of institutional shareholding will increase when the firms are with increasing R&D expenditure, firm size, and return on long-term assets. Secondly, institutional investors can play a positive role in the corporate governance which can monitor the managers' behaviour and impact firms' developing strategy and influence both current and future performance which is named as 'Active investors' by Jensen (1991). Based on the evidence of positive relation between institutional ownership and R&D expenses, Bushee (1998) suggests that institutional investors play an important monitoring role which can reduce the pressure that compels managers' myopic investment behaviour. The study of companies from research-intensive industries also suggests that the higher level of institutional ownership may be positively associated with R&D expenditure (Hansen and Hill, 1991). Hartzell and Starks (2003) investigate the relation between institutional ownership and compensation of firm's executives and provide empirical evidence that the institutional investors play an important monitoring role in mitigating the agency problem between managers and shareholder. Meanwhile, they also provide evidence that institutional investors in general are attracted by the firms with greater pay-for-performance sensitivity.

Robert and Yuan (2010) believe that institutional investors can enhance the managerial efficiency and the quality of corporate decision-making. They find that institutional investors can help to reduce the cost of banking borrowing by lowering the loan spread. The evidence shows that institutions play an active role in corporate governance by reducing the firms' risk levels through effectively monitoring management. Chen and Steiner (1999) find that the institutional ownership can be a substitute for leverage in reducing agency costs. Velury and Jenkins (2006) provide evidence that institutional ownership positively associates with the earning quality which is measured by cash flow, magnitude of abnormal accruals, timeliness and representational faithfulness. Meanwhile, they also suggest that recent increasing institutional ownership concentration has negative impacts on the earning quality.

Dhaliwal et al. (2001) also suggest that institutional ownership is positively related to the firm performance and financial health (measured by market valuation weights on earnings and book value of equity) which indicates that firms with high level institutional ownership is less financially distressed than those with lower institutional ownership. However, they also find that this positive valuation effect is mainly driven by the institutions with long-term investment horizons and monitoring incentives. Hill and Snell (1988) show that ownership structure influences firm's profitability through the choice of corporate strategies and as part of the outsiders institutional investors discourage the corporate strategies which will increase firm risk, especially diversification strategy based on 122 of fortune 500 companies. Wright et al. (1996) provide evidence that institutional ownership has significant positive impacts on corporate risk taking for firms with growth opportunities, while this research also emphasizes that this positive influence only exists for firms with growth opportunities in the future.

As institutional investors have significant voting power, they can shape the corporate risk-taking activities and monitor firm's strategies and corporate decision

making, thereby enhancing corporate performance (Wright et al., 1996). High level institutional ownership can help to reduce firms' risk levels through effectively monitoring management which can enhance the managerial efficiency and the corporate decision-making quality (Roberts and Yuan, 2010).

Previous empirical evidence based on the US market suggests higher institutional block-holdings tend to reduce the probability of a stock payment of their investment activities which can keep the share voting power and support their important outside monitoring role of managerial behavior (Jensen 1991; Martin 1996). So, in order to keep their monitoring power, institutional investors may give less consideration to share payment.

However, as most UK M&As targets are privately held companies, so financing of takeovers is similar to private placements of equity because the ownership of private targets are highly concentrated. Therefore, takeovers of these private targets via share payment tend to create large block shareholders. And the positive correlation between the acquirer firm returns in share M&As offer and new block shareholders from the target company reveals that the large shareholders are effective monitors (Chang, 1998). Bidders' offer not only brings opportunities but also competitions. Even though cash offer has advantages of serving to "preempt" competition by signaling a high value for the target. While under the asymmetric information between targets and bidders, cash offer requires higher premiums comparing to share offers as the cash can preempt competition by signaling a high valuation of the target. Target shareholders must realize capital gain from the cash offer immediately, whereas for share offer the capital gain can be deferred until the shares are sold (Fishman, 1989). Therefore this argument still requires further evidence and support about whether the share payment will be preferred by institutional investors.

As institutional investors can serve as effective monitors of firm managers, it is also argued that institutional ownership plays an important role in the M&As

process since the proposal period. Duggal and Millar (1999) find that institutional ownership has a positive impact on acquirers' returns. However, they find that this positive relationship is primarily driven by firm size. Peng et al. (2010) suggest that some types of institutional ownership have a significant influence on deal size, for instance, the qualified foreign institutional investors and security investment funds can increase the acquisition size of those over-acquisition firms, while the social security funds have an inverse relationship with the acquisition size of the under-acquisition firms.

Meanwhile, considering the important impacts of institutional ownership on firms' corporate performance, such as risk control and operating performance (Dhaliwal et al., 2001; Robort and Yuan, 2010), leverage liability (Faccio and Masulis, 2005; Robort and Yuan, 2010), better investment choice (Lakonishok et al.,1992; Del Guercio, 1996;). The institutional ownership is considered as an influence factor for the M&As payment method choice in the previous studies. Jensen (1991) suggests that higher institutional blockholdings tend to reduce the likelihood of a stock payment of their investment activities which can keep the share voting power and support those institutional investors to play important role of outside monitors of managerial behaviour. In addition, Martin (1996) also analyzes a sample of domestic M&A deals in US and finds that higher institutional ownership leads to a lower probability of stock payment deal types especially for firms with institutional ownership between 5%-25%. So far according to the literature work, there is still no sufficient investigation about the role of institutional investors in the process of M&As deal payment method choice, this research specially is going to find out whether institutional ownership variables have any direct or indirect impacts on the payment method choice.

According to Chang (1998), if the M&As transaction is financed by common stock, then the deal is similar to private placement of equity because the target is owned by one or a small number of shareholders. As in the UK market, large

proportion of M&As targets are privately held companies, therefore the consideration of avoiding block shareholders and keeping voting power is an important factor for using cash offers. Therefore, this study is going to expand the previous studies following Jensen (1991) and Martin (1996) and investigate the impact of institutional owners' monitoring role on the choice of payment methods base on the sample of UK M&As 2000-2010.

Hypothesis 1a: Acquirers with higher institutional ownership have a lower probability of using stock payment.

The deal payment financing decision is in the first instance determined by both firm level and country level capital cost (Martynova and Renneboog , 2009). According to the previous tax argument, cash payment requires high premium as the cash transaction is necessarily taxable comparing with other payment methods (Huang and Walking, 1987). However, institutional shareholders have greater ability to influence firms risk management due to their external pressure, thereby contributing to reducing external capital costs, increasing capital efficiency and creating synergies between different risk management activities (Liebenberg et al., 2003). Institutional ownership will press the management to deal with the high premium being offered in the M&As transactions (Bargeron et al., 2008). Therefore, the high synergies created in the transactions can help to compensate for the additional premium.

Furthermore, high level institutional ownership is suggested to provide firms with greater access to external financing resources and can also help to reduce the bank borrowing cost than other firms (Faccio and Masulis, 2005; Robert and Yuan, 2010). Therefore, when acquirer firms have high levels of institutional ownership, they may have more external financing resources to support the investment opportunities than other firms. Faccio and Masulis (2005) reveal that cross ownership between acquirer companies and banks through give acquirer special access to bank borrowing. The evidence shows high probability of cash offers for

this group of acquirers when comparing with stock and mix payment. Roberts and Yuan (2010) suggest institutional ownership can help reduce firms' risk through reducing the bank borrowing cost, especially firms with institutional investors have significantly lower bank borrowing cost than firms without institutional investors.

In this study, I examine the impact of institutional ownership on firms' external financing capacity. I expect to find that institutional investors will have a positive contribution to acquirer firms' debt capacity.

Hypothesis 1b: Acquirers with higher institutional ownership have a higher probability of offering cash payment.

Meanwhile, not all institutional investors are equal in contributions to improvement of investment decision making and shareholders wealth creation. Bank & Trust and Insurance companies are considered to be pressure-sensitive institutional investors due to their existing or potential business relations with firms which might prevent these investors from being active monitors. In contrast, independent investment advisors and investment companies are labeled as pressure-insensitive investors which indicate their willingness to challenge monitoring roles in those companies (Brickley et al., 1988; Almazan et al., 2005; Cornett et al., 2007). The evidence confirms that pressure-sensitive institutions are more likely to support the management decisions in order to protect current or potential relations with firms they invest in. Yet, high level pressure-insensitive institutional ownership is proved to have significantly positive impacts on corporate performance[3] (Cornett et al., 2005).

Several studies already confirm differences between varying types of institutional investors in the M&As process. Peng et al. (2010) suggest that some types of institutional ownership have a significant influence on deal size. For

[3] Cornett et al. (2005) employ operating cash flow return to measure the corporate performance.

instance, the qualified foreign institutional investors and security investment funds can increase the acquisition size of those over-acquisition firms while the social security funds have an inverse relationship with the acquisition size of the under-acquisition firms.

Therefore, not all the institutional investors are equal in making contribution to the improvement of investment decision making, and shareholders wealth creation. Gaspar et al. (2005) provide evidence that bidder firms with short-term institutional shareholders experience lower announcement abnormal returns and targets firms with short-term institutional shareholders also exhibit lower takeover premium. The findings indicate that short-term institutional investors play a weaker monitoring role which may allow managers to process those value-reducing M&As activities or to bargain for personal benefits. Qiu (2006) shows that public pension funds are effective monitors of the firms' M&As activities which may associate with reduced frequency of merger bids, and also provides evidence that public pension funds can improve long-term M&As performance.

Even though these studies confirm different levels of effects among types of institutional ownership in corporate governance and M&As process, no previous study provides evidence about their different influences on transaction payment choice. The second contribution is to assess the impacts of different types of institutional investors on firm's M&As payment choice decision. This study finds that as part of press-insensitive investors, Investment advisor/hedge fund is an effective monitor which shows significantly positive coefficient on cash payment. While pension fund presents significantly negatively contribution on cash payment, but it has positive impacts on share payment. Meanwhile, these UK acquirers present low level pressure-sensitive institutional ownership (Bank & Trust, Insurance Company) and therefore these institutional investors are not effectively involved in the M&As transaction process.

Therefore this study examines the impact of different types of institutional

investors. Bank & Trust and Insurance Company are expected to be less effective monitors than independent investment advisors and investment companies.

Hypothesis 1c: Acquirers with more pressure-insensitive institutional investors[4] *have a higher probability to employ cash payment.*

With regard to pension funds, which are also a main category of institutional investors in the UK, the existing evidence is controversial as to whether they behave as active corporate monitors. Brickley et al. (1988) group corporate pension funds as pressure-indeterminate institutions, while Cornett et al. (2007) use primarily pension funds as part of pressure-sensitive institutional investors. Faccio and Lasfer (2000) find that pension funds in the UK are effective monitors. In contrast, Qiu (2006) suggests that public pension funds are effective monitors based on a sample of S&P500 firms. Moreover, the author finds that public pension funds reduce the frequency of M&As while improving the long-term post M&As performance. In this study, I test the pension fund ownership impacts on payment method choice based on the following hypothesis:

Hypothesis 1d: *Acquirers with high level pension fund ownership have a higher probability to employ cash payment.*

2.2.2. Acquirer's Potential Growth

Jung et al. (1996) argue that firms with valuable investment opportunities (measured by market-to-book ratio[5]) prefer to raise fund to support their investment via issuing equity rather than debt, as the equity gives more discretion over the capital raised than debt. Evidence from US cross-border acquisitions shows that value maximizing acquirers [6] experience high abnormal returns than the

[4] According to the institutional ownership data category from source Thomson One Banker, pressure-institutional investors are investment advisors and hedge fund/investment advisors.

[5] Market-to-book ratio: market value to total assets.

[6] Doukas (1995) groups US bidder firms into overinvesting (q<1) and value maximizing firms (q>1) based

overinvesting bidders (Doukas, 1995).

Martin (1996) concludes that acquirers with higher investment opportunities (measured by Tobin's q) are more likely to finance the M&As through stock in US domestic transaction. Martynova and Renneboog (2009) find that companies with strong growth opportunities prefer equity financing takeover rather than cash or debt financing to protect the firm's future development and financing requirement.

Higher Tobin's q is also correlated with high level R&D expenditures, and Szewczyk et al. (1996) confirm the positive stock market reaction to high R&D investment announcement for firms with high Tobin's q (Szewczyk et al., 1996). So, high potential growth opportunities may lower the bidder's need for additional debt and also make it attractive to shareholders from target firms, therefore high level Tobin's q is expected to positively relate to share payment. I use the variable Tobin's q defined as market value of equity plus book value of total debt over total value of total asset (Mantecon, 2009; Martynova and Renneboog, 2009).

Meanwhile, McConnell and Servaes (1990) find a significant positive relationship between the total institutional ownership proportions and the Tobin's Q suggestion that institutional investors prefer to invest in firms with high growth potential. This research is expecting a high probability of share payment offers when the acquirers present high growth potential.

2.2.3. Financial Leverage

Financial resources are mainly from previous profit and debt (initial and external finance resources). High leverage constrains the acquirers' ability to issue new debt, hence limiting their ability to provide a cash offer. Bolton and Freixas (2000) predict that risky firms prefer bank loans to equity financing as they believe banks are experts at helping firms through financially distressed times. Martynova

on value of Tobin' s q.

and Renneboog (2009) find evidence that is consisted with Bolton and Freixas's (2000) prediction that firms prefer bank borrowing rather than equity for external funds but with low leverage ratio. Faccio and Masulis (2005) confirm that high leverage can constrain acquirer's cash payment ability which increases stock payment probability.

Following Faccio and Masulis (2005) and Swieinga and Schauten (2007), I employ the proxy leverage, estimated as the deal value (including assumed liabilities) plus sum of total book value of total debt prior to the deal announcement divided by deal value (including assumed liabilities) plus the sum of book value of total assets prior to announcement. This variable is employed rather than the traditional leverage (total debt/ total assets) because this new definition leads to acquirer's post deal leverage if the transaction is financed from additional debt. A lower probability of cash payment offers when the acquirer firms experience high level debt leverage is expected.

2.2.4. Asymmetric Information and Risk Sharing

Due to information asymmetries, acquirers assume a high uncertainty regarding the target value and future growth especially considering cross-industry, cross-border, and high technology industries (Fishman, 1989; Kohers and Ang, 2000; Datar et al., 2001; Reuer et al., 2004). The acquirers for cross-border M&As are supposed to experience more challenges than domestic deals due to the high level asymmetric information as different culture values, different investment environment (Mantecon, 2009). And, it has been confirmed that high level asymmetric information can influence payment method which tends to be high probability of share payment (Myers and Majluf, 1984; Hansen, 1987). Hansen (1987) employs information asymmetry models, suggests acquirer would prefer stock payment rather than cash when they have insufficient value information about targets in order to force the target to share post-merger revaluation effects.

Myers and Majluf (1984) argue that asymmetric information between the bidder and target on the bidder's share value will influence the bidder's payment method decision: if the shares are overvalued the bidder would prefer to offer shares and cash offer. Since Fishman (1989) employs the information, asymmetry models assume asymmetric information of targets and Hansen (1987) argues the asymmetric information between both bidders and targets, dealing with the investment and valuation risk under asymmetric information becomes an important explanation for M&As payment method choice. This impact of asymmetric information has been supported to be relevant for the payment method choice by plenty of empirical studies, such as Travlos, 1987; Berkovitch and Narayanan, 1990; Cornu and Isakov, 2000 and Linn and Switzer, 2001.

Under the situation of high asymmetric information, share payment can help to reduce the risk of insufficient current and future value information of target firms and can also force the target to share post-merger revaluation effects. This research employs high-tech, cross-industry, and cross-border dummy variables to identify high-technology target, cross-industry deal, and cross-border M&As transactions. Therefore, this research is expecting a higher probability of share payment under high level of asymmetric information situation.

At the same time, earn-out is arguably a powerful method to balance asymmetric information gap and share risks between bidders and target firms (Eckbo, 2009). Due to the earn-out, deal is based on target firms' post-merger operating performance, when facing high technology target, and cross-border deals, earn-out turns out to be a good choice for US acquirers (Reuer et al., 2004; Caselli et al., 2006).

Recent years earn-out is considered a powerful method to balance the asymmetric information gap and share risks between target and bidder in expected future growth of the acquiring business as they make deal to pay the purchasing price based on the earning of the business in the future (percentage of net profit or

earning) (Eckbo, 2009). Caselli et al. (2006) also suggest that considering asymmetric information and moral hazard, earn-out may be a better choice for the cross-industry mergers and acquisitions, and also cross-border M&As, especially in the low investment protection level countries.

Kohers and Ang (2000) find that high asymmetric information increases the use of earn-out payment deal and acquirers can benefit from the earn-out contract. When taking over certain types of target, for instance, young industries and high technology industries are suggested to go through more risks than other deals, because the future profit and cash flows are more difficult to forecast than other business (Officer et al., 2009; Kohers and Ang, 2000). Kohers and Ang (2000) find out one of the exclusive functions earn-out serves is the risk reduction mechanisms against misevaluation of high asymmetric information targets.

The investigation of likelihood of earn-out M&As transactions shows there is higher probability of earn-out contract when the target firms is smaller, private and from different industries of acquirer, which indicates that when target firm holds more private information, the M&As contract will be considered more based on the target firm's future performance (Datar et al., 2001). Reuer et al. (2004) suggest the US acquirers are more likely to choose earn-out payment when they are facing more uncertainty, for instance, where bidders are lacking acquisition experience and target firm belongs to high-tech or service industries. Caselli et al. (2006) also suggest that considering the asymmetric information and moral hazard, earn-out may be a better choice for the cross-industry and cross-border M&As, especially in the low investment protection level countries.

Mantecon (2009) analyses potential mechanisms for reducing uncertainty in cross-border acquisitions including earn-out, stock payment, joint ventures and toehold investment. However, the research argues that earn-out can bring significant values for acquirers in domestic M&As, while not working in cross-border M&As. The lower returns in cross-border M&As could be explained

by the fact that the acquirers experience more severe agency problems in these transactions.

Barbopoulos and Sudarsanam (2011) construct a logistic model analysis between earn-out and non-earn-out contracts based on M&As announced by UK firms and show that acquirer's desire to mitigate cost of asymmetric information and valuation risk can significantly influence the choice of earn-out payment. Meanwhile this shows that bidders with earn-out payment method gain higher both announcement and post-merger returns. This suggests that UK bidders are more likely to utilize earnout when the target holds 'relatively intangible rich' assets thereby mitigating valuation risk associated with overpayment at the time of bid. Optimal use of earnout in M&As can help to secure the target firms' commitment to better realize expected value in the long-term post-acquisition period.

This research is also expecting a high probability of earn-out under the proxies of information asymmetry.

2.3. Data and Methodology

2.3.1. Sample

I identify all mergers and acquisitions reported in Zephyr from Bureau Van Dijk between 2000 and 2010. I also employ only deals where the acquirers are UK firms. The final sample is selected by complying with the following conditions: 1) The transaction is completed at the end of sample period. 2) All financial firms are excluded from the sample (2-dig SIC 60-69)[7]. 3) The deal value must be higher than £0.1 million, in order to avoid very small takeover deals. 4) Targets are both UK and non-UK firms, including listed, private, and subsidiary firms. Only deals with selected payment methods (cash, stock, earn-out) are employed by this chapter.

[7] Due to the uniqueness of the industry such as: special asset composition, high leverage, and stricter government regulations (Elyasiani and Jia, 2010).

These criteria yield a final sample of 3,231 M&As deals where Cash,[8] Stock and Earn-out are the financing methods.

The institutional ownership data is collected as follows: I calculate the proportion of total institutional investor ownership in each firm, following Hartzell and Starks (2003) and Cornett et al. (2007). For the identification and analysis of varying types of the role of institutional investors in the choice of payment method, I follow Almazan et al. (2005) and Cornett et al. (2007). I collect the institutional ownership data for the sample of UK acquirers from Thomson One Banker,[9] which compiles information contained quarterly in the 13F historical holders. Thomson One Banker identifies five main types of institutional investors: Bank and Trust, Insurance Company, Pension Fund, I/Hedge Fund[10] and Investor Advisor. These five categories of institutional investors account for over 95% of total equity owned by institutional investors.

The financial records of acquirer firms are collected from Worldscope, which covers the financial records, including assets, debts, and incomes for the last decades.

2.3.2. Sample overview

Table 2.1 shows the annual distribution of all UK M&As for the period 2000-2010 for both domestic and cross-border deals. The time period under study includes the M&As wave in the mid-2000s, and the 2007 financial crisis. The distribution shows that cash is the major finance resources for all M&As deals, which accounts for 75.21% (2430, including 1440 domestic and 990 cross-border

[8] Cash payment including actual cash, debt assumed, and issued notes, converted debt from Zephyr.

[9] Thomson One Banker has a minimum of 0.015% threshold for UK firms' ownership record.

[10] In order to distinguish with pure investment advisor this paper merger Investment Advisor/Hedge Fund with Hedge Fund and named as I/Hedge Fund, where pure Hedge Fund group only accounts for a little percentage ownership.

deals). The sample contains 575 (17.80%) stock deals (including 154 cross-border deals and 421 domestic deals) and 226 (6.99%) contingent payments (including 84 cross-border deals and 142 domestic deals). This is consistent with Faccio and Masulis (2005), who report that cash payment deals account for 80.20% of all UK M&As from 1997 to 2000, and a share payment of only 5.89%.

However, Barbopoulos and Sudarsanam (2012) report a sample of UK domicile M&As deals with an earn-out ratio of 26.1% for the period 1986-2008. The difference in the reported earn-out ratios could be due to the difference of sample selection criteria. For instance, the authors require a market value for acquirers of at least £1 million and the acquisition needs to be over 50% of the target equity which leads to a sharp reduction of cash and equity M&As deals. Meanwhile, due to different employed sample time period and data sources, the sample presents lower earn-out ratio (6.99%) and higher cash financing percentage (75.21%) compared with Barbopoulos and Sudarsnam (2012).

Nevertheless, since the global crisis period 2007-2008, there is significant reduction for the whole M&As transaction numbers, especially cash and share deals experience sharp declines. However, earn-out presents increase during the crisis period and treat number both cash and share payment deal among overall M&As deals.This indicates that under the situation of high level risk and uncertainty as well as lack financing resources, earn-out is preferred in arranging a transaction deal and helps to deal with the risks.

Table 2.1 Annual distributions of UK mergers and acquisitions.

This table presents the annual distribution of completed cross-border and domestic M&As deals announced by UK listed acquirers between January 1, 2000 and December 31, 2010.

	Cross-border			Domestic			Total
	cash	share	earn-out	cash	Share	earn-out	
2000	97	23	6	105	48	1	280
2001	88	15	0	106	46	1	256
2002	96	13	1	124	29	3	266
2003	86	15	4	97	34	14	250
2004	87	10	8	136	32	13	286
2005	92	9	13	186	40	21	361
2006	111	15	14	197	50	11	398
2007	118	26	15	173	61	31	424
2008	93	8	12	129	22	26	290
2009	58	8	7	65	41	7	186
2010	64	12	4	122	18	14	234
Total	990	154	84	1,440	421	142	3,231

To provide detailed distribution of the sample, Table 2.2 reports the descriptive statistics of the employed dummy variables and target firms' industry classifications for each payment method. Both cross-industry and high-tech show higher mean value for share deals. This indicates that for cross-industry and high technology targets, M&As deals take place mostly through share payments. While for listed target and cross-border target, cash payment presents higher mean value. Share payment shows the lowest mean, while in cross-border deals, there is indication that share payment is the last choice for UK acquirers when it comes to cross-border transactions.

Manufacturing and services are the two main industries where mergers and acquisitions happen. In particular, manufacturing shows a high proportion of cash offers, whereas the services industry shows a high proportion of share and earn-out offers. Acquirers also presents preference for cash payment among public utilities,

whole sale trading, and retail trading industries, while share payment shows higher attractions for deals with mining, construction, and finance industries.

In addition to studying the impacts of the 2007 financial crisis, I include a binary variable of financial-crisis, in order to control traditional determinants for deal payment method. Financial-crisis takes the value of one when the M&As deal is announced between the financial crisis period 2007-2008 and zero otherwise. The mean value for earn-out is higher than the other two groups showing that since the financial crisis, the frequency of earn-out deal has increased compared to pre-financial crisis period.

The descriptive statistics presented in Table 2.3 shows that the average institutional ownership for acquirer firms is 48.57%, which indicates that institutional investors are the main shareholders of UK acquirer firms. Investment advisors and hedge fund account for a large proportion of UK acquirers' shareholding. However, comparing the most recent UK equity ownership report from the Office of National Statistics reveals that in 2010 insurance companies own 8.6% of the total UK equity, this sample shows extremely lower insurance company ownership proportion. And the pressure-sensitive institutional investors: Bank & Trust and Insurance Company report a low level ownership proportion among the sample. This indicates that these two types of investors may not play a significant role in firms' corporate activities compared to other institutional investors.

Table 2.2 Mean values for binary explanatory variables and target firms' major industry category.

The table presents the mean value of binary explanatory variables based on payment method groups and total sample. The sample consists of 3,231 UK M&A for the period of January 2000 to December 2010, including 2,430 cash deals, 575 share deals and 226 earn-out deals. The industry classifications are based on the two-digit SIC codes of target firms. High-tech is a dummy variable that takes the value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross-industry equals to 1 if the acquirer and target firms belong to different industries and 0 otherwise. Listed-target equals to 1 when target is a public listed company otherwise 0. Cross-border is a dummy variable that takes the value of 1 when it is a cross-border deal and 0 when the target is a domestic (UK) firm. Financial-crisis is a dummy variable controlling for the 2007-2008 financial crisis, which assumes the value 1 when the M&As deal announcement period is during financial crisis period 2007-2008, otherwise 0.

Variables	Cash	Share	Earn-out	Total
Deal characteristic Dummy variables:				
High-tech	0.15	0.20	0.15	0.16
Cross-industry	0.63	0.65	0.59	0.63
Listed-target	0.04	0.01	0.00	0.03
Cross-border	0.41	0.27	0.37	0.38
Financial-crisis	0.21	0.20	0.37	0.22
Industry Category Dummy variables:				
Mining	0.07	0.10	0.02	0.07
Construction	0.03	0.05	0.04	0.04
Manufacturing	0.25	0.13	0.16	0.22
Transportation	0.03	0.02	0.04	0.03
Communications	0.03	0.03	0.04	0.03
Public utilities	0.06	0.02	0.05	0.05
Wholesale trading	0.02	0.01	0.01	0.01
Retail trading	0.06	0.02	0.02	0.05
Finance	0.02	0.05	0.04	0.03
Services	0.40	0.55	0.55	0.44
Public administration	0.00	0.01	0.01	0.01

Table 2.3: Descriptive Statistics

This table presents the descriptive statistics for the continuous variables employed in the study. Bank &Trust, Insurance Company, Pension Fund, Investment Advisor, I/Hedge Fund represents the percentage of acquirer firms' common shares owned by 5 main groups institutional investors respectively at the year-end prior deal announcement: bank and trust, insurance company, pension fund, investment advisor and hedge fund/investment advisor (including hedge fund). This group classification is based on the data resources from Thomson One Banker. Institutional ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. R&D intensity is the research and development intensity, defined as the R&D expenditure to total sales. Intangible assets is the ratio of total intangible assets to total assets. Fin' Leverage is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables dividend by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement.

Variables	N	Mean	Median	Min	Max	St. Deviation
Bank &Trust	3,148	0.61	0.13	0.00	33.77	1.34
Insurance Company	3,148	0.29	0.00	0.00	18.70	0.82
Pension Fund	3,148	1.72	0.98	0.00	28.74	2.10
Investment Advisor	3,148	20.31	19.89	0.00	75.31	13.80
I/Hedge Fund	3,148	24.28	24.36	0.00	72.18	16.72
Institutional Ownership	3,148	48.57	51.96	0.00	99.91	28.51
Firm size	3,081	5.19	5.16	1.70	8.23	1.07
Relative size	3,019	0.13	0.04	0.00	1.00	0.20
ROA	3,079	0.00	0.05	-5.13	0.81	0.27
R&D Intensity	1,161	0.17	0.02	0.00	23.69	1.13
Intangible assets	3,079	0.26	0.20	0.00	0.97	0.24
Fin 'Leverage	3,127	0.30	0.24	0.00	1.96	0.23
Quick ratio	3,108	1.70	0.93	0.00	41.93	3.60
FCF/share	3,002	0.03	0.04	-5.97	2.94	0.50
Tobin's q	2,889	1.61	1.19	0.01	12.72	1.46

2.3.3. Methodology

2.3.3.1 Probit model

In order to estimate what are the determinants for the acquirers' payment method choice, standard binary probit analysis is employed. Hence, I can determine the functional relationship between the firm characteristics and deal characteristics and investigate two groups probability of cash vs. non-cash and share vs. non-share payment taking place in a given period.[11] The relationship between the dependent and the independent variable is expressed as follows:

$$Y = X\beta + \varepsilon \qquad (2.1)$$

Where Y is the dependent variable which denotes the observed choice. X is the vector of independent variable which describes the attributions of the choices in the decision process. β is the probit regression coefficients estimating the impact of the independent variables on the probability of the binary payment method choice.

The probit function is the inverse cumulative distribution function of the normal distribution. The probit model employs an inverse probit function, so it is a kind of the cumulative standard normal distribution. The dependent variable Y is a binary variable that takes the value of 1 when the payment method is cash-only (share-only) and 0 when the payment method is non-cash (non-share). The probit model is defined as follows:

$$P(Y = 1 \mid X\beta) = \Phi(X\beta) \qquad (2.2a)$$

$$P(Y = 0 \mid X\beta) = 1 - P(Y = 1 \mid X\beta) = 1 - \Phi(X\beta) \qquad (2.2b)$$

The likelihood function of probit model $L(\beta)$ is:

[11] Alternatively a logit methodology is employed and the results remain qualitatively the same.

$$L(\beta) = \prod_{i=1}^{N} [\Phi(X_i\beta)]^{Y_i} [1 - \Phi(X_i\beta)]^{1-Y_i} \quad (2.3)$$

Probit method estimates the coefficients β by maximum likelihood techniques, given the pattern of the events observed in the sample and by normalizing the variance of the disturbances at unity. These coefficients then can be used to estimate the probability that a particular deal payment method choice. Coefficients have the statistical properties of consistency and an asymptotically normal distribution.

If the function value or utility is high enough, the activity will be undertaken and 1 is chosen. Otherwise, if the function value or utility is not high enough, the activity will not be undertaken and 0 is chosen. The acquirer is classified to prefer a cash payment or share payment based on a cut-off probability of 0.50 (Ohlson, 1980; Canbas et al., 2005). The classifications are made as follows:

If the function probability is lower than 0.5, then the acquirer's choice of payment method is classified as a cash payment (or share payment).

If the function probability is equal to or greater than 0.5, the acquirer's choice of payment method is classified as a non-cash payment (or non-share payment).

According to previous literature, the existing literature has developed certain hypotheses that are more likely to explain the characteristics that drive the M&As payment method choices, such as some key financial variables as well as the institutional ownership characteristics of acquirer firms. Therefore, these variables are more likely to influence the acquirers' preference of payment method. A series of probit models analysis will be discussed based on different matching procedures for the control variables.

2.3.3.2 Multinomial Logit Model

Furthermore, in order to identify the preference of earn-out, compared with cash and share offers, a multinomial logit model is employed to test the hypothesis. Multinomial logit model is widely accepted as a useful method to explain and

forecast dichotomous choices and also examine the significance of independent variables leading to the choice.

$$P_r(y_i = j) = \frac{\exp\,(x_i\beta_i)}{1 + \sum_{j=1}^{i} \exp\,(x_i\beta_i)} \tag{2.4}$$

In this research, there are three M&As payment methods which are: cash, share, and earn-out. The earn-out is made to be a reference option. Therefore, the probabilities of the three payment methods are employed in M&As, they are:

$$P_r(y = earnout) = \frac{1}{1 + e^{x\beta(cash)} + e^{x\gamma(share)}} \tag{2.5}$$

$$P_r(y = cash) = \frac{e^{x\beta(cash)}}{1 + e^{x\beta(cash)} + e^{x\gamma(share)}} \tag{2.6}$$

$$P_r(y = share) = \frac{e^{x\beta(share)}}{1 + e^{x\beta(cash)} + e^{x\gamma(share)}} \tag{2.7}$$

Equation 2.5, 2.6 and 2.7 are the probabilities of earnout offer, cash offer and share offer being employed as the payment method in M&As transactions. Then, calculate the relative probability of the payment choice compared to the earn-out option, but not the absolute probability level. To investigate the determinants of the choice of payment method, the multinomial logit model is employed while using a number of independent variables capturing acquirer-specific characteristics, as previously discussed in the hypotheses development section. The dependent variables and their corresponding regression specifications are as follows:

$$\mathrm{Ln}\left[\frac{\mathrm{P(cash)}}{\mathrm{P(earnout)}}\right] = \mathrm{Ln}\left[e^{x\beta(\mathrm{cash})}\right] = \alpha + \beta X \tag{2.8}$$

$$\mathrm{Ln}\left[\frac{\mathrm{P(share)}}{\mathrm{P(earnout)}}\right] = \mathrm{Ln}\left[e^{x\beta(\mathrm{share})}\right] = \lambda + \gamma X \tag{2.9}$$

$$\text{Ln}\left[\frac{\text{P(cash)}}{\text{P(share)}}\right] = \text{Ln}\left[\frac{e^{x\beta(\text{cash})}}{e^{x\beta(\text{share})}}\right] = (\alpha + \beta X) - (\lambda + \gamma X) \qquad (2.10)$$

2.4. Empirical Results

2.4.1. Univariate Analysis

In order to identify the firm specific characteristics that drive the M&As payment method choice, I group the sample according to their payment method and perform a univariate analysis. The results are reported in Table 2.4.

Firms with share payment have the lowest institutional ownership compared to the other two groups of acquirers which is only 33.75%, while acquirers with cash offer and earn-out offer have 51.48% and 53.78% institutional ownership respectively. In particular, acquirers with share payment experience low level pressure-intensive institutional ownership, both Investment Advisor and I/Hedge Fund. This is consistent with the expectations that higher institutional ownership might lower the probability of a share payment.

The average relative size for the cash group is 0.11, 0.22 for the share group. The average relative size for the overall sample is 0.13. This is consistent with Faccio and Masulis (2005), suggesting that relative larger size is positively associated with share payment. Tobin's q is 1.53 on average for firms with cash payment and 1.97 for share payment firms. Leverage shows a mean value of 0.28, 0.37 and 0.26 for cash, share, and earnout group respectively, consistent with Faccio and Masulis (2005). Acquirers with share payment show extremely high leverage level and R&D intensity compared to other firms and also experience negative ROA and FCF/share.

Furthermore I break down the M&As sample into two groups: domestic and cross-border, and do a univariate analysis of each group which is performed in Table 2.5. Acquirers involved in cross-border deals report high average institutional

ownership level at 54.89%, while domestic group only has an average 44.87% institutional ownership. Also cross-border group presents higher ownership in all 5 detailed types of institutional investors.

I find that firms involved in cross-border M&As have higher institutional ownership than acquirers of domestic M&As. Meanwhile, cross-border M&As show larger firm size and higher profitability (captured by ROA) and FCF/share. These results suggest that institutional investors prefer larger firms which have robust performance. In addition, this shows that cross-border M&As may face greater challenges that require acquirers with better ability to overcome potential hurdles.

Table 2.4 Univariate sorting on payment method.

This table presents the descriptive statistics of continuous variables for the three sub-groups of acquirers with different M&As payment method: cash, share, and earn-out. Homogeneity reports the p-values for the equality test for means and medians across the three payment groups: cash, share and earn-out. Bank &Trust, Insurance Company, Pension Fund, Investment Advisor, I/Hedge Fund represent the percentage of acquirer firms' common shares owned by 5 main groups institutional investors respectively at the year-end prior deal announcement. Institutional Ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. R&D is the research and development intensity, defined as the R&D expenditure to total sales. Intangible assets is the ratio of total intangible assets to total assets. Fin 'Leverage is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables divided by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement.

	Cash			Share			Earn-out			Homogeneity Across Means	Homogeneity Across Medians
Variables	N	Mean	Median	N	Mean	Median	N	Mean	Median		
Bank &Trust	2,382	0.64	0.19	545	0.46	0.00	221	0.67	0.19	(0.015)**	(0.000)***
Insurance Company	2,382	0.32	0.04	545	0.14	0.00	221	0.35	0.06	(0.000)***	(0.000)***
Pension Fund	2,382	1.88	1.26	545	0.99	0.00	221	1.87	1.38	(0.000)***	(0.000)***
Investment Advisor	2,382	21.48	21.29	545	14.36	11.58	221	22.38	22.91	(0.000)***	(0.000)***
I/Hedge Fund	2,382	25.77	26.36	545	16.33	12.16	221	27.71	29.04	(0.000)***	(0.000)***
Institutional Ownership	2,382	51.48	56.12	545	33.75	30.16	221	53.78	58.98	(0.000)***	(0.000)***
Firm size	2,337	5.36	5.29	527	4.47	4.53	217	5.12	5.15	(0.000)***	(0.000)***
Relative size	2,297	0.11	0.03	511	0.22	0.11	211	0.09	0.03	(0.000)***	(0.000)***
ROA	2,335	0.02	0.05	527	-0.14	0.01	217	0.05	0.06	(0.000)***	(0.000)***
R&D Intensity	940	0.12	0.02	153	0.52	0.04	68	0.08	0.04	(0.000)***	(0.000)***
Intangible assets	2,335	0.25	0.19	527	0.28	0.23	217	0.29	0.25	(0.007)***	(0.017)**
Fin 'Leverage	2,372	0.28	0.24	536	0.37	0.29	219	0.26	0.21	(0.000)***	(0.000)***
Quick ratio	2,364	1.57	0.90	524	2.40	1.06	220	1.51	1.05	(0.000)***	(0.000)***
FCF/share	2,281	0.06	0.05	509	-0.09	0.01	212	0.05	0.06	(0.000)***	(0.000)***
Tobin's q	2,208	1.53	1.17	482	1.97	1.26	199	1.65	1.25	(0.000)***	(0.003)***

Table 2.5 Univariate sorting on domestic and cross-border M&As.

This table presents the descriptive statistics of continuous variables for two sub-groups of target firms: domestic (UK) or cross-border (international). Homogeneity reports the p-values for the homogeneity test for means across two target group: domestic target and cross-border target.

	Domestic			Cross-border			Homogeneity Across Means	Homogeneity Across Medians
Variables	N	Mean	Median	N	Mean	Median		
Bank &Trust	1,935	0.50	0.04	1,213	0.77	0.35	(0.000)***	(0.000)***
Insurance Company	1,935	0.24	0.00	1,213	0.38	0.17	(0.000)***	(0.000)***
Pension Fund	1,935	1.45	0.50	1,213	2.15	1.81	(0.000)***	(0.000)***
Investment Advisor	1,935	18.47	16.81	1,213	23.25	23.51	(0.000)***	(0.000)***
I/Hedge Fund	1,935	22.61	21.49	1,213	26.93	27.42	(0.000)***	(0.000)***
Institutional Ownership	1,935	44.62	44.87	1,213	54.89	60.23	(0.000)***	(0.000)***
Firm size	1,894	4.94	4.91	1,187	5.58	5.60	(0.000)***	(0.000)***
Relative size	1,834	0.14	0.05	1,185	0.11	0.03	(0.000)***	(0.000)***
ROA	1,893	-0.02	0.04	1,186	0.03	0.05	(0.000)***	(0.000)***
R&D Intensity	535	0.22	0.02	626	0.13	0.03	(0.184)	(0.001)***
Intangible assets	1,892	0.27	0.19	1,187	0.25	0.21	(0.084)**	(0.878)
Fin 'Leverage	1,924	0.30	0.25	1,203	0.28	0.23	(0.022)**	(0.237)
Quick ratio	1,914	1.56	0.90	1,194	1.94	0.98	(0.004)***	(0.000)***
FCF/share	1,834	0.03	0.04	1,168	0.05	0.05	(0.241)	(0.000)***
Tobin’s q	1,742	1.55	1.14	1,147	1.70	1.27	(0.009)	(0.000)***

2.4.2. The drivers of the payment method

In order to assess which firm characteristics and whether institutional ownership play a significant role in choosing a payment method for M&As, I estimate a series of Probit models with the payment method as a dependent variable. First, I assess the impact of institutional ownership on the M&A cash payment method. Model 1, 2, and 3 are selected to examine detailed ownership of different institutional categories with and without acquirer financial characteristics (based on the correlation reported in appendix A). Model 4 and 5 are focus on the impact of total institutional ownership with and without the financial characteristics. The results are reported in Table 2.6.

I find that institutional ownership overall has a positive impact on the cash payment method. This supports hypothesis (H:1b and H:1c) that high level institutional ownership can increase cash payment probability, especially on pressure-insensitive institutional investors. In addition, it shows that high level institutional ownership is positively related to firms' debt capacity. This is in line with Dhaliwal et al. (2010) who show that institutional ownership positively related to the firm performance and financial health (measured by market valuation weights on earnings and book value of equity), indicating that firms with high level institutional ownership are less financially distressed than those with lower institutional ownership.

Roberts and Yuan (2010) suggest that institutional investors can help a firm get easier access to bank lending, which is an important active monitoring role to reduce firm risk. However, I find that not all categories of institutional ownership play a significant role. In particular, I find that firms with active I/Hedge Fund have a higher propensity to make cash payment offer, suggesting I/Hedge Fund is effectively monitors and can help to increase firms' external financial ability. However, pension funds have a negative impact on cash financing deals. This is contrary to hypothesis 1d and suggests that pension funds are not pressure-insensitive and they may not play a part in active monitoring of the firm. Bank & Trust and Insurance Company do not show significant impacts on payment

choice. I argue that this is due to low proportion of each of these categories. Tobin's q presents significant negative coefficient, which supports hypothesis 2 that firms with high growth potential are less likely to provide cash offer deals. This negative relationship between the acquirers' Tobin's q and probability of cash financing is consistent with evidence from Dutch M&As samples (Swieringa and Schauten, 2007), both UK & Irish takeover deals and Continental European samples (Faccio and Masulis, 2005). This result also provides support for the argument that acquirers with high-growth opportunity are reluctant to raise new debt, as new borrowing will result in potential debt-financing constraints which will reduce flexibility to execute future investment opportunities (Martin, 1996).

Relative size is negative and significant, suggesting that larger relative deal size will lower the propensity of a cash payment. This is similar to the evidence reported in Faccio and Masulis (2005) and Swieringa and Schauten (2007). Furthermore, firm size appears to be an important determinant for cash payment. In particular, large firms can provide greater initial financial support for their investment strategy. FCF/share presents an insignificant positive coefficient, but it is significantly correlated with firm size (appendix A). Large firms with high level free cash flow prefer cash-financing consistent with evidence from OECD countries that large firms have more cash flow sensitivity than small firms and their investment activities are mainly determined by internal financing availability (Kadapakkam et al., 1998).

Cash payment helps large firms to reduce high costs of external financial resources based on agency cost consideration and also has the ability to avoid higher dispersed ownership caused by share payment. Intangibility reports negative coefficient, suggests acquirers with high level intangible assets may experience low level cash financing resources. Equation 5 reports negative coefficient of financial-crisis at 10% significant level which suggests that during financial crisis period, cash payment probability decreases sharply. Financial crisis brings a negative supply shock of external financing resources for non-financial companies, especially firms with low cash reserve and high short-term debts which suffer from financial constrains (Duchin et al., 2010). The research of subset of U.S. corporate loans shows that bank lending declines substantially since 2007 financial crisis, across all types of loans (Ivashina and Schanrfstein, 2010).

Table 2.6 Probit regression results for M&As payment method choice between CASH and NON_CASH.

This table presents the results of Probit regressions for estimating the determinants of payment methods choice between CASH and NON-CASH based on the sample of 3231 M&As deals undertaken by UK listed companies announced between 01/01/2000 and 31/12/2010. The dependent variable is a dummy variable which equals to 1 when cash payment is employed and for other payment method choice (share or earn-out). Correctly classified (%) indicated the probit regression prediction results, compares fitted and actual values, where the cut value is 0.50. *, **, and *** indicate 10%, 5%, and 1% significance level respectively.

High-tech is a dummy variable that takes the value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross-industry equals to 1 if the acquirer and target firms belong to different industries and 0 otherwise. Listed-target equals to 1 when target is a public listed company otherwise 0. Cross-border is a dummy variable that takes the value of 1 when it is a cross-border deal and 0 when the target is a domestic (UK) firm. Bank &Trust, Insurance Company, Pension Fund, Investment Advisor, I/Hedge Fund represents the percentage of acquirer firms' common shares owned by 5 main groups institutional investors respectively at the year-end prior deal announcement. Institutional Ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. R&D is the research and development intensity, defined as the R&D expenditure to total sales. Intangible assets is the ratio of total intangible assets to total assets. Fin 'Leverage is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables dividend by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement. Financial-crisis is a dummy variable controlling for the 2007-2008 financial crisis, which assumes the value 1 when the M&A deal announcement period is during financial crisis period 2007-2008, otherwise 0.

	(1) Coeff.		(2) Coeff.	z-Stat	(3) Coeff.	z-Stat	(4) Coeff.	z-Stat	(5) Coeff.	z-Stat
High-tech	-0.066	(-0.96)	-0.034	(-0.38)	0.033	(0.23)	0.058	(0.41)	-0.081	(-1.02)
Cross-industry			-0.188***	(-3.04)	-0.335***	(-3.05)	-0.311***	(-2.82)	-0.142**	(-2.49)
Listed-target	-0.073	(-0.50)	0.313	(1.49)	-0.056	(-0.15)	-0.140	(-0.37)		
Cross-border			-2.262***	(-30.18)	-2.562***	(-20.74)	-2.562***	(-20.56)	-2.184***	(-31.47)
Bank &Trust	-0.028	(-1.55)	0.006	(0.28)	0.052	(1.24)				
Insurance Company	-0.016	(-0.55)	0.040	(1.04)	0.067	(1.47)				
Pension Fund	-0.035***	(-2.87)	-0.002	(-0.01)	0.039	(1.25)				
Investment Advisor	-0.002	(-0.75)	0.005	(0.60)	0.004	(0.73)				
I/Hedge Fund	0.004*	(2.06)	0.005**	(2.39)	0.005	(1.13)				
Institutional Ownership							0.004*	(1.80)	0.007***	(6.85)
Firm size			0.060	(1.42)			0.158*	(2.45)		
Relative size					-1.062***	(-2.68)				
ROA			0.615***	(4.31)			0.288	(0.85)		
R&D Intensity					-0.212**	(-2.34)	-0.123	(-1.34)		
Intangible assets			-0.358**	(-2.64)			-0.109	(-0.40)		
Fin 'Leverage			-0.089	(-0.58)			-0.297	(-0.95)		
Quick ratio					0.049*	(1.68)	0.040	(1.30)		
FCF/share			0.098	(1.36)			0.128	(0.98)		
Tobin's q			-0.055**	(-2.55)	-0.114***	(-2.81)	-0.086**	(-2.16)		
Financial-crisis									-0.131*	(-1.83)
_cons	-0.810***	(-4.37)	0.178	(0.59)	-1.035	(-1.66)	-1.699**	(-2.37)	1.422	(0.63)
Industry/Year dummy	√		√		√		√		√	
N	3,148		2,808		1,134		1,131		3,148	
Pseudo R-square (%)	6.34		39.84		50.19		50.12		36.68	
Correctly classified (%)	60.20		82.59		86.16		86.38		80.62	

Table 2.7 presents probit regression results for payment selection between share and non-share. Total institutional ownership reports a significant negative coefficient which supports hypothesis 1a that in order to keep monitoring position higher, institutional ownership will lower probability of share payment. However, Pension Fund presents a positive impact on share payment which rejects hypothesis 1d. I suggest that pension fund does not have material effect on performance of firms that they hold stakes (Faccio and Lasfer, 2000; Short and Keasey, 2005).

Leverage shows insignificant positive coefficient which cannot provide support for the expectation that firms with high level leverage are constrained in their financing ability. This can be explained that high institutional ownership can help to get easier access to external financing support and release financial stress (Robert and Yuan, 2010).

Both cross-industry and cross-border are significant and positive, which indicates that acquirers prefer to provide share offer when they have insufficient information about risks and prospects of target's industry and future valuation. In particular, considering geographic and cultural distance, share payment is a better choice in getting access to local managerial resources for cross-border targets. While positive coefficient of listed-target suggests that when target is a public listed company, information about target is easier to get access which can increase acquirer firms' confidence of stock financing.

Table 2.7 The payment method choice between SHARE and NON_SHARE.

This table presents the results of Probit regressions for estimating the determinants of payment methods choice between SHARE and NON-SHARE based on the sample of 3231 M&As deals undertaken by UK listed companies announced between 01/01/2000 and 31/12/2010. The dependent variable is a dummy variable which equals to 1 when cash payment is employed and 0 for other payment methods (share or earn-out). Correctly classified (%) compares the fitted and actual values based on the probit regressions, where the cut value is 0.50. *, **, and *** indicate 10%, 5%, and 1% significant level respectively.
High-tech is a dummy variable that takes the value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross-industry equals to 1 if the acquirer and target firms belong to different industries and 0 otherwise. Listed-target equals to 1 when target is a public listed company otherwise 0. Cross-border is a dummy variable that takes the value of 1 when it is a cross-border deal and 0 when the target is a domestic (UK) firm. Bank &Trust, Insurance Company, Pension Fund, Investment Advisor, I/Hedge Fund represents the percentage of acquirer firms' common shares owned by 5 main groups institutional investors respectively at the year-end prior deal announcement. Institutional Ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. R&D is the research and development intensity, defined as the R&D expenditure to total sales. Intangible assets is the ratio of total intangible assets to total assets. Fin 'Leverage is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables dividend by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement. Financial-crisis is a dummy variable controlling for the 2007-2008 financial crisis, which assumes the value 1 when the M&A deal announcement period is during financial crisis period 2007-2008, otherwise 0.

	(1) Coeff.	z-Stat	**(2)** Coeff.	z-Stat	**(3)** Coeff.	z-Stat	**(4)** Coeff.	z-Stat	**(5)** Coeff.	z-Stat
High-tech	0.134*	(1.94)	0.117	(1.39)	0.064	(0.49)	0.129	(1.55)	0.159**	(2.07)
Cross-industry			0.202***	(3.42)	0.275***	(2.74)	0.200***	(3.42)	0.174***	(3.19)
Listed-target	0.483***	(3.38)	0.347**	(1.88)	0.458	(1.37)	0.329**	(1.81)		
Cross-border			1.771***	(28.19)	2.084***	(20.35)	1.762***	(29.01)	1.712***	(29.74)
Bank &Trust	0.021	(1.21)	-0.019	(-0.99)	-0.036	(-0.93)				
Insurance Company	0.031	(1.05)	-0.021	(-0.57)	0.002	(0.04)				
Pension Fund	0.037***	(2.90)	-0.015	(-0.78)	-0.051	(-1.84)				
Investment Advisor	0.002	(0.94)	-0.003	(-1.08)	0.004	(0.87)				
I/Hedge Fund	0.001	(0.23)	0.000	(-0.15)	0.000	(0.03)				
Institutional Ownership							-0.002**	(-1.59)	-0.002**	(-2.32)
Firm size			0.067	(1.75)						
Relative size					0.341	(0.94)				
ROA			-0.515***	(-4.56)						
R&D Intensity					0.278***	(3.29)				
Intangible assets			0.158	(1.24)			0.122	(0.98)		
Fin 'Leverage			0.128	(0.89)						
Quick ratio					-0.096***	(-2.61)				
FCF/share			0.091	(1.61)			0.036	(0.67)		
Tobin’s q			0.015	(0.76)	0.032	(0.96)	0.022	(1.17)		
Financial-crisis									-0.026	(-0.38)
_cons	0.682***	(3.72)	-0.626**	(-2.22)	1.138	(1.89)	-0.306***	(-1.37)	-0.198	(-0.94)
Industry/Year dummy	√		√		√		√		√	
N	3,148		2,808		1,134		2,808		3,148	
Pseudo R-square (%)	6.29		32.07		40.72		31.29		28.96	
Correctly classified (%)	62.74		81.41		84.74		81.09		80.02	

2.4.3 Robustness Check

In order to check the robustness of including/excluding one or more control variables which employed the previous probit regression analysis, this study is going to investigate how the probit results are effected when one or more of the variables previously identified as potential determinants of Cash or Share payment are omitted. The robustness check method for probit regression follows Barslund et al. (2007).

The results are presented in Table 2.8 and 2.9 separately for two probit regressions. The results present the summary statistics from the analysis, show the maximum, minimum and average of the point estimated over all possible regressions.

Robustness analysis presented in Table 2.8, shows that the institutional ownership variables overall have positive average coefficients, especially Insurance Company presents all positive coefficients in all regression even through ever significant. And the result also shows that the positive coefficients of firm size, ROA are significant and stable which is consistent with previous probit analysis, while relative size and Tobin's q present significant negative coefficients in all regressions.

The results presented in Table 2.9 show that when M&As deals are with high-tech, cross-industry, cross-border or listed targets, the share payment is an insensitive choice for UK acquirers. Bank & Trust, Insurance Company and I/hedge fund perform all negative coefficients in all regressions, even though not significant. R&D intensity and Tobin's q are both stable and positive determinants for share payment. The robustness check results confirm the probit regression results from previous sections.

2.4.4. Multinomial Logistic Regression Results

The results are reported in Table 2.10. Comparing share with earn-out, high level institutional ownership is statistically significant and negative in both equations. The results support the notion that institutional investors would like to keep their voting power and their outside monitoring role of managerial behavior (Jensen,

Table 2.8 Robustness check based of CASH vs. NON_CASH probit regression results.

This table presents the robust check results based on CASH vs. NON_CASH probit regression. Max, Min and Mean show the maximum, minimum and average coefficient estimated over the probit regression. AvgSTD represents average standard deviation. PercSigni is share of regressions where the coefficient is significant. Perc+ is share of regressions where the sign of coefficient is positive. Perc- shows share of regressions where the sign of coefficient is negative. AvgT is the average t-value.
High-tech is a dummy variable that takes the value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross-industry equals to 1 if the acquirer and target firms belong to different industries and 0 otherwise. Listed-target equals to 1 when target is a public listed company otherwise 0. Cross-border is a dummy variable that takes the value of 1 when it is a cross-border deal and 0 when the target is a domestic (UK) firm. Bank &Trust, Insurance Company, Pension Fund, Investment Advisor, I/Hedge Fund represent the percentage of acquirer firms' common shares owned by 5 main groups institutional investors respectively at the year-end prior deal announcement. Institutional Ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. R&D is the research and development intensity, defined as the R&D expenditure to total sales. Intangible assets is the ratio of total intangible assets to total assets. Fin 'Leverage is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables divided by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement. Financial-crisis is a dummy variable controlling for the 2007-2008 financial crisis, which assumes the value 1 when the M&A deal announcement period is during financial crisis period 2007-2008, otherwise 0.

	Max	Min	Mean	AvgSTD	PercSigni	Perc+	Perc-	AvgT
High-tech	0.01	-0.24	-0.09	0.10	0.00	0.00	1.00	0.96
Cross-industry	-0.16	-0.33	-0.24	0.08	1.00	0.00	1.00	3.03
Listed-target	0.12	-0.35	-0.06	0.26	0.00	0.38	0.62	0.30
Cross-border	-2.08	-2.58	-2.38	0.09	1.00	0.00	1.00	27.01
Bank &Trust	0.11	-0.01	0.03	0.03	0.05	0.92	0.08	0.88
Insurance Company	0.11	0.03	0.06	0.04	0.02	1.00	0.00	1.47
Pension Fund	0.09	-0.03	0.01	0.02	0.06	0.72	0.28	0.71
Investment Advisor	0.01	-0.02	0.00	0.01	0.10	0.62	0.38	1.14
I/Hedge Fund	0.02	-0.01	0.01	0.00	0.56	0.90	0.10	2.11
Institutional Ownership	0.02	-0.01	0.01	0.00	0.50	0.85	0.15	1.92
Firm size	0.23	0.00	0.11	0.05	0.59	1.00	0.00	2.24
Relative size	-0.28	-1.53	-0.68	0.33	0.57	0.00	1.00	2.32
ROA	0.96	0.32	0.60	0.23	0.57	1.00	0.00	3.24
R&D Intensity	-0.07	-0.27	-0.15	0.08	0.32	0.00	1.00	1.73
Intangible assets	-0.02	-0.45	-0.24	0.19	0.50	0.00	1.00	1.63
Fin 'Leverage	0.49	-0.56	-0.01	0.25	0.07	0.44	0.56	0.77
Quick ratio	0.06	-0.05	0.00	0.02	0.51	0.48	0.52	1.85
FCF/share	0.28	0.01	0.12	0.09	0.16	1.00	0.00	1.33
Tobin’s q	-0.06	-0.15	-0.09	0.03	1.00	0.00	1.00	3.19
Financial-crisis	0.09	-0.12	-0.03	0.10	0.00	0.13	0.87	0.35

Table 2.9 Robustness check based of SHARE vs. NON_SHARE probit regression results.

	Max	Min	Mean	AvgSTD	PercSigni	Perc+	Perc-	AvgT
High-tech	0.20	0.07	0.13	0.09	0.20	1.00	0.00	1.51
Cross-industry	0.28	0.19	0.23	0.08	1.00	1.00	0.00	3.22
Listed-target	0.52	0.32	0.41	0.24	0.49	1.00	0.00	1.81
Cross-border	2.10	1.68	1.93	0.08	1.00	1.00	0.00	26.15
Bank &Trust	-0.01	-0.06	-0.03	0.03	0.00	0.00	1.00	1.16
Insurance Company	0.00	-0.05	-0.02	0.04	0.00	0.00	1.00	0.49
Pension Fund	0.01	-0.06	-0.03	0.02	0.03	0.04	0.96	1.09
Investment Advisor	0.01	-0.02	0.00	0.01	0.13	0.39	0.61	0.93
I/Hedge Fund	0.00	-0.02	-0.01	0.00	0.13	0.00	1.00	1.13
Institutional Ownership	0.02	-0.01	0.00	0.00	0.12	0.56	0.44	0.81
Firm size	0.07	-0.09	0.00	0.05	0.00	0.52	0.48	0.59
Relative size	0.55	-0.23	0.21	0.30	0.15	0.89	0.11	0.98
ROA	-0.29	-0.58	-0.44	0.19	0.51	0.00	1.00	2.90
R&D Intensity	0.29	0.11	0.20	0.08	0.76	1.00	0.00	2.51
Intangible assets	0.17	-0.10	0.07	0.17	0.00	0.75	0.25	0.64
Fin 'Leverage	0.36	-0.19	0.11	0.22	0.03	0.86	0.14	0.63
Quick ratio	0.02	-0.10	-0.03	0.02	0.79	0.50	0.50	2.23
FCF/share	0.17	-0.01	0.09	0.07	0.11	1.00	0.00	1.35
Tobin’s q	0.05	0.01	0.03	0.03	0.18	1.00	0.00	1.43
Financial-crisis	-0.06	-0.21	-0.14	0.09	0.50	0.00	1.00	1.71

1991; Martin, 1996).

Cross-border shows significant negative impacts on share payment, which indicates that when acquirer and target firms are from different countries, earn-out is more likely to be involved comparing share payment. This supports the empirical suggestion from Caselli et al. (2006) that considering asymmetric information and moral hazard, earn-out may be a better choice for cross-border M&As especially in low investment protection level countries. It also give credence to the evidence that high asymmetric information increases probability of using earn-out because acquirers can benefit from contingent payment contract (Kohers and Ang, 2000; Barbopoulos and Sudarsanam, 2012). High-tech and cross-industry do not present significant impacts, and cannot support the conclusion that earn-out tends to be a solution method for high uncertainty in M&As with high-technology target reported from US market (Kohers and Ang, 2000) and M&As undertaken by UK acquirers (Barbopoulos and Sudarsanam, 2012).

Total institutional ownership presents negative results comparing share payment with earn-out at 0.01 significant level in both two models. Acquirers with higher institutional ownership show more interests in earn-out payment rather than share payment and this is supportive evidence to the monitoring position of hypothesis 1a. Firm size performs significantly positive coefficient with cash payment compared with earn-out, while negative coefficient for share payment. It indicates that acquirers with large firm size have sufficient financing ability to support the cash payment and risk management.

Financial crisis shows significantly negative coefficient on cash payment and the result is consistent with Sánchez et al. (2011), suggesting that there is an increasing trend of using earn-out deals since the 2007 financial crisis. The evidence points to the fact that during the financial crisis when firms lack financing resources, earn-out is preferred when arranging a transaction deal, hence being more able to manage the uncertainty of target firms' future value.

Table 2.10 Multinomial Logistic regression results

This table presents the Multinomial logistic regression results from the payment method choice between cash, share and earnout, with earnout as the basic outcome. The dependent variable is 0 when cash payment is employed, 1 for share payment, and 2 for earnout. *, **, and *** indicate 10%, 5%, and 1% significant level respectively.

High-tech is a dummy variable that takes the value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross-industry equals to 1 if the acquirer and target firms belong to different industries and 0 otherwise. Cross-border is a dummy variable that takes the value of 1 when it is a cross-border deal and 0 when the target is a domestic (UK) firm. Financial-crisis is a dummy variable controlling for the 2007-2008 financial crisis, which assumes the value 1 when the M&A deal announcement period is during financial crisis period 2007-2008, otherwise 0. Institutional ownership is the total institutional ownership of acquirer firms. Firm size is measured by the natural logarithm of book value of total assets at the year-end prior the M&As announcement. Relative size is the relative size of the M&A estimated as the deal value to the sum of deal value and market value of acquirer's equity at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. Intangible assets is the ratio of total intangible assets to total assets. FIN'LEVERAGE is the acquirer firm's financial debt prior to deal announcement plus deal value (including assumed liabilities) all divided by the sum of book value of total assets prior the deal announcement plus deal value (including assumed liabilities). Quick ratio is measured by cash & equivalents plus receivables dividend by total current liabilities at the year-end prior the M&A announcement. FCF/share is Free Cash Flow per Share which is estimated as funds from operations minus capital expenditures and cash dividends paid divided by the number of shares outstanding at the year-end prior deal announcement. Tobin's q is estimated as the market value of equity plus total debt, divided by the book value of assets at the year-end prior the announcement.

	(1)				(2)			
	Cash		Share		Cash		Share	
	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat
High-tech	0.342	(1.49)	0.214	(0.81)	0.276	(1.22)	0.182	(0.70)
Cross-industry	0.104	(0.66)	0.243	(1.29)	0.074	(0.47)	0.205	(1.10)
Cross-border	-0.273	(-1.59)	-0.543***	(-2.63)	-0.113	(-0.68)	-0.649***	(-3.22)
Institutional ownership	-0.006*	(-1.71)	-0.011***	(-2.75)	0.000	(-0.14)	-0.016***	(-4.47)
Firm size	0.288***	(2.76)	-0.360***	(-2.83)				
Relative size					0.801	(1.20)	3.103***	(4.45)
ROA	-1.050	(-1.56)	-1.724**	(-2.51)				
Intangible assets	0.077	(0.21)	0.551	(1.36)				
Fin'Levarage	1.157**	(2.49)	1.659***	(3.25)				
Quick ratio					0.008	(0.27)	0.024	(0.77)
FCF/share	0.243	(1.23)	0.019	(0.09)				
Tobin's q	-0.075	(-1.29)	0.005	(0.08)	-0.068	(-1.23)	0.061	(1.00)
Financial-crisis					-0.418**	(-2.42)	-0.323	(-1.50)
_cons	1.697**	(2.23)	3.920***	(4.46)	3.061***	(4.94)	2.452***	(3.52)
Industry/Year dummy	√				√			
N	2,808				2,813			
Pseudo R-square (%)	13.17				11.05			

2.5. Summary and conclusion

This chapter aims at identifying the main factors that influence the firm's choice of M&As deal payment method among cash, stock and earn-out, especially focus on the impacts of institutional ownership. The analysis is based on the sample of 3231 M&As deals undertaken by UK listed companies between 2000-2010 which includes 2430 cash M&As, 575 share M&As and 226 earn-out M&As. In order to achieve the identification, this chapter constructs a set of probit models and multinomial logistic models to identify the institutional ownership factors and financial factors which impacts the transaction payment method choice.

The result shows that cash is the most popular payment method among UK acquirers. As most UK M&As targets are privately held companies, so financing of takeovers is similar to private placements of equity because the ownership of private targets are highly concentrated. Therefore, takeovers of these private targets via share payment tend to create large block shareholders (Chang 1998).

Acquirer firms with high level institutional ownership experience higher cash payment probability. This support the conclusion from Amihud et al. (1991) that corporate insiders who value control will prefer financing investment by cash or debt rather than by issuing new stock which will result in diluted holdings and increasing the risk of losing control. Therefore, institutional investors tend to reduce the probability of a stock payment of the investment activities which can keep the share voting power and support their important outside monitoring role of managerial behavior (Jensen 1991; Martin 1996).

Another result is that not all the institutional investors are equal in M&As payment method choice process. Pressure-insensitive institutional investors are proved to play a significant role in M&As payment choice, mainly I/Hedge Fund and Investment Advisors. High level pressure-insensitive institutional ownership

increases the probability of cash payment. Pension Fund is found positively relative to cash payment, while negative to share payment, which suggests that pension funds are part of pressure-sensitive investors. The pressure-sensitive group institutional investors (Bank & Trust and Insurance Company) do not play significant role in the sample due to their low ownership proportion.

Financial situation of acquirer firms is significant determinant for payment method. Firm size, profitability (ROA), liquidity (quick ratio) and potential growth opportunity (Tobin's q) are significant determinants that whether acquirers can provide sufficient initial financing resources to support cash payment or provide a rationale share offer to protect firm's future development. Acquirer firms with large size, high level ROA and quick ratio prefer to provide cash deals, while firms with high potential growth and R&D intensity show more probability of share payment.

Both share and earn-out payments, are proved to be the preferred payment methods when the acquirer is in sufficient internal financing situation or facing insufficient information about target industry and future valuation, while earn-out is proved to be preferred compared with share payment when it comes with cross-border M&As.

The contribution of this chapter is the identification of the determinants that influence the acquirer firms' decision to make the choice for the deal payment method. The evidence indicates that institutional investors can self-select firms with good financial performance and also contribute with the view to helping firms get access to external financial resources. Meanwhile, institutional investors are effective monitors to involve in firms' investment strategy and also in order to keep their external monitoring positions, high level institutional ownership lowers the probability of a share payment. Another contribution of this chapter is the provision of evidence to confirm the varying types of institutional investors that are not equal in the decision making process. In addition, this study also confirms that the 2007 financial crisis significantly impacts the payment method of M&As.

Chapter 3. Influences of Institutional Ownership on Mergers & Acquisitions Strategies

Abstract

In this chapter, I study the institutional ownership and M&As strategies, and find out that institutional investors are effective external monitors to be involved in firms' real strategies decision process. High level institutional ownership is positively related to cross-border M&A deals, full control and large transactions. Meanwhile, both institutional ownership concentration and foreign institutional ownership are significantly positive associated with cross-border deals, however, only foreign institutional ownership is positively related with large deal size. Institutional investors in the UK mostly experiences low portfolio turnover rate, which encourages institutional investors to involve in corporate governance and serve a better monitoring role. Finally, the financial crisis significantly decreases full control M&As deals and declines deal size.

3.1. Introduction

Institutional investors' control of equity market are growing rapidly in the last decades in both the US and UK (Aguilera et al., 2006). The institutional investors' shareholding now represents more than 70% of U.S. equities, up from approximately 20% in 1970 (Gillan and Starks, 2007). According to record from the Office of National Statistics approx. 40%-50% of UK equity market is controlled by institutional investors over the last decade. However, compared to the US, UK managers do not have the same freedom as their US counterparts and therefore, institutional investors are more able to co-ordinate and become actively involved in the monitoring activities (Short and Keasey, 1999). Meanwhile, UK institutional investors are proved to experience much lower turnover rate compared with US market (Black and Coffee, 1994; Aguilera et al., 2006), which suggests that the UK institutional shareholdings are stable and may contribute more to the monitoring role.

Furthermore, since 1986, UK firms gained the flexibility to conduct a placing,[12] which is comparable to US firms' commitment offering. And the options of conduct placing increase the firms' ability to signal their quality and to use a seasoned equity which increases the share ownership dispersion (Slovin et al., 2000). Therefore, in the UK, firms are traditionally widely held, and the presence of large shareholder could be an additional contribution to the corporate governance. Therefore this chapter will also examine the impact from both the largest institutional ownership and institutional ownership concentration on the decision to conduct an M&A.

[12] In the mid-1980s, deregulation allowed British "firms to conduct placings, a non-rights method of flotation in which an underwriter purchases an equity offering from the issuing firm on the spot at a fixed price, and sells the shares to clients, typically institutions, and other outside investors". A placing is not a private placement, but a form of public securities issuance comparable to a firm commitment offering in the U.S. A placing is a "fixed-price" bought deal that increases ownership dispersion (Slovin et al., 2000).

Previous literature shows that large firms exhibit significant differences in the relationship between corporate governance and corporate strategies (Hoskisson et al. 2002; Hartzell and Starks, 2003). Hartzell and Starks (2003) find evidence that firms may adopt compensation structures with greater pay-for-performance sensitivity, in order to attract institutional investors. Hoskisson et al. (2002) find that varying types of institutional investors have different preferences for corporate innovation strategies in the US. For instance, managers of professional investment funds prefer acquiring external innovation.

Bushee (1998) finds that the US technical firms, with high institutional ownership, are less likely to cut R&D investment as institutional investors on aggregate, reduce the pressure that compels managers to behave myopically. Moreover, institutional investors are confirmed to have stake on US firms' international diversification strategies. For instance, long-term orientation of pension funds can facilitate internalization in high technological industries (Tihanyi et al., 2003). Le et al. (2006) confirm that institutional investors in the US either following buy-and-hold or quick-in-and-out strategies which can moderate the form of R&D spending-performance, and this may be explained as R&D spending has material impact on firm's stock performance which institutional investors seek to protect and therefore enhance their investment (Tihanyi et al., 2003).While Wahal and MeConnell (2000) reach a difference conclusion, they argue that regardless of investment style, there is no evidence that institutional investors influence corporate managers into behaving myopically. Bange and DeBondt(1998) find that in the US less earnings management occurs when institutional investors own a large fraction of shares.

Different types of shareholders of a firm may not equally prefer the firm's developing and investment strategies because of the increased risks and organizational complexity (Tihanyi et al., 2003). Institutional investors can provide effective external monitoring on firm management (Bushee, 1998; Hartzell and

Starks, 2003; Almazan et al., 2005; Chen et al., 2007). As external governance mechanisms are less involved in insiders, they are argued to play an important role in curbing managerial opportunism (Fama and Jensen, 1983; Walsh and Seward, 1990). Institutional investors can influence companies indirectly through their preference and stock trading, thus firms would choose their strategic investment proposals which are preferred by institutional investors, especially large institutional investors (Hartzell and Starks, 2003; Tihanyi et al., 2003). For instance, professional investment funds are found to favor investing in internationally diversified firms that follow a global strategy, while pension funds are more likely to choose firms with multi-domestic strategies (Tihanyi et al., 2003). So, this chapter is going to investigate the institutional investors' impacts and preference for firms' M&As strategies, investigate the preference of firms' M&As strategies of large institutional investors, foreign institutions as well as long-term horizon institutional investors .

Moreover, foreign institutional ownership is argued to enjoy long-run strategic information advantages than local investors, as foreign institutional ownership is strongly and positively associated with both contemporaneous and subsequent firm performance (Grinblatt and Keloharju, 2000; Dvorak, 2005). Meanwhile, foreign institutional investors can help improve firm performance and deduct capital expenditures (Gillan and Stark, 2003; Ferreira and Matos, 2008), reduce cultural distance, transaction costs and internally information asymmetry, and contribute to international investment (Ferreira et al. 2010).

Firstly, this chapter examines whether foreign institutional investors have any effects on corporate decision making rather than just buying and selling in stock market to pick up winners. Particularly, I examine whether the percentage of foreign institutional ownership improves the probability of cross-border M&As and large deal size. I find evidence that foreign institutional investors are significantly and positively associated with cross-border M&As and deals with large deal value.

The results are consistent with Ferreira et al. (2010) that foreign institutional ownership increases the probability that a M&As deal is cross-border which provides support for the suggestion that foreign institutional investors can help to reduce the bargaining and transaction costs associated with higher asymmetric information between acquirers and targets in the cross-border deal transaction process.

Thomsen and Pedersen (2000) argue that large shareholders, including institutional investors have significant implication in firm strategy and performance, and moreover, they find that financial shareholders are found to be positively associated with higher shareholder value and profitability. Even though, the monitoring activity will cost institutional investors' independent resources for information concerning managerial actions. The presence of a large shareholder is argued to bear the monitoring cost as their potential returns gained from effective monitoring can exceed their costs (Gillan and Starks, 2000). In addition, a liquid stock market allows large investors to benefit more from monitoring via informed trading, leading to more monitoring and overcoming the free-rider problem (Admati et al., 1994; Maug, 1998; Johnson & Greening, 1999). In this research, I specifically focus on the impacts of institutional ownership size, aim to find out the large institutional ownership's preference and impacts on their invested firms' investment strategies.

Ownership concentration is an efficient corporate governance mechanism in countries with weak legal protection which can result in enhancement in firm performance (Shleifer and Vishny, 1997). High level ownership concentration is believed to contribute to shareholder's protection, particularly when there are difficulties to transfer the home country's strong legal protection to the host country (Burkart and Panunzi, 2006; Weitzel and Berns, 2006). Evidence from around 39 countries reveals that ownership concentration is significantly and positively related to the post-privatization firm performance and this positive

effect matters more in countries with weak investor protection (Boubakri et al., 2005). Lskavyan and Spatareanu (2011) suggest that poor investor legal protection will reduce the attraction of FDI while the parent firm's ownership concentration will release this negative impact. Furthermore, Burns et al. (2010) suggest that greater concentrated institutional ownership induces better monitoring, while other small institutional investors might have fewer incentives to engage in the costly monitoring activities. Firms with high level institutional concentration are more likely to use takeovers based on evidence from late 1980s US samples (Clyde, 1997). Based on the better monitoring role served by concentrated institutional investors, this study is going to investigate whether institutional ownership concentration can be complemented with legal investor protection in cross-border M&As. The results show that high level institutional ownership concentration increases the likelihood of a cross-border merger and transactions taking full control of the target firm.

Institutional investors differ in terms of their investment horizon which is their expected length of time to hold a stock. Therefore, institutional investors with a long-term focus are argued to behave as 'activists' while short-term horizon institutions are acting as 'speculators' (Gillan and Starks, 2007). Long-term investment horizon is suggested to help build 'relationship investing', that the long-term horizon institutions would effect to change rather than sell the equities (Chidambaran and John, 1998).

Bushee (1998) argues that large proportion of institutional investors with high portfolio turnover and momentum trading significantly encourages managers' myopic investment behaviour, while long-horizon institutional investors are proven to be more involved in the corporate governance and serve a better monitoring role than other short-horizon institutional investors (Dong and Ozkan, 2008). In order to protect their own longevity investment, long-term institutional investors can impose disciplinary mechanisms on mangers to align their interests

with them (Attig et al., 2012).

Meanwhile, this chapter includes investor specific characteristics of institutional investor horizons, which aims at investigating the impact of institutional investment stability on firms' M&As strategies. The evidence suggests that UK institutional investors are mainly long-term horizon[13] investors, and they show positive effects on both cross-border and full control deals. However, the long-term horizon institutional ownership is positively associated with large deal size, by providing supportive evidence that long-term horizon institutions are effective and active monitors to contribute to the corporate management based on their 'relationship investing'.

The remaining of this chapter is organized as follows. Section 3.2 summarizes the literature review which generates the hypotheses. Section 3.3 illustrates the data and methodology employed. Section 3.4 presents the empirical results, while the conclusion is presented in Section 3.5.

3.2. Literature Review and Hypotheses Formulation

3.2.1. Foreign Institutional Ownership

Foreign institutional investors perform well to prevailing corporate governance within a country in order to attract foreign capital firms which may be motivated to improve their corporate governance. Meanwhile, increased foreign institutional investment can provide these investors power to enforce governance changes (Gillan and Stark, 2003). Gillan and Starks (2003) suggest that foreign institutional investors are part of pressure-insensitive investors as they have less business relations with firms they invest in. With this, foreign institutional investors

[13] In this research, long-term horizon is defined as low-turnover investors which has annual portfolio turnover rate less than or equal to 50%; therefore, the average holding period exceeds 2 years and is indicative of a general preference for longer term investing.

are believed to make more contributions to corporate governance than local investors. Furthermore, foreign investors can provide alternative access to external financing resources, which will lower the external financing cost and share the risk of domestic stock markets (Bekaert and Harvey, 2000; Gupta and Yuan, 2009; Li et al. 2011). I argue that foreign institutional investors are active monitors being part of pressure-insensitive investors and they are more aggressive in the strategic investment. Therefore, foreign institutional investors are effectively involved in the invested firms' corporate governance and management decision process.

Firstly, Foreign institutional investors are suggested to enjoy a strategic and long-run information advantage compared to domestic investors (Grinblatt and Keloharju, 2000; Dvorak, 2005; Huang and Shiu, 2009). Evidence based on Finland shows that foreign investors are the most sophisticated investors. Foreign investors often professionally manage funds or investment banking houses, pursue momentum strategies[14] and thus achieve superior performance while incurring smaller transaction costs (Grinblatt and Keloharju, 2000). Similar results are reported in Indonesia showing that foreign institutional investors enjoy strategic information advantages and they are better able to select winners (Dvorak, 2005). Huang and Shiu (2009) suggest that equities with high foreign institutional ownership out-perform those with low foreign institutional ownership in Taiwan. Therefore, foreign institutions are likely to help reduce any cultural distances, transaction costs and internally information asymmetries, thereby contributing more to international investments (Ferrieira et al. 2010).

Secondly, foreign investors can provide alternative financing resources and also share the risk of domestic stock markets (Bekaert and Harvey, 2000; Gupta and Yuan, 2009; Li et al., 2011). Foreign capitals can promote the economic

[14] Momentum strategies: Investors buys that had been performing well over the previous months or last year and sells those that have been performing poorly over the same period (Grinblatt and Keloharju, 2000).

growth by lowering the cost of external capital (Bekaert and Harvey, 2000). Another investigation of the effect of stock market liberalization on industrial growth in emerging markets shows that foreign capitals can reduce the financing constraints and industries are more externally dependent and face better growth opportunities by growing faster following the liberalization (Gupta and Yuan, 2009). In addition, foreign capital can improve the information quality in local stock markets and thus substantially decreases transaction costs and risk exposure (Li et al., 2011).

Foreign ownership appears to have provided Polish firms with a higher degree of resilience during 2007-2008 financial crisis, and this indicates that foreign ownership can help the firms more easily to overcome the contraction of foreign demand and increased credit constraints (Kolasa et al., 2010). The investigation of the response of US multinational affiliates and local firms to currency crises in emerging economies suggests that foreign owned companies respond better than local firms to the financial crisis. This is mainly because these firms can also get access parent equity infusions when local firms are most constrained (Desai et al., 2008). Similar conclusion is offered by Blalock et al. (2008) based on firms' response to devaluation following the 1997 Asian financial crisis in Indonesia. The evidence shows that only exporters with foreign ownership increased their capital significantly, while domestic-owned manufacturing firms' ability to take advantages of improved terms of trade is greatly retarded by liquidity constraints.

Evidence from Japan shows that foreign ownership negatively moderates the relationship between strategy variables and executive compensation. It suggests that the foreign investors are active monitors which can reduce cash bonus payment when their invested firms choose to increase R&D expenditure or pursue diversification strategy (Yoshikawa et al., 2010). Chen et al. (2013) report that every standard deviation increases in foreign institutional ownership can lead to a

65.76% increase on stock return volatility[15] in a Chinese firm. The empirical results suggest that the foreign institutional ownership increases firm-level stock return volatility by strengthening the positive impact of liquidity on volatility. Davies and Lyons (1991) report that foreign owned companies can benefit a 30% productivity[16] advantage over domestic owned equivalents in the UK. Similar result is reported by Driffield (2001), Harris (2002), Harris and Robinson (2003) that in the UK, firms with foreign ownership performed better than domestic owned companies measured by productivity.

The cultural distance and asymmetric information are proved to be significant determinants for cross-border M&As, therefore, cross-border transactions require more skilled and experimental knowledge (Slangen, 2006; Kang and Kim, 2010; Dikova and Rao Sahib, 2013). Dahlquist and Robertsson (2001) conclude that foreign investors prefer large firms and especially firms with high market liquidity and presence in foreign market. Foreign institutional investors can help to improve firm performance and deduct capital expenditures, which play a special role in corporate governance (Gillan and Stark, 2003; Ferreria and Matos, 2008).

Gillan and Stark (2003) argue that institutional investors, especially foreign institutional investors, play a central role in prompting change in many corporate governance systems. Based on the previous evidence that the firms with high level foreign institutional ownership relates with better corporate performance, this chapter expects to find positive relationship between higher foreign institutional ownership and probability of cross-border M&As activities. And argue that foreign institutional investors are active monitors as part of pressure-insensitive investors and they are more aggressive in the strategic investment.

[15] Firm –level stock return volatility is measured by two different proxies: logarithm of squared daily returns and standard deviation of daily stock returns (Chen et al., 2013).

[16] Davies and Lyons (1991) measure the productivity by crude ratio of value of production and employment.

Hypothesis 1: Acquirers with greater foreign institutional ownership have high probability to make a cross-border M&As deal.

3.2.2. Block Institutional Ownership

Large shareholders have the free-rider problem because they bear the monitoring costs alone. And the free-riding problem can also have two other effects on the large shareholders: 'lock-in effect' and 'liquidity effect'[17] (Maug, 1998). Block shareholders are widely argued to involve in the monitoring activities and to limit agency problems, improve corporate governance and therefore improve firms' performance (Shleifer and Vishny, 1986; Admati et al., 1994; Maug, 1998; Noe, 2002; Admati and Pfleiderer, 2009). Admati and Pfleiderer (2009) contend that large shareholder can help to alleviate conflicts of interest between managers and shareholders through the credible threat of exit on the basis of private information, and their model shows that the threat of exit reduces agency costs.

Empirical evidence on the monitoring role played by large shareholders is also provided. For instance, Bethel et al., (1998) report a great improvement of the company performance after a block of shares was purchased by an activist investor. Bertrand and Mullainathan (2001) suggest that firms with large shareholder on board are better governed. The evidence shows that the presence of a large shareholder on the board can help to tighten the control over executive compensation, and reduce the 'lucky pay' for CEOs. Kang and Shivdasani (1995) find that the presence of large shareholders is positively associated with increased management turnover, suggesting that these shareholders provide a monitoring function.

[17] Owning a larger stake makes the return on the company's shares more significant for the large shareholders, hence it biases her toward intervention which is called '*lock-in effect'*. If a larger fraction of the total shares is owned by the large shareholder, then fewer shares are held by households, making the market less liquid in these shares. This is called '*liquidity effect'* (Maug, 1998).

Large institutional investors are effective monitors as well as other large non-institutional investors, even though they might not be perfect monitors due to their own agency problems (Kahl and Gorton, 1999). Previous studies confirm the monitoring role of institutional investors, while large shareholders are expected to lead to better monitors (Shleifer and Vishny, 1986; Agrawal and Gershon, 1990; Hartzell and Starks, 2003). Large institutional investors present much more contribution than small investors on monitoring managerial performance in order to protect their sizable investment and enhance the value of their investment (Del Guercio and Hawkins, 1999; Gillan and Starks, 2007; Brav et al., 2008).

The monitoring from large institutional shareholder can help solve the agency problem and reduce the free-riding problem due to their 'relationship investing', as large institutional investors can convey private information that they obtain from management to other shareholders (Chidambaran and John, 1998).

Gillan and Starks (2003) argue that only shareholders with large positions are likely to obtain a large enough return on their investment to justify the monitoring costs. Meanwhile, large shareholders are more willing to focus on the long-term performance of the firms they invest in. Maug (1998) argues that large shareholders can realize a capital gain from monitoring but the only source of profits from monitoring for the large investors comes from the uncertainty they create over final payoffs. Therefore, large shareholders will encourage managers to make investment decisions for long-term profitability (Dharwadkar et al., 2008). Thus, I argue that large institutional investors would be incentives to monitor the firm and more positive about firms M&As investment strategy, and thus will be more likely to constrain self-serving. In this research, I employ the largest institutional investor's stake to examine the hypothesis 2.

Hypothesis 2: higher ownership stake of largest institutional investor might positively relate with larger deal size.

When the law is substituted for the monitoring, legal investor protection and ownership concentration can be complemented (Burkart and Panunzi, 2006). For cross-border investment, the home country's strong legal protection may make it difficult to travel to host country, therefore, high level ownership concentration is believed to help in shareholder protection (Weitzel and Berns, 2006; Lskavyan and Spatareanu, 2011). Ownership concentration and FDI reveal that the poor investor legal protection will decline the attraction of FDI while the parent firm's ownership concentration will release this negative impact (Lskavyan and Spatareanu, 2011).

Furthermore, blockholders can serve as effective monitors of managerial performance or facilitate takeovers (Shleifer and Vishny, 1986). Greater concentrated institutional ownership induces better monitoring, while other small institutional investors might have fewer incentives to engage in the costly monitoring activities (Burns et al., 2010). Clyde (1997) suggests that firms with high level institutional concentration are more likely to use takeovers based on evidence from late 1980s US samples.

Thus, a high level institutional ownership concentration may suggest stronger incentives of monitoring power over the managerial decisions. And this can contribute to help protect shareholder interests when there is cross-border investment activity, particularly in some weaker legal protection host countries. To identify the influence of Institutional ownership concentration, I follow Hartzell and Starks (2003) to measure institutional ownership concentration by the sum proportion of top 5 institutional investors.

Hypothesis 3: Acquirer firms with high level Institutional Ownership Concentration will increase the probability of cross-border M&As deals.

3.2.3. Long-term horizon institutional ownership

Institutional investors with long-term investments will specialize in monitoring and influencing the mangers rather than trading equities, while unstable (short-term) shareholders go frequent trading (Chen et al., 2007). Meanwhile, long-term institutional investors are confirmed preferring to hold stable and diversified equities in the largest publicly traded firms (Hawley, 1995) which can decrease their trading frequency and increase their governance commitment. Institutions with long investment horizon are proved to be effective monitors when involved in corporate management rather than when they buy and sell shares (Bushee, 1998; Dong and Ozkan, 2008).

Bushee (1998) concludes that short-term institutional investors are positively associated with the firms' expected near-term earnings and increases the probability of managers to meet short-term earning goals. Gaspar et al., (2005) report that the short-term institutional investors is positively associated with undisciplined management decisions in M&As, that acquirers with short-term shareholders experience significantly lower abnormal returns around the announcement time, as well as higher long-run underperformance. Furthermore, evidence from the banking industry suggests that banks with short-term investment intensity pay more cash bonus, exhibit higher risk and experience poorer performance than banks with longer-term investment intensity. It indicates that the long-term horizon investment can benefit the institutional investors (Livne et al., 2013).

Long-term stable ownership gives the institutional investors opportunities to learn more about the firms they invest in and therefore, exert effective monitoring, which contributes to reduce the asymmetric information between insiders and outsiders (Elyasiani et al., 2010). The UK institutional investor portfolios turnover is significantly lower compared to US institutional investors (Black and Coffee, 1994; Aguilera et al., 2006). This relative stability may encourage more UK

institutional investors to engage in seeking increased control over firm-level management decision making in the name of long-term share value towards enhancing firm performance or reducing strategic risk, rather than simply selling shares of companies that are underperforming (Clark and Hebb, 2004; Aguilera et al., 2006). The long-term horizon institutional investors are expected to exert more influence on the M&As strategies.

The presence of long-term institution investors can mitigate the information asymmetry[18] problems therefore, help to reduce the transaction and financing costs. Meanwhile, they argue that the institutional ownership stability plays a bigger role in determining the debt cost than the common institutional ownership level (Elyasiani et al., 2010).

Hypothesis 4: Long-term horizon institutional investors are positively related to large deal size.

3.3. Data and Methodology

3.3.1. Sample

I identify all mergers and acquisitions undertaken by the UK listed companies reported in Zephyr of Bureau Van Dijk from 2000-2010. The final sample is selected by complying with the following conditions: 1) The acquirer has both equity ownership records available from Thomson One Banker, and financial records at the year-end prior to the announcement from Worldscope. 2) The transaction is completed at the end of sample period. 3) All financial acquirer firms are excluded from the sample (2-dig SIC 60-69).[19] 4) In order to avoid very small transaction deals, the deal value must be worth more than £0.1 million. 5) Targets

[18] (Elyasiani et al., 2010) choose two proxies for measuring information asymmetry: analyst coverage and residual volatility in daily stock returns.

[19] We exclude financial industries due to the uniqueness of the industry such as: special asset composition, high leverage, and stricter government regulations (Elyasiani et al., 2010).

are both UK and non-UK firms, including listed private and subsidiary firms. These criteria yield a final sample of 3,821 completed M&As deals undertaken by UK public listed companies. The final sample is 3,821 deals and contains 2,338 domestic targets (61%) and 1,480 foreign targets (39%).

Firms-level institutional ownership characteristics are obtained from Thomson One Banker,[20] which compiles with the information contained quarterly in the 13F historical holders. Following Ferreira et al. (2010) analysis, this study defines the foreign institutional investors when the institutional investors are non-UK institutions and domestic institutional investors when the institutional investors are UK institutions. The proportion of foreign institutional ownership, domestic institutional ownership as well as total institutional ownership are calculated based on the original ownership data from Thomson One Banker at the year-end prior to the deal announcement. Meanwhile, in order to examine possible effects of concentrated institutional ownership, two additional variables are employed: largest institutional ownership proportion and the sum of holdings of top 5 institutional investors to measure institutional ownership concentration following Hartzell and Starks (2003) and Bhojraj and Sengupta (2003).

To measure the investment horizon of institutional ownership, I obtain the turnover record from Thomson One, and grouped the proportion of low-turnover, moderate-turnover and high-turnover institutional ownership[21] separately.

[20] Thomson One Banker has a minimum of 0.015% threshold for UK firms' ownership record.

[21] **Low-turnover:** Annual portfolio turnover rate is less than or equal to 50%; therefore, the average holding period exceeds 2 years and is indicative of a general preference for longer term investing. **Moderate-turnover:** Annual portfolio turnover rate is greater than 50% and less than or equal to 100%; therefore, the average holding period is between 1 year and 2 years and is indicative of a medium term investment horizon. **High-turnover:** Annual portfolio turnover rate is greater than 100%; therefore, the average holding period is less than 1 year and is indicative of either a shorter term investment horizon or more frequent trading around a core position.

3.3.2. Sample Overview

Figure 3.1 and Table 3.1 present the sample annual distribution of deal numbers and deal values of all M&As deals announced and completed by UK listed acquirer firms from 2000 to 2010, including both domestic and cross-border deals. The time period under study covers the M&As wave in mid 2000s, and the 2007 financial crisis.

Figure 3.1 Annual sample distribution of deal numbers from 2000-2010

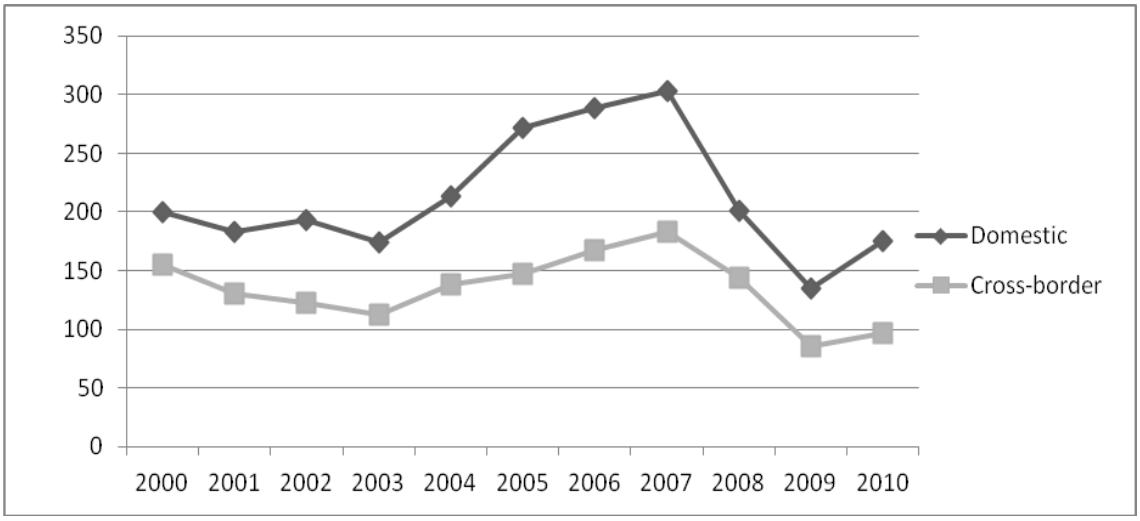


Table 3.1 Annual sample distribution of deal values.

This table presents the annual distribution of deal value (billions of GBP) for completed domestic and cross-border M&As announced by UK listed acquirers between January 1, 2000 and December 31, 2010.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Domestic deal values (billion £)	9.31	4.49	11.69	9.00	12.90	8.62	9.29	13.42	5.00	2.34	3.24	89.31
Cross-border deal values (billion £)	162.53	13.71	16.11	13.68	7.19	15.99	16.34	28.90	16.01	10.04	4.84	305.33

The domestic deal number which is almost twice to the cross-border deals, suggests that the domestic targets are much more popular than cross-border targets. Both domestic and cross-border deals share the same trends that bloom in the mid 2000s, but decline quickly since the 2007 financial crisis.

The deal value figures show that cross-border transactions account for large proportion of total deal value. The total value of cross-border transactions is approx 305 billion GBP, which is over 77% of the total deal value of M&As undertaken by UK public acquirers from 2000-2010, while domestic deals only account for about 89 billion GBP (23%). It suggests that cross-border M&As are mostly large deals, while domestic deals are more frequent but smaller in size.

Furthermore, since the financial crisis started in 2007, both the deal number and deal values experience sharp declines. This is mainly because the global financial markets are being subjected to the volatile and uncertain environment since the financial crisis started. Consequently, a vicious cycle of asset deleveraging, price declines and investor redemptions entered the financial market (Ravichandran, 2009).

Table 3.2 reports the descriptive statistics of dummy variables and industry classifications employed in this research. Listed target reports a higher mean value (0.06) for cross-border group and also initial stake (0.11) compared with domestic deals. It indicates that for cross-border M&As, acquirers prefer targets with lower asymmetric information. This is consistent with previous evidence that asymmetric information is a significant determinant for firms' international strategies (Cho and Padmanabhan, 2005; Slangen, 2006; Kang and Kim, 2010).

Overall, cash payment is the most popular payment method for UK acquirers, and cross-border group shows higher preference for cash payment than domestic deals. Also cross-industry targets are the main part of the deals, which account for 61% over the whole sample, but it shows no difference between the two groups.

The distribution of mean value of industry classification dummy shows that manufacturing and services are the main target industries for domestic M&As. Meanwhile, cross-border M&As are more likely to choose targets from mining and services industries. And the overall UK public acquirers choose most target firms from manufacturing and services industries.

The descriptive statistics presented in Table 3.3 show an average 49.21 that total institutional owners control on average 49.21% of acquirer firms. This is consistent with Franks and Mayer (1997) and Goergen and Renneboog (1998) contention that the dominant shareholding group in the UK is institutional investors.

Average foreign institutional ownership is 10.10% with a wide range from 0 to 86.34%, and this is comparable with the average 11.30% foreign institutional ownership for UK samples from Ferreira et al. (2010). However, domestic institutional ownership has a mean value of 39.11% which indicates that domestic institutional investors are the mean institutional investors in UK stock market. The average top 5 institutional ownership is 24.26%, where the largest institutional investor accounts for 8.93 %.

Based on the annual turnover portfolio, low-turnover institutional investors (annual portfolio turnover rate <50%) control on average 37.43% of UK acquirer firms, which accounts for most part of all institutional ownership, while high-turnover institutional investors (annual portfolio turnover rate >100%) only hold average 1.17% shareholdings. This is consistent with Black and Coffee (1994) and Aguilera et al. (2006) that UK institutional investors have extremely lower turnover rate, and indicate institutional investors may actively involve in managerial decision process.

Table 3.2 Mean values for binary explanatory variables and major industry category.

This table presents the mean value of binary explanatory variables based on domestic & cross-border M&As groups as well as total samples. The industry classification are based on the 2-digit SIC codes. *High-tech* is a dummy variable that takes value of 1 when the target firm belongs to high-technology industry and 0 otherwise. *Cross Industry* equals to 1 when the acquirer firm and target firm have different 2-digit SIC codes, otherwise 0. *Listed Target* equals to 1 when the target firm is a public listed company and 0 otherwise. *Initial Stake* is equals to 1 if the acquirer has initial stake of target firm before deal announcement and 0 otherwise. *Cash Payment* is a dummy variable equals to 1 if the deal employs cash as payment method, otherwise 0. *Financial Crisis* is a dummy variable controlling for 2007-2008 financial crisis, takes value of 1 if the deal is announced during 2007-2008, and 0 otherwise.

	Domestic		Cross-border		Total	
	N	Mean	N	Mean	N	Mean
Dummy Variables:						
High-tech	2,338	0.16	1,483	0.14	3,821	0.15
Cross Industry	2,338	0.62	1,483	0.61	3,821	0.61
Listed Target	2,338	0.02	1,483	0.06	3,821	0.03
Initial Stake	2,299	0.07	1,438	0.11	3,737	0.09
Cash Payment	2,126	0.71	1,280	0.80	3,406	0.74
Financial Crisis	2,338	0.22	1,483	0.22	3,821	0.22
Industry Category Dummy:						
Mining	2,338	0.03	1,483	0.13	3,821	0.07
Construction	2,338	0.05	1,483	0.02	3,821	0.04
Manufacturing	2,338	0.18	1,483	0.30	3,821	0.23
Transportation	2,338	0.03	1,483	0.03	3,821	0.03
Communications	2,338	0.04	1,483	0.04	3,821	0.04
Public Utilities	2,338	0.02	1,483	0.02	3,821	0.02
Whole Sale Trading	2,338	0.05	1,483	0.05	3,821	0.05

Retail Trading	2,338	0.07	1,483	0.03	3,821	0.06
Finance, Insurance and Real Estate	2,338	0.04	1,483	0.02	3,821	0.03
Services	2,338	0.46	1,483	0.36	3,821	0.42
Pubic Administration	2,338	0.01	1,483	0.00	3,821	0.01

Table 3.3 Descriptive statistics

This table presents the descriptive statistics for the continuous variables employed in the study. Deal Value is the M&As deal value in millions of GBP. Largest Institutional Investor is the ownership of largest institutional investor at the year-end prior announcement at the year-end prior deal announcement. Top 5 Institutional Ownership is the sum of percentage of top 5 institutional investors' ownership at the yearn-end prior deal announcement. Domestic Institutional Ownership is the percentage of UK institutional investors' ownership at the year-end prior deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior deal announcement. Δ Foreign Institutional Ownership is the change of foreign institutional ownership at the year-end following the deal announcement, relative to the respective level at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Moderate-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate greater than 50% and less than or equal to 100% at the year-end prior the deal announcement. High-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is greater than 100% at the year-end prior the deal announcement Firm Size is measured by the natural logarithm of total assets at the year-end prior deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior deal announcement. Cash & Equivalent is measures by cash & equivalents to total assets at the year-end prior deal announcement. Capital Expenditure is the ratio of capital expenditures to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement. Dividend Yield is the ratio of common cash dividends relative to the share price at the year-end of deal announcement. Share Turnover is defined as number of shares traded divided by number of shares outstanding of the year prior to the deal announcement. Tobin's q is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior to the announcement.

Panel A. Institutional Ownership Variables	N	Mean	Median	Min	Max	St.Deviation
Largest Institutional Investor	3,467	8.93	7.86	0.00	69.91	6.13
Top 5 Institutional Ownership	3,467	24.26	24.23	0.00	84.30	13.68
Domestic Institutional Ownership	3,467	39.11	40.06	0.00	98.52	24.43
Foreign Institutional Ownership	3,467	10.10	5.06	0.00	86.34	13.19
Δ Foreign Institutional Ownership	3,143	0.80	0.06	-70.41	90.67	4.41
Total Institutional Ownership	3,467	49.21	53.05	0.00	99.91	28.79
Low-turnover institutional ownership	3,467	37.43	38.84	0.00	91.68	23.73
Moderate-turnover institutional ownership	3,467	6.86	5.72	0.00	48.08	6.39
High-turnover institutional ownership	3,467	1.17	0.38	0.00	34.87	2.34
Panel B. Firm-level Characteristics						
Deal Value (millions of GBP)	3.821	103.08	6.18	0.10	129,240.10	2,117.61
Firm Size	3,519	5.28	5.23	1.70	8.23	1.09
ROA	3,517	0.00	0.05	-4.17	0.81	0.26
Leverage	3,497	0.18	0.15	0.00	0.99	0.16
Long-term Leverage	3,502	0.13	0.08	0	0.99	0.15
Cash & Equivalent	3,519	0.16	0.10	0.00	1.00	0.18
Capital Expenditures	3,450	0.04	0.03	0.00	0.94	0.06
Intangible assets	3,516	0.26	0.21	0.00	0.97	0.23
Dividend Yield	3,422	2.20	1.85	0.00	13.76	2.19
Share Turnover	3,287	0.87	0.71	0.00	6.67	0.73
Tobin’s q	3,392	1.76	1.23	0.01	18.39	1.96

3.3.3. Methodology

Firstly, to identify the UK acquirers' preference of target types (cross-border vs. domestic and full-control vs. partial control), a standard probit analysis is employed. A logit model is also tried to estimate and the regression yields extremely similar results compared with the estimation with probit model.

The probit model employs an inverse probit function, so it is a kind of the cumulative standard normal distribution. Let Y be a binary variable that takes the value of either 1 or 0. The probit model is defined as:

$$P(Y = 1 \mid X\beta) = \Phi(X\beta) \tag{3.1a}$$

$$P(Y = 0 \mid X\beta) = 1 - P(Y = 1 \mid X\beta) = 1 - \Phi(X\beta) \tag{3.1b}$$

The likelihood function of probit model $L(\beta)$ is:

$$L(\beta) = \prod_{i=1}^{N} [\Phi(X_i\beta)]^{Y_i} [1 - \Phi(X_i\beta)]^{1-Y_i} \tag{3.2}$$

Probit method estimates the coefficients β by maximum likelihood techniques, given the pattern of the events observed in the sample and by normalizing the variance of the disturbances at unity. These coefficients then can be used to estimate the probability of a particular deal payment method choice. Coefficients have the statistical properties of consistency and an asymptomatically normal distribution.

Furthermore, in order to analyze the influence factor to the deal size, a tobit model analysis is included. Tobit model is widely used to describe the relationship between a non-negative dependent variable and an independent variable. The tobit model function is defined as:

$$Y_i = \begin{cases} Y_i^* = X_i\beta + \varepsilon_i, \quad \varepsilon_i \sim N(0, \sigma^2) & \text{if } Y^* > 0 \\ 0 & \text{if } Y^* = 0 \end{cases} \tag{3.3}$$

Y_i^* is the dependent variable that linearly depends on series of independent

variables X_i via a parameter (vector) β which determines the relationship between the independent variables and the dependent variable. The observable variable Y_i is defined to be equal to Y_i^* when it is above zero and zero otherwise.

3.4. Empirical Results

3.4.1. Univariate Analysis

To identify the institutional ownership and firm-level financial characteristic that may drive the probability of making cross-border deals, the sample is split into two groups: domestic and cross-border. The univariate test results are presented in Table 3.4. Acquirers which involve in cross-border M&As experience high level institutional ownership (55.67%) than domestic deal acquirers (44.99%). Particularly, foreign institutional ownership has a mean value of 14.06% and 7.51% respectively for cross-border and domestic groups, this is consistent with our expectations that higher foreign institutional ownership might associate with higher probability of cross-border M&As.

While largest institutional investor reports an average 8.90% and 8.97% respectively for domestic and cross-border groups, which indicates that largest institutional investor does not show preference on cross-border deals, low-turnover institutional investors accounts for average 41.87% and 34.53% shareholdings representatively for cross-border and domestic groups acquirers, suggesting that most institutional investors are stable investors.

Moreover, cross-border M&As group acquirers have greater institutional ownership concentration. This indicates that institutional ownership concentration might be effective in shareholder protection activities that will help firm to get involved in cross-border investment (Burkart and Panunzi, 2006; Weitzel and Berns, 2006; Lskavyan and Spatareanu, 2011).

Table 3.4 Univariate Sorting on domestic & cross-border M&As

This table presents descriptive statistics of continuous variables for two sub-groups of target firms: domestic (UK) & cross-border (non-UK). The variables definition can be found in Table 3. Homogeneity reports the p-values for the homogeneity test for means and medians across two target groups: domestic and cross-border target. Largest Institutional Investor is the ownership of largest institutional investor at the year-end prior announcement at the year-end prior to the deal announcement. Top 5 Institutional Ownership is the sum of percentage of top 5 institutional investors' ownership at the year-end prior to the deal announcement. Domestic Institutional Ownership is the percentage of UK institutional investors' ownership at the year-end prior to the deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Δ Foreign Institutional Ownership is the change of foreign institutional ownership at the year-end following the deal announcement, relative to the respective level at the year-end prior deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate which is less than or equal to 50% at the year-end prior deal announcement. Moderate-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate greater than 50% and less than or equal to 100% at the year-end prior to the deal announcement. High-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is greater than 100% at the year-end prior to the deal announcement Firm Size is measured by the natural logarithm of total assets at the year-end prior deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior deal announcement. Cash & Equivalent is measured by cash & equivalents to total assets at the year-end prior deal announcement. Capital Expenditure is the ratio of capital expenditures to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement. Dividend Yield is the ratio of common cash dividends relative to the share price at the year-end of to the deal announcement. Share Turnover is defined as number of shares traded divided by number of shares outstanding of the year prior deal announcement. Tobin's q is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior to the announcement.

	Domestic			Cross-Border			Test of difference	Test of difference
Variables	N	Mean	Median	N	Mean	Median	in means	in medians
Deal Value (millions of GBP)	2,338	38.20	4.60	1,483	205.89	11.34	(0.017)**	(0.000)***
Largest Institutional Investor	2,096	8.90	7.89	1,371	8.97	7.76	(0.720)	(0.871)
Top 5 Institutional Ownership	2,096	23.65	23.79	1,371	25.18	24.76	(0.001)***	(0.010)**
Domestic Institutional Ownership	2,096	37.48	37.94	1,371	41.60	42.80	(0.000)***	(0.000)***
Foreign Institutional Ownership	2,096	7.51	2.87	1,371	14.06	9.58	(0.000)***	(0.000)***
Δ Foreign Institutional Ownership	1,819	0.85	0.05	1,358	0.72	0.07	(0.396)	(0.276)
Total Institutional Ownership	2,093	44.99	46.62	1,371	55.67	60.70	(0.000)***	(0.000)***
Low-turnover Institutional Ownership	2,096	34.53	34.64	1,371	41.87	43.76	(0.000)***	(0.000)***
Moderate-turnover Institutional Ownership	2,096	6.36	5.27	1,371	7.62	6.37	(0.000)***	(0.000)***
High-turnover Institutional Ownership	2,096	0.97	0.21	1,371	1.48	0.65	(0.000)***	(0.000)***
Firm Size	2,123	5.01	4.99	1,395	5.69	5.70	(0.000)***	(0.000)***
ROA	2,122	-0.02	0.04	1,395	0.03	0.05	(0.000)***	(0.000)***
Leverage	2,108	0.17	0.13	1,395	0.19	0.16	(0.037)*	(0.002)***
Long-term Leverage	2,111	0.12	0.06	1,395	0.14	0.10	(0.000)***	(0.000)***
Cash & Equivalent	2,123	0.16	0.09	1,395	0.15	0.10	(0.608)	(0.005)***
Capital Expenditures	2,083	0.04	0.03	1,363	0.05	0.03	(0.009)**	(0.000)***
Intangible assets	2,120	0.26	0.19	1,395	0.26	0.22	(0.683)	(0.356)
Dividend Yield	2,042	2.11	1.70	1,379	2.33	2.04	(0.004)***	(0.000)***
Share Turnover	1,950	0.75	0.58	1,329	1.05	0.91	(0.000)***	(0.000)***
Tobin’s q	2,021	1.74	1.20	1,371	1.80	1.32	(0.413)	(0.000)***

Cross-border group acquirers report larger firm size and higher level of ROA, share turnover, which suggest that cross-border M&As require acquirer firms to be better able to alleviate potential hurdles. Similarly, it also suggests that institutional investors would prefer firms with larger size as well as better liquidity and profitability.

In addition, the sample is divided into two groups based on the final stake of target firms after the M&As transaction: full control (100% ownership) and partial control. The univariate results report 50.10% institutional ownership for full control group which is extremely higher than partial control groups (44.82%). It also suggests higher institutional ownership may encourage the M&As that will take full control of the target firms.

Acquirers with high level top 5 institutional ownership and domestic institutional ownership are more likely to make M&As transactions to take full control of target firms, while foreign ownership reports a higher value (11.58%) for partial control M&As than full control group (9.59%).

Furthermore, low-turnover institutional ownership reports an average 38.23% proportion of full control group compared with 33.47% for partial control group, suggesting long-term horizon institutional investors, preferred the transactions to take full control of target firms.

Additional acquirer firms with high level cash and equivalent ratio and ROA are associated with full control deals, while larger firm size and higher leverage rate are related with partial control deals, as well as firms with higher potential growth opportunities.

Table 3.5 Univariate Sorting on final stake of target firms after the M&A transactions.

This table presents descriptive statistics of continuous variables for two sub-groups of target firms: partial control & full control after the M&As transactions. Full control is defined as M&A bid which is for 100% of target firm's shares (percentage sought), following Ferreira et al., (2010). Homogeneity reports the p-values for the homogeneity test for means and medians across two target groups: domestic and cross-border target. Top 5 Institutional Ownership is the sum of percentage of top 5 institutional investors' ownership at the year-end prior to the deal announcement. Domestic Institutional Ownership is the percentage of UK institutional investors' ownership at the year-end prior to the deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Moderate-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate greater than 50% and less than or equal to 100% at the year-end prior to the deal announcement. High-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate which is greater than 100% at the year-end prior to the deal announcement. Firm Size is measured by the natural logarithm of total assets at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. Cash & Equivalent is measured by cash & equivalents to total assets at the year-end prior to the deal announcement. Share Turnover is defined as number of shares traded divided by number of shares outstanding of the year prior to the deal announcement. Tobin's q is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior to the announcement.

	Partial Control			Full Control			Test of difference in means	Test of difference in medians
Variables	N	Mean	Median	N	Mean	Median		
Top 5 Institutional Ownership	574	21.49	19.57	2,823	24.86	25.33	(0.000)***	(0.000)***
Domestic Institutional Ownership	574	33.23	33.04	2,823	40.50	42.18	(0.000)***	(0.000)***
Foreign Institutional Ownership	574	11.58	7.04	2,823	9.59	4.70	(0.001)***	(0.000)***
Total Institutional Ownership	574	44.82	47.35	2,823	50.10	54.58	(0.000)***	(0.000)***
Low-turnover Institutional Ownership	574	33.47	32.44	2,823	38.23	40.40	(0.000)***	(0.000)***
Moderate-turnover Institutional Ownership	574	5.94	5.03	2,823	7.05	5.93	(0.000)***	(0.001)***
Firm Size	595	5.60	5.60	2,853	5.20	5.20	(0.000)***	(0.000)***
ROA	595	0.01	0.05	2,851	0.05	0.00	(0.514)	(0.669)
Leverage	594	0.17	0.15	2,832	0.16	0.18	(0.450)	(0.474)
Cash & Equivalent	595	0.16	0.09	2,853	0.92	1.47	(0.383)	(0.835)
Share Turnover	555	0.97	0.78	2,662	0.69	0.86	(0.000)***	(0.014)**
Tobin’s q	574	1.78	1.30	2,747	1.74	1.20	(0.708)	(0.165)

3.4.2. Drivers for Cross-Border M&As

In order to examine the role of institutional ownership characteristics in firms M&As strategies, a series of probit models are performed where the dependent variable takes the value of one for cross-border M&As and zero for domestic deals. As some firms undertook more than one M&As transactions during sample period, I cluster the firm identifications in the regression. The first 4 models test the effect of foreign institutional ownership, total institutional ownership, top5 institutional ownership and low-turnover institutional ownership respectively on the choice to conduct a cross-border M&A; the financial variables are selected in order to avoid multicollinearity. Model 5 tests all the variables excluding total institutional ownership. The regression results are presented in Table 3.6.

Firstly, I test the effect of foreign institutional ownership on M&As transactions. The results report a significant positive coefficient on foreign institutional ownership. And this is consistent with hypothesis (H:1) that high level foreign institutional ownership can significantly increase the probability of a deal being a cross-border transaction. It should, however, be note that domestic institutional ownership does not show any interest in cross-border M&As. This is in line with argument of Ferreira et al. (2010) that foreign institutional ownership is positively associated with the intensity of cross-border M&As activities, indicating that foreign institutional investors act as facilitators in the international market for reducing transaction costs and asymmetric information.

And the access of top 5 institutional ownership also reports a significantly positive coefficient, which provides evidence to support hypothesis (H: 3) that greater institutional ownership concentration will increase the probability of cross-border M&As. As UK is considered to be one of countries with sufficient shareholder legal protection, institutional ownership concentration can help to solve the weaker legal protection in the host countries (Lskavyan and Spatareanu,

2011).

Low-turnover institutional ownership presents a significant positive coefficient[22] which suggests that institutional investors with low level portfolio turnover rate are effective in firms' investment strategies. The evidence supports the argument that long-horizon institutional investors are more likely to involve in corporate governance and serve a better monitoring role for the management (Bange and DeBondt, 1998; Dong and Ozkan, 2006). Overall, the whole institutional ownership presents a positive impact on undertaking a cross-border M&As deal. It indicates that institutional investors are active and effective monitors that involve in the real corporate strategies. On the other hand, it suggests that institutional investors prefer to invest in firms with potential growth and investment opportunities and future development perspective (Bushee, 2001).

Furthermore, I access firm-level financial characteristics, and the result shows that large firms are more able to take a cross-border deal as well as high probability (ROA). Both leverage[23] and cash & equivalent report significant positive coefficients by indicating that cross-border M&As require the acquirer firms to obtain both internal and external financing support.

Finally, listed target shows significantly positive coefficient, while cross industry reports significantly negative coefficient. Both of them support the previous argument that asymmetric information is an important determinant when considering cross-border investment (Slangen, 2006; Kang and Kim, 2010).

Furthermore, in order to show the effect of foreign institutional ownership, ownership concentration and total institutional ownership on the probability of the acquirers take a cross-border target. Figure 3.2, figure 3.3 and figure 3.4 present

[22] Moderate-turnover institutional ownership also reports similar significant positive coefficient in the probit regression.

[23] Long-term leverage is also examined in the regression, and the result is similar with the result reported by leverage.

the marginal effect based on probit model respectively. The slope of the figure reflects the marginal effects of each ownership variable that every percentage change (increase or decrease) of the variable will result in the percentage of the probability of UK acquirer doing a cross-border deal.

Figure 3.2 Marginal effect of foreign institutional ownership on cross-border M&As

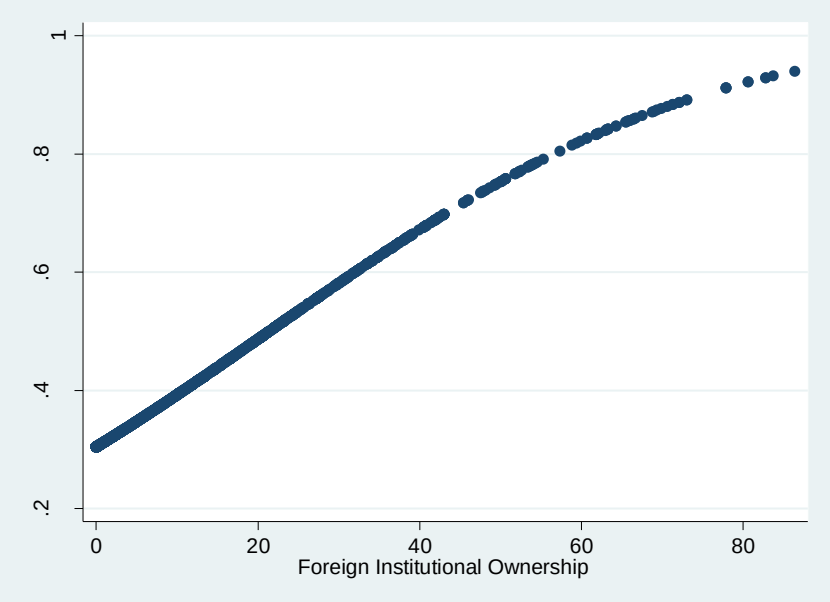


Figure 3.3 Marginal effect of Top 5 institutional ownership on cross-border M&As

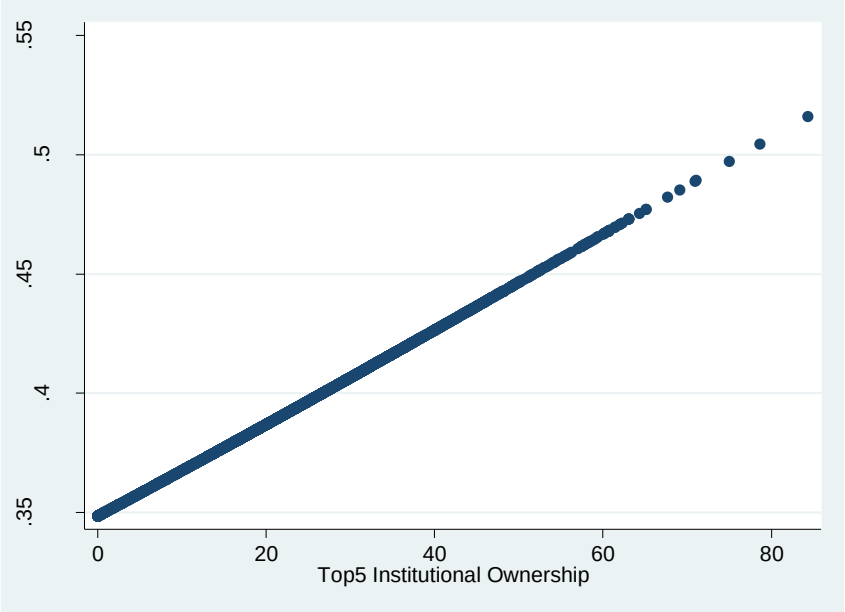


Figure 3.4 Marginal effect of total institutional ownership on cross-border M&As

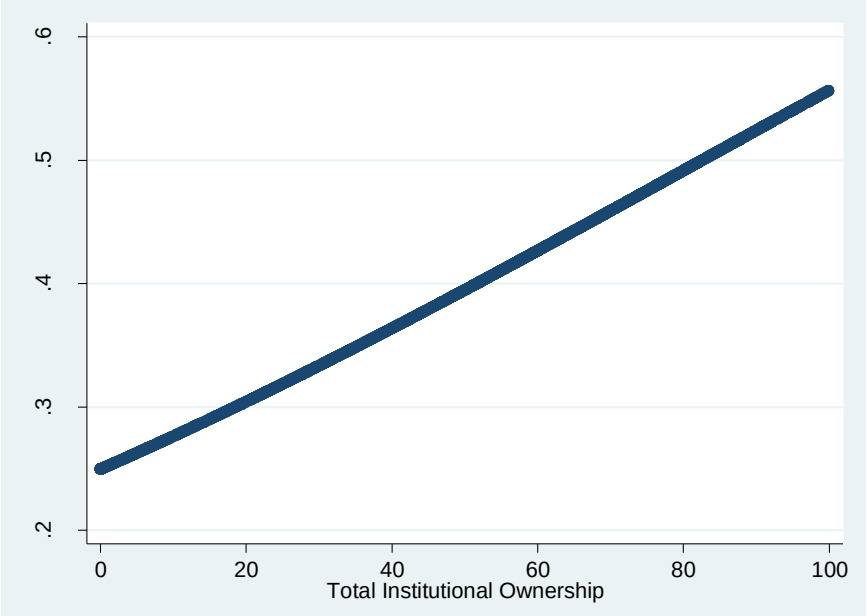


Table 3.6 Probit analysis of probability for UK acquirers to choose a cross-border M&As targets.

This table presents the results of probit regressions for estimating the probability of UK acquirers, choosing a cross-border target, based on 3,821 M&As undertaken by UK listed companies announced between 01/01/2000 and 31/12/2010. The independent variable is a dummy variable equal to 1 when the M&A deals choosing a cross-border target, and 0 otherwise

The industry classifications are based on the 2-digit SIC codes. *High-tech* is a dummy variable that takes value of 1 when the target firm belongs to high-technology industry and 0 otherwise. *Cross Industry* equals to 1 when the acquirer firm and target firm have different 2-digit SIC codes, otherwise 0. *Listed Target* equals to 1 when the target firm is a public listed company and 0 otherwise. *Initial Stake* is equals to 1 if the acquirer has initial stake of target firm before deal announcement and 0 otherwise. *Cash Payment* is a dummy variable equals to 1 if the deal employs cash as payment method, otherwise 0. *Financial Crisis* is a dummy variable controlling for 2007-2008 financial crisis, takes value of 1 if the deal is announced during 2007-2008, and 0 otherwise. *Top 5 Institutional Ownership* is the sum of percentage of top 5 institutional investors' ownership at the year-end prior deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior deal announcement. *Δ Foreign Institutional Ownership* is the change of foreign institutional ownership at the year-end following the deal announcement, relative to the respective level at the year-end prior deal announcement. *Total Institutional Ownership* is the total institutional ownership of acquirer firms at the year-end prior deal announcement. *Low-turnover Institutional Ownership* is the percentage of institutional investors with annual portfolio turnover rate which is less than or equal to 50% at the year-end prior deal announcement. *Firm Size* is measured by the natural logarithm of total assets at the year-end prior deal announcement. *ROA* is the return on assets of acquirer firm at the year-end prior deal announcement. *Leverage* is total debts to total assets at the year-end prior deal announcement. *Cash & Equivalent* is measures by cash & equivalents to total assets at the year-end prior deal announcement. *Capital Expenditure* is the ratio of capital expenditures to total assets at the year-end prior deal announcement. *Intangible assets* is the ratio of total intangible assets to total assets at the year-end prior the deal announcement. *Dividend Yield* is the ratio of common cash dividends relative to the share price at the year-end of deal announcement. *Share Turnover* is defined as number of shares traded divided by number of shares outstanding of the year prior deal announcement. *Tobin's q* is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior the announcement. The probit regression clustered by firm identifications as the standard errors clustered by firm can be a useful robustness check (Cameron et al., 2008; Petersen, 2009). The dependent variable is a dummy variable which equals 1when the M&A is a cross-border deal, and 0 otherwise. The variables are defined as in Table 3.3. Correctly classified (%) compares the fitted and actual values based on the probit regression estimations, where the cu-off value is 0.50. *, **, and *** indicate 10%, 5%, and 1% significant level respectively.

	(1)		(2)		(3)		(4)		(5)	
	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat
High-tech	0.024	(0.22)			0.020	(0.19)	0.024	(0.23)	-0.047	(-0.40)
Cross Industry	-0.061	(-0.80)			-0.066	(-0.84)	-0.070	(-0.88)	-0.109	(-1.33)
Listed Target	0.322	(1.32)			0.358	(1.48)	0.320	(1.31)	0.207	(0.79)
Initial Stake			0.093	(0.58)					0.064	(0.39)
Cash Payment			0.001	(0.02)					0.014	(0.17)
Financial Crisis			0.047	(0.64)					0.035	(0.45)
Top 5 Institutional Ownership	0.000	(0.00)			0.005*	(1.72)			0.004	(0.68)
Foreign Institutional Ownership	0.020***	(6.27)							0.012***	(3.19)
Δ Foreign Institutional Ownership									0.006	(1.01)
Total Institutional Ownership			0.004**	(2.15)					-0.001	(-0.24))
Low-turnover Institutional Ownership							0.006***	(2.95)		
Firm Size			0.421***	(7.78)					0.366***	(5.33)
ROA	0.266**	(1.76)					0.254	(1.76)	0.001	(0.00)
Leverage	0.243	(1.10)			0.379*	(1.73)			-0.048	(-0.17)
Cash & Equivalent			0.787***	(3.37)					0.967***	(3.26))
Intangible assets	0.108	(0.55)			0..096	(0.50)			1.424	(1.62)
Capital Expenditures			0.693	(0.81)			0.893	(1.13)	0.365	(1.56)
Dividend Yield			-0.029	(-1.54)					-0.016	(-0.78)
Share Turnover	0.236***	(3.94)			0.400	(6.58)	0.356***	(5.86)	0.074	(1.15)
Tobin's q	0.009	(0.50)	0.018	(0.84)	0.016	(0.86)	0.016	(0.84)	0.015	(0.60)
_cons	-0.549**	(-2.18)	-0.236***	(-7.90)	-0.687***	(-2.96)	-0.717***	(-3.01)	-2.577***	(-5.99)
Industry/Year dummy	√		√		√		√		√	
N	3,121		2,772		3,122		3,096		2,467	
Pseudo R-square (%)	12.03		12.62		9.65		10.18		12.99	
Correctly classified (%)	69.72		70.49		67.84		67.99		69.48	

3.4.3. Drivers for full control deals

This chapter examines whether decision of acquirer to take full control[24] of target firms in the M&As is related to institutional ownership. The probit regression employs dependent variable equals to one when it is in full control of M&As and zero for partial control, and estimating results for the probability of taking full control of target firms as presented in Table 3.7.

Top 5 institutional ownership and total institutional ownership present significant coefficients on full control deals, suggesting institutional ownership concentration and higher level institutional ownership which encourage the acquirers to take full control of the targets. However, the sample suggests that foreign institutional ownership is not effective in encouraging full control deal. This is in contrast to the result from Ferreira et al., (2010) that foreign institutional ownership is positively associated with full control cross-border deals. Meanwhile, low-turnover institutional ownership is positively associated with full control deals.

Initial stake reports significant negative coefficient, and this indicates that acquirers with initial stake of targets are not willing to make further fully takeover. This can be explained by evidence from Burkart (1995) that bidders with initial stake may easily lead to overbidding and then results in likelihood of a loss for the bidder.

Listed target also reports significant negative coefficient, with indication that UK acquirers do not prefer to take full control of the public listed targets. Furthermore, financial crisis present significant negative coefficients, suggesting that the financial crisis significantly reduces the M&As transactions with the aim

[24] Full control is defined as M&A bid is for 100% of target firm's shares (percentage sought) after the M&As transaction, Ferreira et al., (2010).

to take full control of target firms. This is mainly because the recent financial crisis brings unexplored negative shock to the supply of external financing resources for non-financial firms. Therefore, corporate investment experiences sharp declines following the financial crisis, especially for firms with less cash reservations and high short-term debts (Duchin et al., 2010).

In addition, Figure 3.5, figure 3.6 and figure 3.7 present the marginal effect based on probit model respectively for foreign institutional ownership, ownership concentration and total institutional ownership on the probability of the acquirers taking a full-control of M&As deal. The slope of the figure reflects the marginal effects of each ownership variable that every percentage change (increase or decrease) of the variable will result in the percentage of the probability of UK acquirer doing a full-control deal.

Figure 3.5 Marginal effect of foreign institutional ownership on Full-control M&As

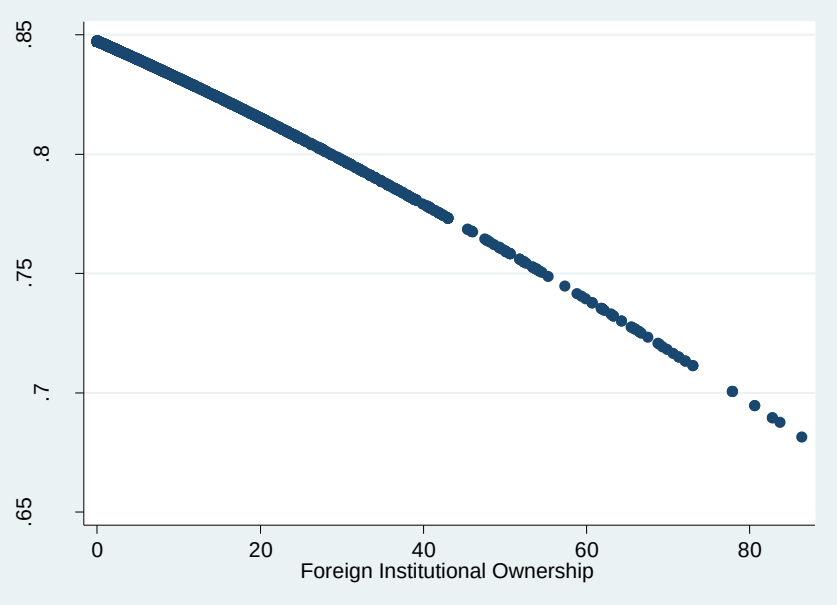


Figure 3.6 Marginal effect of top 5 institutional ownership on Full-control M&As

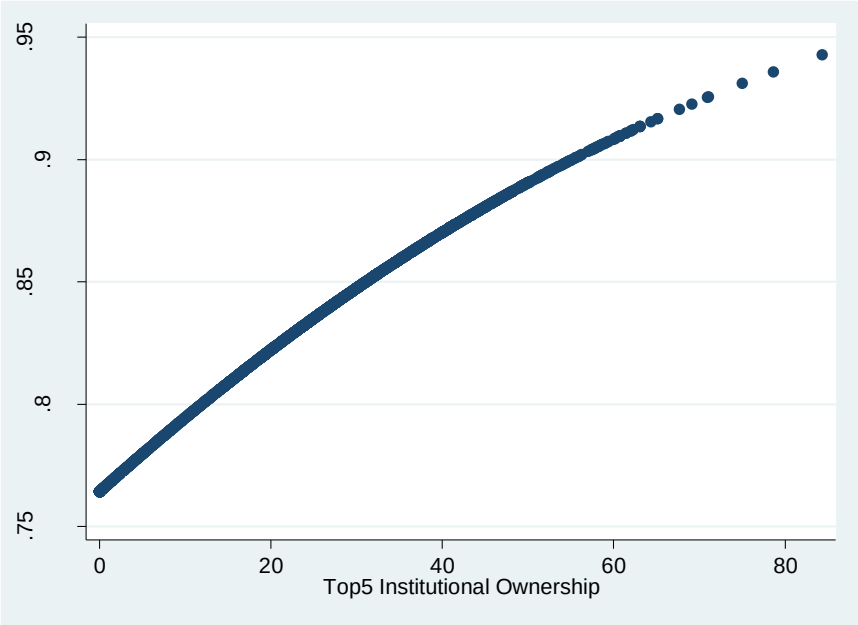


Figure 3.7 Marginal effect of total institutional ownership on Full-control M&As

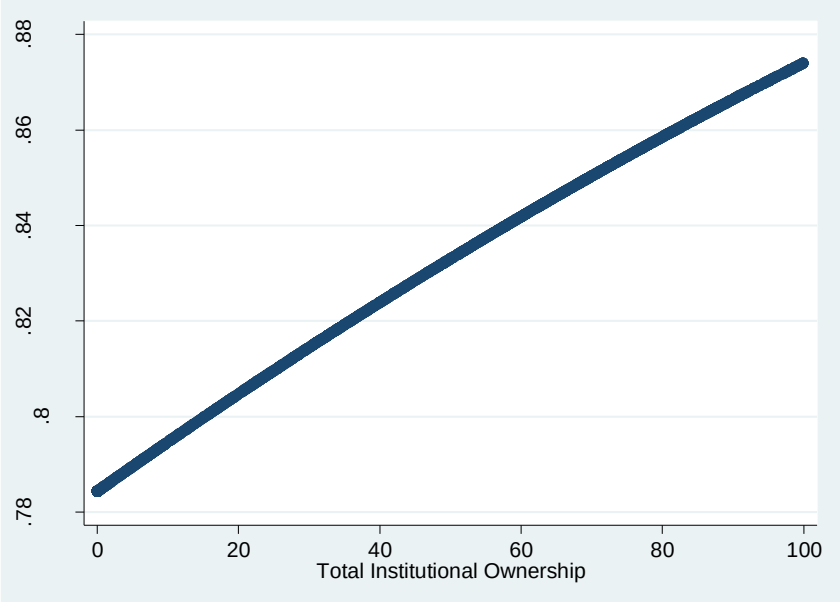


Table 3.7 Probit regressions on whether the acquirer firms take full control of target firms after the M&A transactions

This table presents the results of probit regressions for estimating the probability of UK acquirers choosing a full-control target, based on 3821 M&As samples undertaken by UK listed from 01/01/2000 to 31/12/2010. The dependent variable is a dummy variable equal to 1 when the M&A deals result in a full control (100%) of the target firm, and 0 otherwise. The probit regressions are clustered by firm identifications as the standard errors clustered by firm can be a useful robustness check (Cameron et al., 2008; Petersen, 2009).The variables are defined as in Table 3. Correctly classified (%) compares the fitted and actual values based on the probit regressions where the value cut is 0.50. *, **, and *** indicate 10%, 5%, and 1% significance level respectively.

The industry classification are based on the 2-digit SIC codes. *High-tech* is a dummy variable that takes value of 1 when the target firm belongs to high-technology industry and 0 otherwise. *Cross Industry* equals to 1 when the acquirer firm and target firm have different 2-digit SIC codes, otherwise 0. *Listed Target* equals to 1 when the target firm is a public listed company and 0 otherwise. *Initial Stake* is equals to 1 if the acquirer has initial stake of target firm before deal announcement and 0 otherwise. *Cash Payment* is a dummy variable equals to 1 if the deal employs cash as payment method, otherwise 0. *Financial Crisis* is a dummy variable controlling for 2007-2008 financial crisis, takes value of 1 if the deal is announced during 2007-2008, and 0 otherwise. *Top 5 Institutional Ownership* is the sum of percentage of top 5 institutional investors' ownership at the year-end prior deal announcement. *Foreign Institutional Ownership* is the percentage of non-UK institutional investors' ownership at the year-end prior deal announcement. *Domestic Institutional Ownership* is the percentage of UK institutional investors' ownership at the year-end prior deal announcement. *Total Institutional Ownership* is the total institutional ownership of acquirer firms at the year-end prior deal announcement. *Low-turnover Institutional Ownership* is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior deal announcement. *Firm Size* is measured by the natural logarithm of total assets at the year-end prior deal announcement. *ROA* is the return on assets of acquirer firm at the year-end prior deal announcement. *Leverage* is total debts to total assets at the year-end prior deal announcement. *Share Turnover* is defined as number of shares traded, divided by number of shares outstanding of the year prior deal announcement. *Tobin's q* is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior the announcement.

	(1)		(2)		(3)		(4)	
	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat	Coeff.	z-Stat
High-tech	0.045	(0.40)	0.078	(0.66)	0.067	(0.60)	0.052	(0.47)
Cross Industry	-0.165**	(-2.00)	-0.154*	(-1.85)	-0.150*	(-1.83)	-0.141*	(1.79)
Listed Target	-2.370***	(-7.42)	-2.376 ***	(-7.44)	-2.345***	(-7.26)	-2.329***	(-8.15)
Initial Stake	-0.834***	(-8.51)	-0.853***	(-8.71)	-0.820***	(-8.21)	-0.850***	(-8.97)
Cash Payment	0.017	(0.19)	-0.041	(-0.44)	0.014	(0.16)	-0.105	(-1.20)
Financial Crisis	-0.203**	(-2.28)	-0.172 **	(-1.94)	-0.189**	(-2.12)	-0.194**	(-2.32)
Top 5 Institutional Ownership	0.007***	(2.07)						
Domestic Institutional Ownership			0.006***	(3.55)				
Foreign Institutional Ownership	-0.002	(-0.51)						
Total Institutional Ownership					0.006***	(3.64)		
Low-turnover Institutional Ownership							0.003***	(1.90)
Firm Size	-0.115***	(-2.54)			-0.180***	(-3.69)		
ROA			-0.203	(-1.24)				
Leverage			0.000	(0.00)				
Share Turnover			-0.132***	(-2.20)	-0.069	(-1.03)		
Tobin's q	-0.010	(-0.51)	-0.004	(-0.20)	-0.005	(-0.78)		
_cons	1.399***	(3.48)	0.682*	(3.61)	1.527***	(3.92)		
Industry/Year dummy	√		√		√		√	
N	2,840		2,723		2,736		3,032	
Pseudo R-square (%)	19.90		20.33		20.89		18.53	
Correctly classified (%)	86.37		86.45		86.26		86.68	

3.4.4. Deal Size Determinants

To identify the impacts of firm-level institutional ownership and financial characteristics in firms' M&As strategies, this research considers a tobit regression based on the deal size (log of deal value). And the results are reported in table 3.8.

Foreign institutional ownership reports a significant positive coefficient, which indicates that high level foreign institutional ownership may increase the acquisition size. This provides further supportive evidence that foreign institutional investors can act as press-insensitive investors, provide alternative financing resources and lower capital costs. The overall of the total institutional ownership is positively associated with large deal size and the results are comparable with the evidence from sample of Chinese stock market (Peng et al., 2010). The results support that institutional ownership can help to reduce external borrowing costs and therefore, can help firms to get easier access to external financial resources and support large transaction (Faccio and Masulis, 2005; Robert and Yuan, 2010). An alternative explanation for this is that institutional investors prefer to invest in large firms with better performance, and these firms are more able to support large M&As deals (Hessel and Norman, 1992).

Both low-turnover and moderate-turnover[25] institutional ownership report significant positive impacts on deal size (H: 4), indicates institutional investors are mostly stable shareholders with low portfolio turnover rate and support investment activities with long-term prospect.

However, both largest institutional investor and top 5 institutional ownership

[25] Moderate-turnover institutional ownership is also examined in the tobit regression, and reports similar results as low-turnover institutional ownership.

present significantly negative effects on deal size. The results reject hypothesis (H: 2) and suggest that large institutional investors do not prefer investment with large deal value. This can be explained that large deal size may face the overpayment potentials which can destroy value for acquirer's shareholders around the deal announcements (Alexandridis et al., 2013). Therefore, large shareholders may choose to avoid large deals in order to protect their own benefits.

Firm sizes, ROA and leverage are proved to be positively related to deal size, which suggest that acquirers are sufficient in both internal and external financing resources to support the large deal transactions. Tobin's q reports significant positive coefficient, suggests acquirers with higher developing opportunities tend to make transactions with large deal size. And it is not implausible that the investment opportunities are more important for firms with high q value, as most of this group firms are young firms (Moeller et al., 2004). Meanwhile, the transactions with high-tech or cross-industry targets are shown to be associated with small deal size. And cross-border deals are significantly related to large deal size, this is consistent with statistics in table 10 that cross-border M&As accounts for the majority of deal values.

Dividend yield reports a significant negative coefficient, suggesting that there is low probability for firms with high dividend yield to involve in large M&As deals. This result provides supportive evidence for Jensen (1986) that the more cash the firm owns, the easier the firm's acquisition will harm shareholder interest. Hence, managers may prefer acquisition rather than pay cash dividend.

Finally, the 2007-2008 financial crisis results in a sharp decline in both full control deal proportion and deal size. This is mainly because the financial crisis reduces the external financing resources for non-financial industries (Duchin et al., 2010). The inability to get access to external financial support results in most firms having to bypass some attractive investment opportunities during the crisis (Campello et al., 2008).

Table 3.8 Tobit regressions on M&As deal size

This table presents the results of Tobit regressions for estimating the deal size of UK acquirers choosing a cross-border target, based on 3821 M&As samples undertaken by UK listed firms from 01/01/2000 to 31/12/2010. The dependent variable *Deal Size* is measured by log (deal value). *High-tech* is a dummy variable that takes value of 1 when the target firm belongs to high-technology industry and 0 otherwise. Cross Industry equals to 1 when the acquirer firm and target firm have different 2-digit SIC codes, otherwise 0.*Cross Border* is a dummy variable equals to 1 if the M&A target is a non-UK firm, otherwise is 0. *Listed Target* equals to 1 when the target firm is a public listed company, and 0 otherwise. *Initial Stake* is equals to 1 if the acquirer has initial stake of target firm before deal announcement and 0 otherwise. *Financial Crisis* is a dummy variable controlling for 2007-2008 financial crisis, takes value of 1 if the deal is announced during 2007-2008, and 0 otherwise. *Largest Institutional Investor* is the ownership of largest institutional investor at the year-end prior announcement at the year-end prior deal announcement. *Top 5 Institutional Ownership* is the percentage of top 5 institutional investors' ownership at the year -end prior deal announcement. *Domestic Institutional Ownership* is the percentage of UK institutional investors' ownership at the year-end prior deal announcement. *Foreign Institutional Ownership* is the percentage of non-UK institutional investors' ownership at the year-end prior deal announcement. *Δ Foreign Institutional Ownership* is the change of foreign institutional ownership at the year-end, following the deal announcement, relative to the respective level at the year-end prior deal announcement. *Total Institutional Ownership* is the total institutional ownership of acquirer firms at the year-end prior deal announcement. *Low-turnover Institutional Ownership* is the percentage of institutional investors with annual portfolio turnover rate less than or equal to 50% at the year-end prior deal announcement. *ROA* is the return on assets of acquirer firm at the year-end prior deal announcement. *Leverage* is total debts to total assets at the year-end prior deal announcement. *Cash & Equivalent* is measures by cash & equivalents to total assets at the year-end prior deal announcement. *Capital Expenditure* is the ratio of capital expenditures to total assets at the year-end prior deal announcement. *Dividend Yield* is the ratio of common cash dividends relative to the share price at the year-end of deal announcement. *Share Turnover* is defined as number of shares traded divided by number of shares outstanding of the year prior deal announcement. *Tobin's q* is estimated as the market value of equity plus total debts and divided by the book value of assets at the year-end prior the announcement. *, **, and *** donate 10%, 5%, and 1% significance level respectively.

	(1)		(2)		(3)		(4)	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
High-tech	-0.301***	(-3.23)					-0.332***	(-3.34)
Cross Industry	-0.311***	(-4.61)					-0.282***	(-4.00)
Cross-border					0.703***	(10.25)	0.587***	(8.28)
Listed Target	-0.134	(-0.75)			-0.148	(-0.82)	0.011	(0.06)
Initial Stake			-0.179	(-1.55)			-0.245**	(-2.08)
Financial Crisis			-0.219***	(-2.75)			-0.108	(-1.32)
Largest Institutional investor	-0.032***	(-5.91)					0.009	(0.72)
Top 5 Institutional Ownership			-0.011***	(-4.04)			-0.044***	(-5.63)
Foreign Institutional Ownership	0.029***	(10.37)	0.030***	(10.36)			0.017***	(5.23)
Δ Foreign Institutional Ownership							0.016**	(2.15)
Total Institutional Ownership							0.019***	(7.07)
Low-turnover Institutional Ownership					0.009***	(6.06)		
ROA	0.838***	(5.97)	1.105***	(7.58)			0.836***	(4.67)
Leverage	1.549***	(6.89)	1.754***	(7.95)	1.635***	(7.26)	1.261**	(5.20)
Cash & Equivalent	-0.435**	(-2.51)			-0.815***	(-3.89)	-0.465*	(-1.91)
Capital Expenditures			1.365**	(2.09)			0.492	(0.73)
Dividend Yield					0.028**	(1.76)	0.005	(0.27)
Share Turnover	0.421***	(8.01)	0.410***	(7.64)	0.459***	(9.15)	0.155***	(2.68)
Tobin's q			0.079***	(4.40)	0.117***	(6.42)	0.086***	(4.09)
_cons	1.677***	(16.21)	1.177***	(11.71)	0.552***	(5.61)	1.495***	(11.24)
N	3,140		3,015		3,124		2,780	
Pseudo R-square (%)	4.04		4.04		4.09		5.21	

3.5. Summary and conclusion

This chapter studies the determinants which influence M&As strategies based on the sample of M&As undertaken by UK listed companies from 2000 to 2010. In this chapter, a sample of 3,821 completed M&As deals is employed which contains 2,338 domestic M&As and 1,480 cross-border M&As. The analysis mainly focuses on the strategies of cross-border deal, full-control deal and deal size via a number of probit models and tobit models.

By using the measurement of overall institutional ownership without accounting for differences among types and investment style, total institutional ownership is positively associated with cross-border M&As deals, full control and large transactions. Then, the analysis examine more detailed impacts from the institutional shareholders via institutional investors' type, namely domestic, foreign, investment horizon and ownership concentration. The evidence shows that acquirers with a higher proportion of foreign institutional shareholders are more likely to conduct cross-border and large deals. This suggests that foreign institutional investors can act as facilitators for reducing transaction costs and asymmetric information in the international market. Moreover, UK institutional investors with longer-term investment horizon, proxied by low-turnover investment ratio, perform positive impacts on acquirer firms to be more likely to conduct a large cross-border M&As and opt for full control of the target firm. Moreover, institutional ownership concentration (top 5 institutional ownership) is positively associated with both cross-border and full control deals.

Firm-level financial and governance characteristics are also significant determinants for firms' investment strategies. Large firm size, high level profitability, both internal and external financing ability are all impact factors that support cross-border M&As transactions. Moreover, firms with high potential growth opportunities (Tobin's q) are more likely to make M&As with large deal

value.

Deal characteristics are also significant factors for investment decisions. Listed targets are more attractive in cross-border deals. Cross-industry targets show negative relations with both full control deals and large deal size. Cross-border deals are proved to be associated with transactions with large deal value which deals with high-tech targets are negatively related with large deal size.

The first contribution of this chapter is that the study finds out evidence to support the view that institutional investors are effective external monitors to be involved in firms' real strategies decision process. And also the result supports that foreign institutional investors are effective external investors, in that it involves firms' investment strategies. Foreign institutions can help firms to reduce asymmetric information which is an important determinant for cross-border investment. Another contribution is providing supportive evidence that institutional ownership concentration can help to protect shareholders interests, particularly for cross-border deals which may relate to low legal protection countries. Moreover, the results show that institutional investors in the UK mostly belong to long horizon investors and they are effective and active external monitors involved in corporate strategy decision. The stability of institutional ownership encourages UK institutional investors to engage in seeking increased control over firm-level management decision making.

Furthermore, this study also makes contribution to the impacts of the 2007 financial crisis on the M&As activities. Financial crisis reports negative impacts on the probability of UK acquirers to take full control deals as well as large value deal. Due to the significant negative shocks on both internal and external financing resources, it is more difficult for firms to support attractive investment opportunities under certain environments.

Chapter 4. The Market Valuation of M&As Announcement in the United Kingdom

Abstract

This chapter investigates the market reaction to the announcement of UK mergers and acquisitions from 2000-2010. This study finds that the market overreacts to the M&As announcements as UK acquirers enjoy significantly positive announcement returns but negative short-term post-M&As returns. In addition, the evidence shows that domestic deals outperform cross-border deals. Announcement return from value acquirers with share payment outperforms the rest acquirers, and overall share payments reports higher returns than cash offer during the announcement. However, for the post-M&As period cash offer outperforms both share payment and earn-out payment deals. Especially, glamour acquirers experience significantly negative abnormal returns for both cash and share offers. UK glamour acquirers experience higher foreign institutional ownership than the other acquirers, while the glamour UK acquirers also experience lower event and short-term post-M&As returns than value acquirers. Both higher institutional ownership concentration and total institutional ownership are positively associated with post-M&As short-term abnormal returns.

4.1. Introduction

Announcement returns to shareholders vary significantly across different samples and periods[26]. This chapter is going to perform the analysis of the market reactions to the announcement of M&As in the United Kingdom. Cross-border M&As experience higher level of uncertainty and risk, while as an important entry mode for foreign market can yield different results for both targets and acquirers, although the consequences may vary from countries and period analyzed.

Goergen and Renneboog (2004) suggest that the wealth effects generated by cross-border M&As is lower than that by domestic M&As. Cakici et al. (1996) examine acquirers' shareholder wealth gains of 195 cross-border M&As with US targets from 1985-1992 and find evidence that foreign bidders experience significant positive abnormal returns, whereas the US acquirers do not gain from their cross-border M&As. Akihigbe and Martin (2000) also report a positive announcement return for foreign acquirers with US target based on sample from 1984-1996. According to Black and Carnes (2007), US acquirers experience significantly negative long-run post-merger abnormal returns in cross-border M&As from 1985-1995, which is more significant than domestic M&As. However, Francoeur (2005) finds evidence that the Canadian acquirers create great efficiency gains and values for their shareholders in cross-border M&As process, while there are no sustained gains or losses in domestic M&As activities.

According to Conn et al., (2005) UK domestic public M&As result in negative announcement and post-merger returns, while cross-border public deals result in zero announcement returns and negative post-merger returns. In contrast, M&As with private targets bring acquirers positive announcement returns and zero post-acquisition returns. Study of cross-border M&As with UK target during

[26] See Kennedy and Limmack (1996); Sudarsanam et al., (1996); Rau and Vermaelen (1998); Akhigbe and Martin (2000); Sudarsanam and Mahate (2003); Conn et al. (2005); Freund et al. (2007); and Eckbo (2009).

1986-1991 shows foreign acquirers experience significant negative abnormal returns prior to and during subsequent announcement (Danbolt, 1995). Aw and Chatterjee (2004) find UK firms acquiring large takeover targets and experience negative cumulative abnormal returns over two years after the transaction. Furthermore, UK acquirers experience superior post-takeover performance with UK targets than both US and Continental European targets. Moreover, the study based on sample of completed domestic deals in the UK during 1985-1994 shows that post-merger operating performance is lower when the acquirers have greater excess cash combination with lower growth opportunities; and also when the deal payment is stock only (Carline et al., 2009).

Glamour acquirers are defined as firms that are high valued by stock market as a result of their prior stock market performance, which can be measured by high level price to earnings ratio or market value to book value ratio (Sudarsanam and Mahate, 2003). Rau and Vermaelen (1998) argue that glamour acquirers experience significantly higher announcement returns than value acquirers, and also presents lower returns in the 3 years long-run post-acquisition performance reverses. Glamour firms are considered to have higher future potential growth opportunity, and they are reported to experience higher announcement returns based on their prior performance hinged on US market sample (Lang et al. 1989; Servaes, 1991; Megginson et al., 2004). However, Sudarsanam and Mahate (2003) report lower announcement returns and that UK glamour acquirers experience negative long-run returns. Conn et al. (2005) show that glamour acquirers only experience underperformance in public deals but not in private acquisitions. The empirical analysis presents results contradictory to the over-extrapolation hypothesis of Rau and Vermaelen (1998), which finds that UK value acquirers significantly outperform glamour acquirers surrounding the announcement date, especially in glamour acquirers with cross-border targets. Furthermore, Kohers and Kohers (2001) show that the key factors related to poor post-merger performance of high-tech industry M&As is a low acquirer book-to-market ratio

(glamour acquirer), especially when combined with an acquirer ownership structure with high potential agency problems.

The above different results about the glamour acquirer announcement returns among UK and US acquirers suggest that the stock market of UK avoid over-extrapolation of past performance even in the bid announcement period. In the contrast, the US markets tend to extrapolate acquirer firms' past performance. (Sudaranam and Mahate, 2003). This is related to the different capital market behaviours in different countries. This chapter is going to explore the previous studies about glamour acquirers' announcement performance and the impacts from institutional ownership on glamour acquirers.

Institutional investors play an important role in financial market, not only because their large proportion of shareholdings, but also their effective monitors. Strong evidence has been provided to confirm the monitoring role of institutional investors, as 'active investors' institutional investors might act to alleviate agency problems and discourage poor decisions made by entrenched manager (Jensen, 1991; Bushee, 1998; Duggal and Millar, 1999; Hartzell and Starks, 2003). However, Lakonishok et al. (1992) and Del Guercio (1996) suggest that institutional investors are more likely to shift their investment towards 'good' or 'glamour' equity rather than basing their investment decisions on objective risk characteristics, especially for banks and mutual funds. In this chapter, the institutional ownership is going to be examined to find out if they have different impacts on different acquirers (MTBV status). The statistics show that UK glamour acquirers experience higher level of foreign institutional ownership than other acquirers, while high level total institutional ownership, significantly and negatively, associates with value acquirers' announcement returns.

Positive relation between institutional holdings and trading volume around the earning announcements is proved by Lee (1992) and Kim et al. (1997). Meanwhile, the institutional ownership also has been reported to influence the

M&As announcement returns. Duggal and Millar (1999) report a positive relationship between institutional ownership and US acquirers' abnormal return through an event study for event time [-22,+1]. However, they argue that this positive relationship is determined by firm size and presence in the S&P 500 index, which doubt the active monitoring role in the M&As transactions. Kohers and Kohers (2001) find the proxies for acquirer agency problems as showing significant adverse effects on glamour acquirers' abnormal performance following high-tech M&As announcement which is consistent with Rau and Vermaelen (1998). Meanwhile, the results show that acquirers' higher institutional ownership, and a proxy for monitoring of management, still has a positive relationship with acquirer's post-merger long-run performance. This paper expands previous investigation about institutional ownership monitoring role via the post-merger performance. And this research finds that both institutional ownership concentration and total institutional ownership can significantly increase short-term post-M&As abnormal returns which confirms effective monitoring role of institutional investors.

This chapter applies a standard event methodology based on the view expressed by Brown and Warner (1985). It also analyzes the abnormal returns and cumulative abnormal returns experienced before, around and after the time of M&As deal announcement date.

The remaining of this chapter is organized as follows. Section 4.2 contains a summary of literature review and the respective gaps that directly linked the research. Section 4.3 illustrates the data and methodology employed. Section 4.4 presents the descriptive statistics. Section 4.5 discusses the results. And the conclusion is presented in Section 4.6.

4.2. Literature review

4.2.1. Glamour acquirers

High level market-to-book value indicates firms with high potential growth opportunities based on recent high growth in cash flow and earnings (Sudarsanam and Mahate, 2003). Glamour acquirers are argued to be more likely to make value-decreasing M&As decisions which support the hypothesis that hubris plays an important role in the decision making process of glamour acquirer firm managers, which means that the managers may be overconfident about their ability to manage a merger deal (Roll, 1986). Furthermore, firms with high market-to-book value are subject to high level of asymmetric information because large part of their market value comes from intangible assets (Moeller et al., 2004) and these firms are more likely to be overvalued (Dong et al., 2006). According to the asymmetric information theory, glamour firm managers may know that their shares are trading at unsustainable levels and will try to convert shares into real assets, and this is another explanation that glamour acquirers prefer share payments (Rau and Vermaelen, 1998; Sudarsnam and Mahate, 2003). Based on asymmetric information argument, companies with undervalued securities need investors to reappraise and revalue their equity, where takeover activities are used as incentives to seek investors' attention (Draper and Paudyal, 2008).

Meanwhile, glamour firms' typically high past growth in cash flows and earnings will presumably strengthen the management's belief about their ability to handle the merger and therefore, promote the management overconfidence. On the contrast, value acquirers are more prudent when making takeover decisions hence, they are more likely to create value for shareholders (Lakonishok et al., 1994). Meanwhile, Pastor and Veronesi (2003) find evidence that firms' market-to-book value increases with the uncertainty about average profitability as well as the idiosyncratic return volatility, especially for firms which pay no

dividends.

According to performance extrapolation hypothesis, investors reward/penalise firms based on the belief that past performance will persist into the future. More specifically, investors over-extrapolate past positive performance of glamour firms (low book-to-market ratio), thinking that it can be sustained in the future. Similarly, investors penalise value stocks (low market-to-book value) also based on the idea that poor recent performance will persist going forward. In short, the theory predicts that markets will over-extrapolate the past performance of acquirers, thus in M&As, value acquirers should underperform glamour acquirers surrounding announcement date (Rau and Vermaelen, 1998).

Rau and Vermaelen (1998) argue that glamour acquirers experience significantly higher announcement returns than value acquirers, and also presents lower returns in the 3 year long-run post-acquisition performance reverses. Lang et al. (1989), Servaes (1991) and Megginson et al., (2004) find that the glamour acquirers earn significantly higher announcement-period returns than value acquirers. In the contrast, Sudarsanam and Mahate (2003) are contrary view with Rau and Vermaelen (1998) that glamour acquirers present lower abnormal returns than value acquirers. Freund et al. (2007) report significant positive announcement returns for US acquirers from 1985-1998 involved in cross-border M&As, especially acquirer firms with fewer future growth opportunity measured by Tobin'Q. A similar result is presented by Francis et al. (2008). However, Alexandridis et al., (2008) report a statistically insignificant relationship between the market-to-book value and returns to acquirers' announcement returns based on event window (-2,+2).

This chapter will control for acquirer status (glamour or value) to verify the short-term event value creation and going to investigate whether the 'over-extrapolation' exists in UK samples, measured by market-to-book value. The following hypothesis is going to be examined:

Hypothesis 1: acquirers with higher market-to-book ratio (glamour acquirers) may experience lower announcement abnormal returns.

4.2.2. Payment Method

There would be no difference in deal payment method as wealth creation would be the same if all the investors can enjoy the same information in a perfect market. While in the real market, both the acquirer and target firms have different preference for the deal payment methods due to the existence of asymmetric information. For instance, there is lower probability of providing share payment for private and cross-border targets compared with pubic and domestic targets (Faccio and Masulis, 2005). According to Reuer et al. (2004), the methods of payment that are used in firms can significantly influence the valuation of the participating firms and this will, therefore, affect wealth of the participating shareholders in firms. Since the decision on financing has an influence on benefits that are realized in M&As in institutional investors, an understanding of the factors that influence financing decision is highly relevant.

Cash financing or debt financing will be preferred rather than stock payment as the stock financing dilutes the shareholdings and therefore, increase the risk of losing control (Huang and Walking, 1987; Franks et al. 1988; Amihud et al., 1991). Meanwhile, Chang (1998) suggests that financing by common stock, then, the M&As deal is similar to private placement of equity because the target is owned by one or a small number of shareholders. As in the UK market, large proportion of M&As targets are privately held companies, therefore, the consideration of avoiding block shareholders and keeping voting power is an important factor for using cash offers.

When the target firm is acquired with cash, the owners or shareholders need to face with immediate tax implications, while stock payment will defer the tax implications (Fuller et al. 2002). Therefore, according to the tax argument, higher

premium will result in higher abnormal returns for cash offers than shock offers to compensate target shareholders for the immediate payment of taxes.

The usual argument for choice of payment method is that a cash payment will benefit acquirers since the market views cash payments as a positive signal of expectations for future returns (Conn et al., 2005). There are two main explanations for the positive cash payment effects: First, acquirers prefer to offer share payment when they are overvalued. If the acquirer firms hold private information regarding their own value of equity, they may try to exploit their information advantages by offering stock financing (Myers and Majluf, 1984, Shleifer and Vishny, 2003). Therefore, share payment will benefit acquirers by converting overvalued equity into real assets via M&As transactions. Under imperfect market information, target firms will take the sign that the cash payment will only be provided when the acquirers' equity is undervalued, and therefore, payment methods are acting as information signal (Myers and Majluf, 1984). Chemmanur et al. (2009) present detailed analysis of private information in M&As transactions and find out acquirers choosing a share payment are overvalued and those using cash financing are correctly valued. Meanwhile, the greater the extent of acquirers overvaluation, the greater the likelihood of providing share payment deals.

The other explanation for positive cash payment effects is that acquirers may choose to provide share payment when they have a low valuation of the target firm (Fishman, 1989). Hansen (1987) argues that bidders would make a stock offer when they have less information regarding the target's value. Chemmanur et al. (2009) argue that the greater the extent of information asymmetry faced by an acquirer in evaluating its target, the greater its likelihood of providing cash offer. When target firms hold private information they will agree the payment when their assets are overvalued by the acquirer firms. At the same time, acquirers are facing the valuation risk that their disadvantages in asymmetric information will

lead to inaccurately valuing the deal target, and therefore, acquirers may prefer to make share payment offer (Sudarsanam and Mahate, 2005). Furthermore, acquirers will try to prevent the target firms to share gains from asymmetric information by offering fixed cash offers. Because the independence of investors' reaction to the cost of cash payment is upon deal announcement, the gains from the positive assessment of M&As by market will not have to be shared with target firms. Therefore, higher levels of uncertainty over target's value lead to a greater likelihood of cash payments, despite risk-sharing effects of stock swaps (Luypaert and Caneghem, 2013).

According to Fishman (1989), the key difference between cash offer and stock offer is that stocks' value depends on the profitability of the M&A deals, while value of cash does not. Therefore, the target management needs to make an efficient decision rejecting or accepting the offer as the targets and acquirers are asymmetrically informed.

Emery and Switzer (1999) suggest that acquirers use their asymmetric information to select deal payment method with expectations for higher abnormal returns. Therefore, the choice of payment method of M&As can significantly influence the shareholders' wealth both at the time of announcement and during the post-merger period. Sufficient evidence has been provided to support the asymmetric information hypothesis that acquirers with cash offers experience higher abnormal returns than acquirers with share offers. Based on asymmetric information model with competition analysis of interaction between bidders and targets, shareholders of both bidder and target firms are argued to obtain higher returns under cash deal than equity payment deals (Berkovitch and Narayanan, 1990). Houston and Ryngaert (1997) find that acquirers enjoy greater abnormal returns when a greater proportion of cash is used to pay for target based on the study of bank mergers.

Moeller et al. (2007) find that abnormal returns of acquirers of public firms

with share payment offers are negatively related to the extent of information asymmetry characterizing the acquirer's value. Andrade et al. (2004) report that acquirers using combination payment including stock have negative three-day average abnormal returns (-1.5%) surrounding the announcement day, while acquirers with pure equity financing have low but positive average abnormal returns (0.4%) over the same time period. Loughran and Vijh (1997) compare long-term abnormal returns for acquirers with stock and cash payment over 1970-1989 and find that acquirer firms using stock payment experience negative abnormal returns (-24.2%) over five years following the merger. In contrast, they find that acquirers enjoy positive abnormal returns (18.5%) for cash M&As. Offer et al. (2009) find that stock payment can benefit acquirers during the announcement period when the targets are difficult to value (especially private targets). The result suggests that the use of share payment can help a publicly traded acquirer to share risks of overvaluation of target firm.

Furthermore, in the UK market most takeover targets (approx. 80%) are privately held companies (Change, 1998; Draper and Paudyal; 2006) and this is also consistent with the sample of this thesis. Chang (1998) argues that takeovers of these private targets via share payment tend to create large block shareholders as the equity financing is similar to private placements of equity because the ownership of private targets are highly concentrated. The positive correlation between the acquirer firm returns in share M&As offer and new block shareholders from the target company reveals that the large shareholders are effective monitors (Chang, 1998). Stulz (1988) argue that financing investment resourced from internal financing resources either debt or cash can solidify the control of managers-owners rather than equity financing, thereby serving as mergers and acquisitions resistance strategy. However, cash payment requires higher premium due the tax argument, while stock payment is argued to lower the managerial power as it can dilute the shareholdings (Huang and Walking, 1987; Franks et al. 1988).

Irrespective of acquirers' pre-bid financial status, in the UK, cash payment can generate higher post-acquisition shareholder returns for acquirers over 3-years period compared to share payment (Sudarsanam and Mahate, 2003), and the same evidence is provided by Abhyankar et al. (2005) based on UK domestic public M&As. This study expects a higher shareholder value creation surrounding the announcement time from the cash payment deals.

Hypothesis 2: Acquirers with cash payment is going to experience higher short-term performance from the M&As deals.

4.2.3. Institutional Ownership

M&As activities are significantly affected by agency problems existing between managers and shareholders, while institutional investor's effective monitoring activities can alleviate agency conflicts (Gasper et al., 2005). Institutional investors serve as effective monitors by focusing on managers' behaviour and firms' developing strategy. Therefore, institutional shareholders can influence both current and future performance of a firm (Jensen, 1991; Bushee, 1998; Hartzell and Starks, 2003).

Stulz et al. (1990) conclude that higher institutional ownership is positively associated with lower takeover premiums. Duggal and Millar (1999) find that institutional ownership has a positive impact on acquirers' returns. Meanwhile, they find that this positive relationship is primarily driven by firm size. Qiu (2006) proves that public pension funds are effective monitors of the firms' M&As activities and provides evidence that public pension funds can improve long-term M&As performance. Gasper et al. (2005) show that the acquirers experience more negative announcement abnormal returns when they have more short-term institutional investors.

Previous studies note that institutional investors can effectively monitor the management decision that influences the M&As management. Eakins (1993)

examined monitoring role of institutional ownership of target firms, and find that institutional investors are important actors in the M&As transactions involving changes in corporate control. Institutional investors may act to alleviate agency problems and discourage poor management decisions from entrenched managers and therefore, higher institutional ownership is positively associated with tender offers (Kohers et al., 2007).

Potter (1992) finds out that the degree of price variability of earning announcement dates increases with the level of institutional ownership, suggesting that institutional ownership concentration reduces the information of prices prior to earning announcement. Furthermore, Potter (1992) employs the firm size as a proxy of the information amount,[27] and finds a positive relationship between firm size and institutional ownership. This conclusion has been supported by Cready (1994) and Hessel and Norman (1992) that institutional investors prefer to choose larger firms to invest, such as firms on S&P 500. Lev (1988) suggests that comparing with individual shareholders, institutional investors are better informed due to their lower marginal costs of gathering information. Diamond and Verrechia (1991) and Kim and Verrchhia (1994) suggest that the increased institutional ownership is positively associated with expanded disclosure which can reduce information asymmetries and increase the firms' stock liquidity. Lev (1992) argues that institutional investors are preferred by the firms they invested, due to their better monitoring performance and requirement of sophisticated and future-oriented information.

Bushee (1998) finds that firms with low institutional ownership are more likely to reduce R&D expenditures in order to make short-term earnings compared with firms with high institutional ownership. These results state that institutional investors' monitoring role can occur through corporate governance

[27] Firm size is employed to proxy for the amount of information and for the number of traders and professional analysts processing the available information (Collion, 1987).

practice by reducing managers' myopic behaviours, such as cut of R&D expenditures. Kane and Velury (2004) find that high level institutional ownership demands higher audit quality which indicates that institutional investors can contribute to mitigate some apparent short-comings in the effectiveness of shareholder voting power to appropriately govern and optimize the effective use of corporate resources. Hansen and Hill (1991) control for intervening effects and find that higher levels institutional ownership is positively associated with greater R&D expenditures which suggest that institutional investors are not myopic investors.

Following previous effective monitoring evidence, high level institutional ownership is expected to be positively associated with acquirers' post-merger performance.

Hypothesis 3: high level institutional ownership has positive impacts on acquirers' short-term post-merger performance.

Institutional investors play a positive monitoring role in corporate governance which can impact a firm's developing strategy as well as its current and future performance. Institutional investors' monitoring effects can significantly reduce the pressure that compels managers' myopic investment behavior (Bushee, 1998). As institutional investors have significant voting power, they can shape corporate risk-taking activities and monitor firm's strategies and corporate decision making, and thus enhancing corporate performance (Wright et al., 1996). High level institutional ownership can help to reduce firms' risk levels through effectively monitoring management which can boost the managerial efficiency and the corporate decision-making quality (Roberts and Yuan, 2010). Chen et al. (2007) argue that institutional investors can weigh the costs and benefits between the choice of trading and monitoring activities, and provide evidence to support the effective monitoring role of long-term horizon institutional investors. Attig et al. (2012) argue that the long-term horizon investor can benefit from economies of

scale in gathering and processing corporate information. And this scale benefits will lead to more efficient monitoring which will reduce agency costs, improve information quality and enhance the external monitors' ability to evaluate the investment opportunities and associated cash flows.

Therefore, as a further test of the role of acquirers' institutional ownership, how institutional holdings influence agency problems in glamour acquirers is going to be examined. This study tests whether agency problems are more observable among glamour acquirers with high levels of institutional ownership.

Hypothesis 4: glamour acquirers with greater institutional ownership may experience better post-merger performance than other glamour acquirers.

4.3. Data and Methodology

4.3.1. Sample

The sample of M&As undertaken by UK listed companies is collected from Zephyr of Bureau Van Dijk from 01/01/2000 to 31/12/2010. The final sample is selected by complying with the following conditions: 1) The acquirer has equity ownership records available from Thomson One Banker, and both financial records at the year-end prior to the announcement and stock price records around announcement date from Worldscope. 2) The transaction is completed at the end of sample period. 3) All financial acquirer firms are excluded from the sample (2-dig SIC 60-69).[28] 4) In order to avoid very small transaction deals, the deal value must be worth more than £0.1 million. 5) Targets are both UK and non-UK firms, including listed private and subsidiary firms. 6) The acquirer firms have the stock price records of 180 days before the announcement date and 20 days after the announcement date in DataStream.

[28] The sample excludes financial industries due to the uniqueness of the industry such as: special asset composition, high leverage, and stricter government regulations (Elyasiani and Jia, 2010).

The above criteria yield a final sample of 3,617 completed M&As deals undertaken by UK public listed companies. The final sample is 3,617 deals and contains 2,217 domestic targets (61%) and 1,400 foreign targets (39%).

Firms-level institutional ownership characteristics are obtained from Thomson One Banker,[29] which compiles information contained quarterly in the 13F historical holder the proportion of foreign institutional ownership, low turnover institutional ownership as well as total institutional ownership in each firm at the year-end prior to the deal announcement, as in Aggarwal et al. (2011) and Cornett et al. (2007). Meanwhile, in order to examine possible effects of concentrated institutional ownership, the sum of holdings of top 5 institutional investors is employed to measure institutional ownership concentration following Hartzell and Starks (2003) and Bhojraj and Sengupta (2003).

Daily stock price data are employed and logarithmic stock returns are estimated. All time series are checked and adjusted for non-trading days in the sample period. The FTSE all-share index is used to measure the UK systematic market risk.

4.3.2. Sample Overview

The deal value figures present 1400 cross-border transactions account for the large proportion of total deal value, the total value of cross-border transactions is approx. 3 trillion GBP pounds, which is over 77% of the total deal value of M&As undertaken by UK listed companies from 2000-2010.

The average transaction value of domestic deals is 35.75 million GBP, while average cross-border deal value is 213.67 million GBP. This shows that cross-border M&As are mostly large deals and infrequent, while domestic deals are more frequent but significantly smaller in terms of deal size. Meanwhile, the table shows that both deal numbers and deal values experience a significantly decline

[29] Thomson One Banker has a minimum of 0.015% threshold for UK firms' ownership record.

after the 2007-2008 financial crisis. Especially for cross-border M&As, the average deal value is dropped from 157.06 millions of GBP in 2007 to only 50.38 in 2010.

Table 4.1 Annual distribution of UK mergers and acquisitions sample.

The table presents the annual distribution of deal number, mean of deal value and median of deal value (millions of GBP) for completed domestic and cross-border M&As announced by UK listed acquirers between January 1, 2000 and December 31, 2010.

	Domestic			Cross-border			Total		
Year	N	Mean	Median	N	Mean	Median	N	Mean	Median
2000	190	47.71	4.87	143	1125.80	17.07	333	510.68	8.20
2001	175	24.76	5.00	117	108.38	10.19	292	58.27	6.30
2002	184	52.00	3.65	119	134.60	12.60	303	84.44	4.86
2003	156	41.26	3.95	102	129.74	7.63	258	76.24	5.00
2004	196	57.08	5.74	127	54.43	18.83	323	56.04	7.40
2005	261	32.00	4.50	140	110.88	9.41	401	59.54	6.46
2006	271	24.77	4.50	157	100.02	8.80	428	52.37	5.96
2007	292	45.63	5.85	176	157.06	8.43	468	87.53	6.40
2008	191	25.02	4.05	139	112.29	12.00	330	61.78	6.15
2009	132	17.67	3.50	84	119.02	10.33	216	57.09	5.27
2010	169	18.77	3.60	96	50.38	15.59	265	30.22	5.64
TOTAL	2,217	35.75	4.65	1,400	213.67	10.98	3,617	104.62	6.16

Figure 4.1 and 4.2 present the annual distribution of both domestic and cross-border M&As verified by acquirer firms' status (high, median and low MTBV) undertaken by UK listed companies. The time period under study covers the M&As wave in mid 2000s, and the 2007 financial crisis.

Figure 4.1 Annual distribution of domestic M&As deal numbers grouped by MTBV status of acquirer firms.

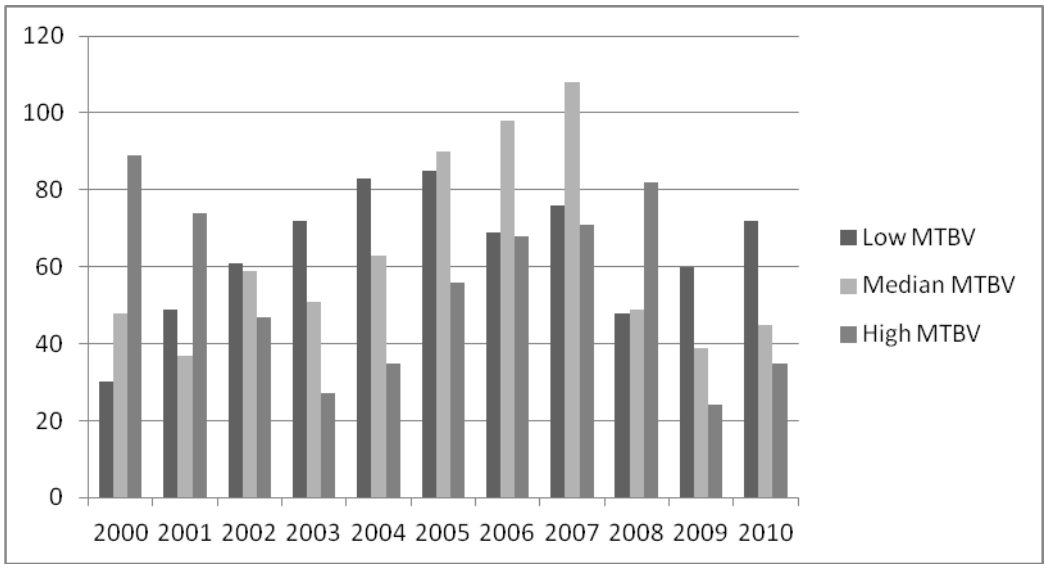


Figure 4.2 Annual distributions of cross-border M&As deal numbers grouped by MTBV status of acquirer firms.

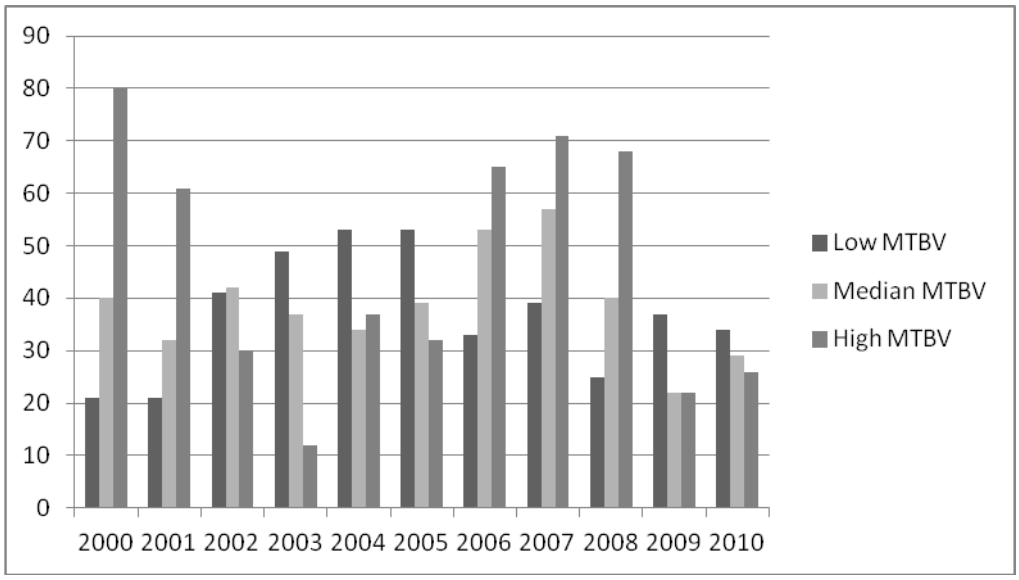


Table 4.2 highlights features of the samples according to the acquirers MTBV ratio. I split the sample into three equal sized portfolios based on the acquirer's

market-to-book values (MTBVs)[30] at the year-end prior to the deal announcement date. Following Sudarsanam and Mahate (2003), I rank all the acquirers' MTBVs and construct the samples into three groups: low MTBV (1,111), median MTBV (1,112) and high MTBV (1,112). The high MTBV portfolio has a mean value of 3.21 compared to 1.07 and 0.50 for the Median and Low MTBV portfolios respectively, while the corresponding median values are 2.18, 1.06 and 0.52 for High, Median and Low MTBV groups respectively.

Firstly, cross-border M&As undertaken by glamour acquirers (high MTBV) are more numerous and of relative values than the other two groups acquirers, where their cross-border sub deal value accounts for 200,639.20 million pounds while the value is only 54,846.88 and 41,301.43 million pounds for median and low MTBV groups respectively. The average deal value of cross-border M&As undertaken by glamour acquirers (398.20 million pounds) is about 3 times to the average deal value of deals undertaken by the other two group's acquirers (median MTBV 129.05 million pounds, low MTBV 101.73 million pounds). However, value acquirers (low MTBV) focus more on domestic M&As deals. Secondly, cash is the main payment method in M&As and especially preferred by value acquirers. 152 cross-border deals are paid by cash which account for approximately 69% of total cross-border deals. The most prevalent use of share payment is found in deals undertaken by glamour acquirers. Results are broadly consistent with previous results from US samples. Results are broadly consistent with previous evidence that glamour firms prefer the payment of share when the stock price is overvalued by the market (Myers and Majluf, 1984; Shleifer and Vishny, 2003; Sudarsanam and Mahate, 2003). Thirdly, the amount of high-tech target M&As is 79, 84, and 143 respectively for High, Median, and Low MTBV acquirers, which suggests that glamour acquirers prefer the high-tech targets.

[30] Both the book and market values (BV and MV respectively) are lagged one year relative to the M&A announcement.

Table 4.2 Descriptive statistics for acquirers

The market-to-book value (MTBV) is the ratio of the market capitalization of acquirer firm's equity to the book value of equity at the year-end prior the announcement date. Acquirers are categorised as low, median, and high MTBV depending on their market-to-book value ranking, which includes 1111 low MTBV, 1112 median MTBV and 1112 high MTBV.

	Low MTBV			Median MTBV			High MTBV		
	Domestic	Cross-border	Total	Domestic	Cross-border	Total	Domestic	Cross-border	Total
Mean MTBV ratio	0.48	0.53	0.50	1.06	1.08	1.07	3.40	2.99	3.21
Median MTBV ratio	0.49	0.56	0.52	1.06	1.08	1.06	2.26	2.14	2.18
Sample size	705	406	1,111	687	425	1,112	608	504	1,112
Average deal value (million £)	40.63	101.73	62.96	29.72	129.05	67.69	38.17	398.20	201.35
Total deal value (million £)	28,642.88	41,301.43	69,944.31	20,420.98	54,846.88	75,257.86	23,206.44	200,693.20	223,899.70
Method of payment:									
Cash	477	285	762	461	276	737	334	325	659
Share	101	27	128	106	39	145	152	71	223
Earn-out	43	26	69	39	26	65	46	31	77
High-tech targets	79	28	107	84	61	145	143	10C3	246
Cross-industry deals	442	260	702	423	271	694	373	284	657
Listed targets	7	26	33	13	26	39	12	27	39

4.3.3. Methodology

This chapter aims at investigating significant equity returns around the deal announcement date. Brown and Warner's (1985) standard event study of methodology is employed to calculate the cumulative abnormal returns (CARs) for the time around the deal announcement date. The abnormal returns are estimated via the marketed-adjusted model, with FTSE All Share Index as the proxy for the market portfolio. Brown and Warner (1985) suggest that the simplicity of the model is actually powerful methodology to evaluate both expected and abnormal returns around announcement. The standard OLS market model is employed to derive the abnormal returns. The abnormal return is computed as follows:

$$AR_{it} = R_{it} - E(R_{it}) \qquad (4.1)$$

AR_{it}: Abnormal return for security *i* in period *t*.

R_{it}: Actual stock return for security *i* in period *t*.

$E(R_{it})$: Expected stock return for security *i* in period *t*.

The expected stock return $E(R_{it})$ is estimated by market model following ordinary least squares (OLS) over the pre-event period (-180, -21):

$$E(R_{it}) = \alpha_i + \beta_i \times R_{mt} \qquad (4.2)$$

The α_i and β_i are coefficients estimated for each security *i* by the OLS regression against the market index. R_{mt} is the return on market index obtained from FTSE all-share index.

Following Conn et al. (2005), Hamaza (2011) and Rau and Vermaelen (1998), the abnormal returns are calculated over the -20 to +20 days relative to the deal announcement date. The average abnormal return (*AAR*) for each time t relative to the event day (day 0) is calculated as the sum of abnormal returns over time period

t divided by the number of securities. The average abnormal returns are expressed as in equation (4.3).

$$AAR_t = \frac{1}{N}\sum_{i=1}^{N} AR_{it} \qquad (4.3)$$

The cumulative average abnormal returns (CAAR) are calculated for each equity in the sample as the sum of the average abnormal returns over selected time period (t_1, t_2). The cumulative average abnormal returns (CAAR) are examined for various intervals within the 41 days (-20, +20) before or after the event announcement date (day 0). The cumulative average abnormal returns (CAAR) are analyzed over several event windows, in order to capture the information content of market reaction process and better evaluate and understand the market reactions (Martynova and Renneboog, 2008). The cumulative average abnormal returns (CAAR) reflect the total market effects of the event: before the announcement date (effects of rumours or insider trading), event day (deal announcement effect) and post-announcement time (pressure on prices and probable post-announcement correction (Hamza, 2011). The CAAR is calculated and reported based on the market model:

$$CAAR_{(t_1,t_2)} = \sum_{T=t_1}^{t_2} AAR_{it} \qquad (t_1 \leq t \leq t_2) \qquad (4.4)$$

In order to test the statistical significance of the average abnormal returns for each time period t, and cumulative average abnormal returns (CAAR) for each event window (t_1, t_2), hull hypothesis that their respective values are zero will be examined. The tests are with the assumption that there is cross-sectional dependence across securities. The standard deviation is estimated from the time series of the portfolio's average abnormal returns (AAR) over its estimation period. And the time series standard deviation test employs a single variance estimate for the portfolio. The test statistics for *AAR* at time period *t* are using the following equation (4.5):

$$t_{AAR_{it}} = \frac{AAR_t}{\sigma_{AAR}} \qquad (4.5)$$

σ_{AAR} is the estimated variance of AAR_t . The *t*-statistics for testing the statistical significance of the cumulative average abnormal returns over a time window (t_1, t_2) is calculated using equation (4.6):

$$t_{CAAR_t} = \frac{CAAR_{(t_1,t_2)}}{\sigma_{CAAR} / \sqrt{T}} \qquad (4.6)$$

σ_{CAAR} is the estimated variance of $CAAR_{(t_1,t_2)}$. T is the time window, where $T=t_2-t_1+1$. And this step is repeated for the whole of the windows selected.

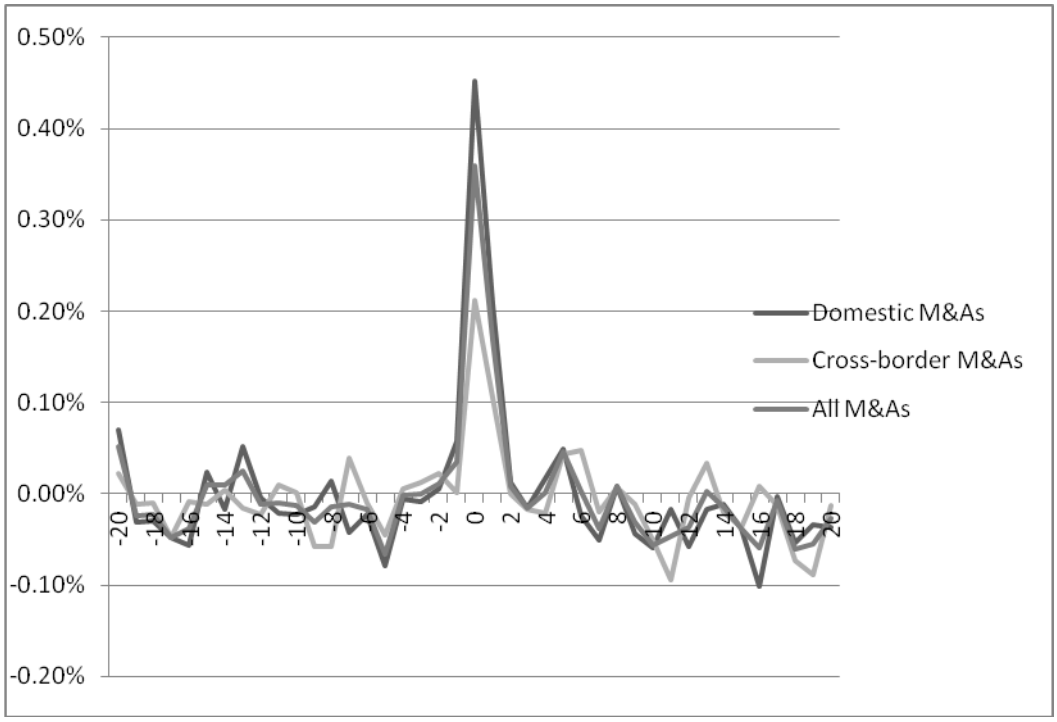
4.4. Short-term Stock Returns for the Sample

4.4.1. Short-term value creation for the acquirers

Data in Figure 4.1 presents average abnormal returns (AARs) for acquirers involved in domestic deals and cross-border deals respectively as well as the full sample for the 41-day window (-20, +20) surrounding the M&As announcement date.

The daily abnormal returns achieve the highest level at the announcement date, and obviously the value creation of domestic M&As is better than cross-border deals. And during the post-announcement period, the overall shareholders experience negative abnormal returns.

Figure 4.3 Abnormal returns: Domestic M&As vs. Cross-border M&As



This figure presents the average abnormal returns around the M&As deal announcement date using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The sample contains 3,617 M&As samples which including 2,217 domestic deals and 1,400 cross-border deals from January 1, 2000 to December 31, 2010.

Table 4.3 illustrates the CAARs for the acquirers over the M&As announcement period. Prior to the deal [window (-20,-6)], there is negative but insignificant CAARs for both domestic (-0.15%) and cross-border (-0.18%) deals. It indicates that the deal was not anticipated by the market investors, therefore, there is no significant abnormal return that occurs. For event window (-5, -1), few trading days before deal announcement, domestic deals show insignificant negative CAARs (-0.03%) and 0 for cross-border deals which is an improvement compared

with window (-20,-6). On the deal announcement day, significantly positive CAARs of 0.36% are presented for the whole acquirers, while domestic deals report higher CAARs (0.45%) than cross-border deals (0.21%).

For the 3-day window centered by announcement date (-1,+1), both domestic and cross-border M&As result in significantly positive returns at 1% significant level of 0.72% and 0.21% respectively. And these positive CAARs are consistent with results reported by Conn et al. (2005) that market reaction is 0.68% and 0.33% for the event window (-1, +1) respectively for cross-border and domestic acquisitions in the UK.

At the post-announcement period (+6, +20), overall acquirers experience significantly negative CAARs, suggesting the market start reflects downward price pressure. And on the average, the investors experience insignificant negative CAARs over wide event window (-20, +20).

Hence, the preliminary results from splitting the sample of M&As announcement between domestic targets and cross-border targets show that the market has a higher reaction to domestic deals. This is consistent with previous evidence that cross-border acquisitions by UK companies result in lower announcement returns than domestic M&As based on the sample of M&As undertaken between 1984 and 1988 (Conn et al., 2005).

Table 4.3 Market reaction to M&As for UK acquirers on different event windows.

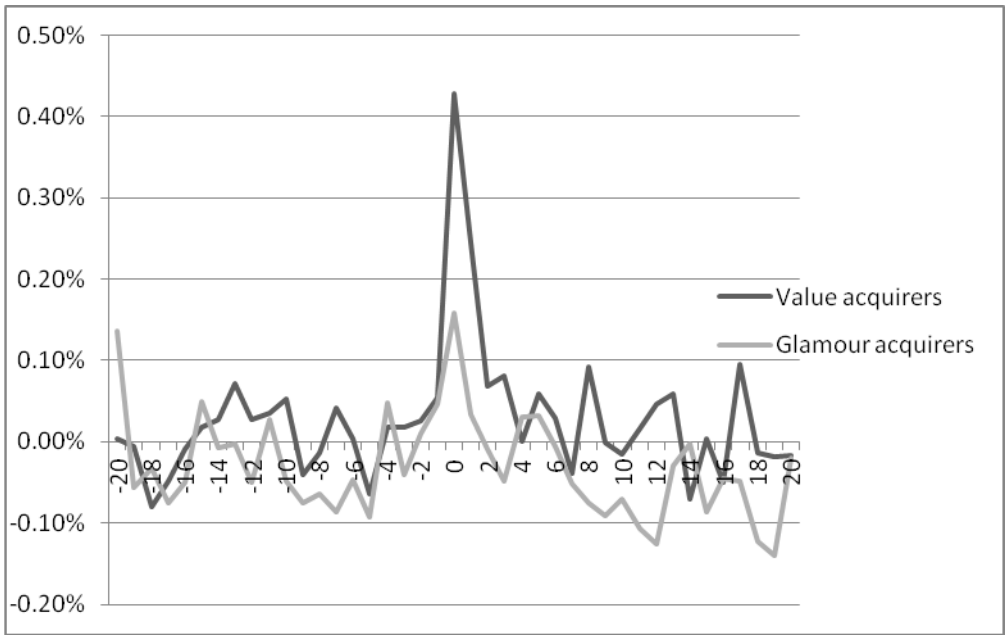
This table presents cumulative average abnormal returns (CAARs) around M&As announcement and computed using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The sample contains 3617 M&As samples which including 2217 domestic deals and 1400 cross-border deals from January 1, 2000 to December 31, 2010. P-value represents the probability of rejecting the null hypothesis for mean difference t-test. t-statistics are reported in parenthesis ***, ** and * denote significant at 0.01, 0.05, 0.1 respectively.

	Domestic Deals		Cross-border Deals			Total Sample	
Event Windows	CAARs (%)	t-statistics	CAARs (%)	t-statistics	t-statistics (domestic vs. cross-border)	CAARs (%)	t-statistics
(-20,-6)	-0.15	(-1.34)	-0.18	(-1.51)	(0.154)	-0.16	(-1.95) *
(-5,-1)	-0.03	(-0.05)	0.00	(-0.05)	(-0.279)	-0.02	(-0.43)
(0, 0)	0.45	(6.43) ***	0.21	(3.67) ***	(2.407) **	0.36	(7.39) ***
(-1, +1)	0.72	(7.87) ***	0.32	(4.04) ***	(3.051) ***	0.56	(8.83) ***
(-5,+5)	0.69	(5.26) ***	0.32	(4.04) ***	(1.963) **	0.55	(5.88) ***
(+6,+20)	-0.54	(-4.84) ***	-0.33	(-2.56) **	(-1.186)	-0.46	(-5.42) ***
(-20,+20)	0.00	(0.02)	-0.19	(-0.81)	(0.573)	-0.07	(-0.43)

4.4.2. Glamour Acquirers and Short-term Returns

Data in Figure 4.4 presents average abnormal returns (AAR) for value acquirers and glamour acquirers respectively for the 41-day window (-20, +20) surrounding the M&As announcement date. The figure shows that value acquirers over perform glamour acquirers around announcement date.

Figure 4.4 Abnormal returns: Value acquirers vs. Glamour acquirers.



This figure presents the average abnormal returns around the M&As deal announcement date using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The sample contains 1,111 M&As with value acquirers (Low MTBV) samples and 1,112 M&As with glamour acquirers (High MTBV) from January 1, 2000 to December 31, 2010.

Table 4.4 reports the announcement period CAARs for UK acquirers sorting on the acquirers MTBV status. The sample is divided into three groups based on the acquirers' MTBVs at the year-end prior to the M&As announcement (Table 4.2).

On the event day (day 0), value acquirers (low MTBV) gains 0.43% CAARs at 1% significant level, while glamour acquirers (high MTBV) experience lower CAARs (0.16%) at the 10% significance level. For 3-day announcement event window

(-1,+1) value acquirers enjoy significant positive abnormal returns 0.73%, while glamour acquirers only have 0.24% abnormal returns at 5% significant level. For the event widow (-5,+5), there is a considerable improvement in the market reaction to value acquirers, the CAARs increases to 0.93%. Median MTBV acquirers show lower significant positive CAARs of 0.50% and glamour acquirers only experience insignificant CAARs of 0.22%. This is consistent with the mechanism that stock market of UK avoids the over-extrapolation of past performance around bid announcement period (Sudarsanam and Mahate , 2003). As in the UK, most of the target is private held companies and private targets tend to accept the equity of value bidders as it is less likely to be overpriced, and try to avoid overpriced equities (Chang, 1998).

Meanwhile, the event window (-1,+1) value acquirers with domestic targets experience highest significant CAARs (0.87%) where glamour acquirers with cross-border targets experience the lowest performance of an insignificant CAARs of 0.11%. The glamour acquirers start to suffer significant negative CAARs since the event window (+6, +20), while value acquirers still enjoy a positive but insignificant CAARs of 0.13%. As the results illustrated in table 4.3 that overall the UK acquirers suffer significant negative CAARs of -0.46% over the post-merger event window (+6, +20). The results in Table 4.4 show that the losses mainly come from glamour acquirers. Glamour acquirers perform significant negative CAARs of -1.80% and -0.95% respectively for domestic targets and cross-border targets.

Overall, the announcement returns of value acquirers (low MTBV) outperform glamour acquirers around the announcement time, especially value acquirers with domestic targets. In particular, value acquirers enjoy positive and significant CAARs of 1.13% over the window (-20, +20), median MTBV acquirers show negative but not significant CAARs (-0.18%) and glamour acquirers experience negative and significant abnormal returns (-1.24%). This is consistent with Sudarsanam and Mahate (2003) who find that value acquirers outperform glamour

acquirers. However, this is contrary to the 'over-extrapolation' hypothesis (Rau and Vermaelen, 1998) suggesting that markets favour glamour acquirers with high market-to-book ratios at the announcement period of M&As. This is mainly because in the UK, private targets tend to accept the share payment of value bidders as it is less likely to be overpriced.

4.5. Determinants of Short-term M&As Returns

In this section, I focus on the examination of determinants of short-term M&As returns. Both univariate analysis and regression analysis are employed to examine the factors influence the short-term CAARs.

(A) Univariate Analysis

4.5.1. Univariate sorting of CAARs on selected firm characteristics

Table 4.5 presents cumulative average abnormal returns (CAARs) for both domestic and cross-border groups based on selected firm characteristics. CAARs are calculated for each group samples' pair of blow and above median value, and also the main difference test for two groups is performed.

The result shows that there are lower event announcement returns for both domestic deals and cross-border deals with higher foreign institutional ownership, and this is consistent with Ferreira et al. (2010) hypothesis that firms with more foreign institutional ownership experience significantly lower announcement abnormal returns in cross-border M&As, as foreign institutional investors can help to reduce transaction costs and information asymmetry. Institutional ownership concentration and total institutional ownership both show higher post-M&A returns for both domestic and cross-border M&As. This is consistent with Duggal and Millar (1999) that institutional ownership has positive impacts on acquirers' returns.

Belowmedian firm size reports higher announcement abnormal returns for both domestic (0.84%) and cross-border (0.46%) groups, while above median firm size only shows 0.37% and 0.10% for domestic and cross-border groups respectively. This supports the existence of firm size effect in acquisition announcement returns by Moeller et al. (2004). Their study reports a roughly two percentage point higher announcement return for smaller acquirer shareholders irrespective of the financing resources and whether the target firm is public or private.

For firms above median market-to-book ratio, the result reports lower both announcement returns and post-M&As returns for the groups samples, especially for domestic groups. This result does not support the hypothesis 1 that glamour acquirers may experience higher short-term abnormal returns.

Table 4.4 Announcement period UK acquirers' CAARs sorting on market-to-book value.

This table presents cumulative average abnormal returns (CAARs) around M&As announcement and computed using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The sample contains 3617 M&A samples which including 2217 domestic deals and 1400 cross-border deals from January 1, 2000 to December 31, 2010. The market-to-book value (MTBV) is the ratio of the market capitalization of acquirer firm's equity to the book value of equity at the year-end prior the announcement date. Acquirers are categorised as low, median, and high MTBV depending on their market-to-book value ranking, which includes 1111 low MTBV, 1112 median MTBV and 1112 high MTBV. t-statistics as reported in parenthesis ***, ** and * denote significant at 0.01, 0.05, 0.1 respectively.

		Domestic		Cross-border		Total	
	Event Window	CAARs (%)	t-statistics	CAARs (%)	t-statistics	CAARs (%)	t-statistics
Low MTBV:	(0, 0)	0.51	(6.24) ***	0.29	(3.32) ***	0.43	(7.06) ***
	(-1, +1)	0.87	(7.40) ***	0.48	(3.38) ***	0.73	(8.03) ***
	(-5,+5)	1.15	(5.95) ***	0.55	(2.64) **	0.93	(6.44) ***
	(+6,+20)	0.13	(0.81)	0.10	(0.47)	0.12	(0.94)
	(-20,+20)	1.38	(4.43) ***	0.69	(1.74) *	1.13	(4.61) ***
Median MTBV:	(0, 0)	0.45	(4.45) ***	0.18	(2.81) **	0.35	(5.21) ***
	(-1,+1)	0.62	(4.62) ***	0.33	(3.29) ***	0.51	(5.58) ***
	(-5,+5)	0.55	(2.75) ***	0.41	(2.33) ***	0.50	(3.56) ***
	(+6,+20)	-0.30	(-1.68) *	0.01	(0.06)	-0.18	(-1.39)
	(-20,+20)	0.03	(0.09)	0.32	(1.04)	0.14	(0.59)
High MTBV:	(0, 0)	0.26	(1.93) *	0.03	(0.27)	0.16	(1.80) *
	(-1,+1)	0.36	(2.30) **	0.09	(0.61)	0.24	(2.21) **
	(-5,+5)	0.22	(0.92)	0.11	(0.47)	0.17	(1.01)
	(+6,+20)	-1.08	(-4.75) ***	-0.95	(-3.76) ***	-1.02	(-6.03) ***
	(-20,+20)	-1.30	(-2.84) **	-1.17	(-2.56) **	-1.24	(-3.82) ***

Table 4.5. Univariate Sorting of CAARs.

This table presents cumulative average abnormal returns of event window (-1,+1), and (+2,+20) around M&As announcement date, using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The sample contains 3617 M&As samples which includes 2217 domestic deals and 1400 cross-border deals undertaken by UK listed companies from January 1, 2000 to December 31, 2010. P-value represents the probability of rejecting the null for mean difference t-test. Deal Size is measured by log (deal value.) Top 5 Institutional Ownership is the percentage of top 5 institutional investors' ownership at the yearn-end prior deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior to the deal announcement. Firm Size is measured by the natural logarithm of total assets at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Cash ratio is the ratio of cash and equivalent assets to total assets at the year-end prior to the deal announcement. The market-to-book value is the ratio of the market capitalization of acquirer firm's equity to the book value of equity at the year-end prior to the announcement date.

	Domestic			**Cross-border**		
	Below Median	Above Median	p-value	Below Median	Above Median	p-value
	Deal size					
(-20, -2)	0.00	0.00	(0.354)	0.00	0.00	(0.573)
(-1, +1)	0.73	0.70	(0.849)	0.38	0.26	(0.454)
(+2, +20)	-0.38	-0.56	(0.480)	-0.31	-0.34	(0.927)
	Top5 institutional ownership					
(-20,-2)	-0.01	0.00	(0.001)	0.00	0.00	(0.975)
(-1,+1)	0.82	0.59	(0.221)	0.32	0.31	(0.960)
(+2, +20)	-0.72	0.03	(0.003)	-0.67	0.08	(0.012)
	Foreign institutional ownership					
(-20,-2)	0.00	0.00	(0.970)	0.00	0.00	(0.244)
(-1,+1)	0.91	0.50	(0.029)	0.56	0.06	(0.001)
(+2,+20)	-0.38	-0.30	(0.759)	-0.35	-0.22	(0.645)
	Low turnover institutional ownership					
(-20,-2)	0.00	0.00	(0.383)	0.00	0.00	(0.476)
(-1,+1)	0.96	0.45	(0.007)	0.36	0.27	(0.540)
(+2,+20)	-0.58	-0.10	(0.057)	-0.49	-0.10	(0.190)
	Total institutional ownership					
(-20,-2)	-0.01	0.00	(0.167)	0.00	0.00	(0.906)
(-1,+1)	0.97	0.44	(0.005)	0.40	0.23	(0.286)
(+2,+20)	-0.54	-0.14	(0.113)	-0.60	0.01	(0.040)
	Firm size					
(-20,-2)	0.00	0.00	(0.756)	0.00	0.00	(0.549)
(-1,+1)	0.84	0.37	(0.003)	0.46	0.10	(0.019)
(+2,+20)	-0.66	-0.20	(0.069)	-0.34	-0.27	(0.795)
	Leverage					
(-20,-2)	0.00	0.00	(0.941)	0.00	0.00	(0.303)
(-1,+1)	0.60	0.60	(0.976)	0.33	0.24	(0.587)
(+2,+20)	-0.47	-0.46	(0.981)	-0.19	-0.42	(0.430)
	Intangibles assets					
(-20,-2)	0.00	0.00	(0.686)	0.00	0.00	(0.406)
(-1,+1)	0.75	0.43	(0.049)	0.38	0.14	(0.129)
(+2,+20)	-0.28	-0.61	(0.191)	-0.44	-0.12	(0.294)
	ROA					
(-20,-2)	0.00	0.03	(0.075)	0.00	0.00	(0.752)

(-1,+1)	0.61	0.38	(0.816)	0.31	0.27	(0.784)
(+2,+20)	-0.42	-0.78	(0.819)	-0.28	-0.32	(0.895)
	Cash ratio					
(-20,-2)	0.00	0.00	(0.715)	0.00	0.00	(0.594)
(-1,+1)	0.60	0.61	(0.943)	0.21	0.34	(0.392)
(+2,+20)	-0.42	-0.43	(0.959)	-0.36	-0.26	(0.718)
	Market-to-book					
(-20,-2)	0.00	0.00	(0.293)	0.00	0.00	(0.260)
(-1,+1)	0.82	0.44	(0.017)	0.38	0.19	(0.222)
(+2,+20)	0.26	-0.89	(0.000)	0.16	-0.76	(0.002)

4.5.2. Univariate Sorting by Acquires' MTBV Value

In order to identify the acquirer firms' specific characteristics that may drive the short-term M&As returns, Table 4.6 presents the descriptive statistics of continuous variables for the Low MTBV, Median MTBV and High MTBV acquirers.

Value acquirers experience an average higher institutional ownership concentration than the rest acquirers, where top 5 institutional ownership accounts for 26.35%, 25.02% and 22.08% for low (value), median and high (glamour) MTBV acquirers respectively. However, foreign institutional investors show preference to glamour acquirers which has a high ownership proportion of 12.33%, and only 9.87% for value acquirers, suggesting that glamour firms have more attraction to foreign institutional investors.

In the contrast, domestic institutional investors present higher interest on the median MTBV firms, while offering lowest ownership proportion for glamour firms. Domestic institutional investors show an average shareholding of 40.84%, 42.26% and 37.16% for low (value) , median and high (glamour) MTBV acquirers respectively. It suggests that the domestic institutional investors are much more rational about the glamour firms. For the total institutional ownership, the proportion is 50.71%, 51.72% and 49.51% respectively for low, median and high MTBV acquirers.

Value acquirers show large firm size than the other two groups, where the firm size is 5.44, 5.40 and 5.11 respectively for value, median and glamour acquirers. Value acquirers present highest level leverage (0.20%) and lowest cash ratio (0.10%) on average, while glamour acquirers show lowest level leverage (0.15%) and high level cash ratio (0.23%). This is consistent with the previous literature that glamour firms usually is high valued by the market based on their high growth in cash flow and earnings (Sudarsanam and Mahate, 2003).

Table 4.6 Univariate sorting on acquirers' MTBV ratio.

This table presents the descriptive statistics of continuous variables for the Low MTBV, Median MTBV and High MTBV acquirers. Deal Size is measured by log (deal value.) Top 5 Institutional Ownership is the percentage of top 5 institutional investors' ownership at the year-end prior to the deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior to the deal announcement. Firm Size is measured by the natural logarithm of total assets at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement.. Cash ratio is the ratio of cash and equivalent assets to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement.

	Low MTBV			Median MTBV			High MTBV				
	N	Mean	Median	N	Mean	Median	N	Mean	Median	Homogeneity across Means	Homogeneity across Medians
Deal size	1,111	1.83	1.72	1,112	2.03	1.89	1,112	2.09	1.99	(0.004)***	(0.003)***
Top 5 institutional ownership (%)	1,048	26.35	26.32	1,081	25.02	25.17	1,069	22.88	23.08	(0.000)***	(0.000)***
Foreign institutional ownership (%)	1,048	9.87	4.27	1,081	9.46	5.06	1,069	12.33	6.83	(0.000)***	(0.000)***
Domestic institutional ownership (%)	1,048	40.84	41.77	1,081	42.26	44.50	1,069	37.16	36.82	(0.000)***	(0.000)***
Low turnover institutional ownership (%)	1,048	38.74	39.66	1,081	39.99	41.60	1,069	36.86	38.63	(0.008)***	(0.009)***
Total institutional ownership (%)	1,048	50.71	54.09	1,081	51.72	55.40	1,069	49.51	53.34	(0.197)	(0.309)
Firm size	1,111	5.44	5.37	1,112	5.40	5.28	1,112	5.11	5.11	(0.000)***	(0.000)***
ROA	1,111	-0.03	0.03	1,111	0.03	0.06	1,112	0.00	0.08	(0.000)***	(0.000)***
Leverage	1,099	0.20	0.18	1,109	0.17	0.17	1,105	0.15	0.09	(0.000)***	(0.000)***
Cash ratio	1,111	0.10	0.07	1,112	0.13	0.09	1,112	0.23	0.16	(0.000)***	(0.000)***
Intangible assets	1,111	0.25	0.18	1,112	0.28	0.22	1,110	0.26	0.21	(0.007)***	(0.001)***

4.5.3. Univariate Sorting by Acquirers' Value and Glamour Status

Table 4.7 reports the abnormal announcement returns of both event time (-1,+1) (Panel A) and post-M&As period (+2,+20) (Panel B) event windows sorting by acquirers' market-to-book status based on target type and payment methods.

Panel A shows that value acquirers with both high-tech and non high-tech targets deals report significantly large and positive returns, while glamour acquirers only experience significant lower returns on non-high-tech deals. For the whole sample, high-tech M&As reports significant returns of 0.42% comparing to 0.59% for all non high-tech deals which is consistent with evidence from Conn et al. (2005) that all the samples report significant returns for both high-tech and non high-tech targets on event window (-1,+1). Panel B reports significantly negative CAARs all over the whole samples on the post-M&As event window (+2, +20), especially for glamour acquirers. However, value acquirers with non high-tech targets, intra industry targets, unlisted targets and non-toehold targets still present significantly positive CAARs.

Deals with unlisted targets outperform deals with listed targets, especially for value acquirers. This is consistent with examination of announcement returns for US acquirers (Chang, 1998) and also UK acquirers (Conn et al., 2005). This is mainly because acquirers can disclose private information to the more concentrated target shareholders when the deal transaction has a non-public target.

Comparative CAARs of different payment methods are also examined in table 4.7. In the three-day event window (-1,+1), share payment by value acquirers outperforms the rest of two group acquirers, while the overall share payments report higher returns than cash offers. On the contrary, glamour acquirers with share payment experience the lowest CAARs, and this result is consistent with the evidence from Ander et al., (2004) that glamour acquirers and equity financed

deals underperform the other deals.

However, for the post-M&As window (+2, +20), cash offer outperforms both share payment and earn-out payment deals. Especially, glamour acquirers experience significantly negative CAARs for both cash and share offers. And this evidence supports the results from Sudarsanam and Mahate (2003) that the use of share payment by glamour acquirers does not create additional shareholder values for acquirer firms; and particularly UK glamour acquirers offering share payment seriously underperform than those with cash offers, while value acquirers have high probability to employ cash payments which still can enjoy 0.32% positive CAARs for the event window (+2, +20) and, therefore, avoid the losses that may caused by share payment.

Table 4.7 Announcement period returns by acquirers' market-to-book value

This table presents cumulative average abnormal returns (CAARs) around M&As announcement and computed using an event study methodology. The abnormal returns are estimated as the market adjusted returns with the FTSE ALL share index as the proxy for the market portfolio. The total sample contains 3617 M&As samples which includes 2217 domestic deals and 1400 cross-border deals from January 1, 2000 to December 31, 2010. The market-to-book value (MTBV) is the ratio of the market capitalization of acquirer firm's equity to the book value of equity at the year-end prior to the announcement date. Acquirers are categorised as low, median, and high MTBV depending on their market-to-book value ranking, which includes 1111 low MTBV, 1112 median MTBV and 1112 high MTBV. The t-statistics and the number of events are reported in parentheses. ***, ** and * reported on the average abnormal returns indicate statistic significance at 0.01, 0.05, 0.1 respectively.

Panel A: Cumulative average abnormal returns of event window (-1,+1)

	Low MTBV	Median MTBV	High MTBV	Total
High-tech target	0.91***	0.46*	-0.07	0.42***
	(3.31, 107)	(1.71, 145)	(-0.26, 246)	(2.55,563)
Non-high-tech target	0.71***	0.51***	0.33***	0.59***
	(7.37, 1004)	(5.25, 967)	(2.85, 866)	(8.53, 3054)
Cross-industry deal	0.79***	0.51***	0.27**	0.62***
	(6.78, 702)	(4.77, 694)	(1.95, 657)	(7.19, 2210)
Intra-industry deal	0.61***	0.50**	0.19	0.48***

	(4.20, 409)	(3.00, 418)	(1.09, 455)	(5.21, 1407)
Listed target	0.77	0.94	0.73	0.61
	(1.60, 33)	(1.36, 39)	(0.88, 39)	(1.54, 119)
Unlisted target	0.73***	0.49***	0.22**	0.56***
	(7.88, 1078)	(5.35, 1073)	(2.03, 1073)	(8.67, 3498)
Toehold target	0.26	0.31*	0.31*	0.24
	(0.97, 100)	(1.68, 103)	(1.68, 87)	(1.61, 306)
Non-toehold target	0.78***	0.55***	0.19***	0.59***
	(8.00, 988)	(5.56, 989)	(5.56, 991)	(8.51, 3232)
Cash payment	0.63***	0.46***	0.34***	0.50***
	(6.44, 762)	(5.32, 737)	(5.32, 659)	(7.60, 2312)
Share payment	1.25**	0.98*	0.14*	1.13***
	(2.85, 128)	(1.95, 145)	(1.95, 223)	(4.15, 573)
Earnout payment	0.94**	0.67**	0.23**	0.58***
	(3.22, 69)	(2.00, 65)	(2.00, 77)	(2.99, 226)

Panel B: Cumulative average abnormal returns of event window (+2,+20)

	Low MTBV	Median MTBV	High MTBV	Total
High-tech target	-0.31	-1.07*	-1.54***	-1.06***
	(-0.56, 107)	(-1.68, 145)	(-3.32, 246)	(-3.34,563)
Non-high-tech target	0.39**	-0.10	-0.87***	-0.30***
	(2.57, 1004)	(-0.72, 967)	(-4.14, 866)	(-3.04, 3054)
Cross-industry deal	0.25	-0.17	-1.04***	-0.41***
	(1.37, 702)	(-0.90, 694)	(-4.41, 657)	(-3.49, 2210)
Intra-industry deal	0.44*	-0.32	-0.99***	-0.43***
	(1.76, 409)	(-1.39, 418)	(-3.02, 455)	(-2.56, 1407)
Listed target	1.74	-0.74	-1.45	-0.80
	(1.56, 33)	(-0.70, 39)	(-1.37, 39)	(-1.21, 119)
Unlisted target	0.28*	-0.21	-1.00***	-0.40***
	(1.90, 1078)	(-1.43, 1073)	(-5.09, 1073)	(-4.09, 3498)
Toehold target	0.08	-2.70***	-1.34	-0.84**
	(0.16, 100)	(-2.70, 103)	(-1.63, 87)	(-2.30, 306)
Non-toehold target	0.36**	-0.11	-0.96***	-0.36***
	(2.34, 988)	(-0.70, 989)	(-4.78, 991)	(-3.54, 3232)
Cash payment	0.32*	0.02	-0.81***	-0.22**
	(1.84, 762)	(0.12, 737)	(-3.57, 659)	(-2.04, 2312)
Share payment	0.43	-1.03**	-1.97***	-1.20***
	(0.74, 128)	(-2.32, 145)	(-3.54, 223)	(-3.60, 573)
Earnout payment	-0.12	-0.72	-0.89	-0.86**
	(-0.22, 69)	(-1.22, 65)	(-1.38, 77)	(-2.31, 226)

(B) Multivariate Analysis

To explore the combined determinants of short-term market price reactions to the M&As announcement, standard ordinary least squares cross-section analysis is employed in the analysis specifically, to identify different market reactions between value acquirers and glamour acquirers, perform cross-sectional regressions for both group samples on both event window (-1, +1) and (+2, +20), and regression results are presented in Table 4.8 and 4.9 separately. The regression results for the whole sample are reported in Table 4.10.

The results suggest that institutional investors play different roles for different acquirers (MTBV status). For event widow (-1, +1), total institutional ownership presents significantly negative coefficient (-0.012) for value acquirers, while there are insignificant negative impacts on both median MTBV and glamour acquirers. Surprisingly, foreign institutional ownership performs significantly impacts only for median MTBV acquirers, and insignificant negative coefficients for the other two groups. Meanwhile, leverage level shows significant negative impacts on the market reactions to both value acquirers and median MTBV acquirers where intangible assets ratio is more significant for glamour acquirers.

For the short-term post-M&A CAARs (+2, +20), total institutional ownership presents a positive coefficient at 0.01 significant level for glamour acquirers, which supports hypothesis 4 that glamour acquirers with high level institutional ownership may perform better than other glamour acquirers. And this also supports previous advice that institutional investors can shape the corporate risk-taking activities and monitor firm's strategies and corporate decision making (Wright et al., 1996), thereby helping to reduce firms' risk levels through effectively monitoring management and enhancing corporate decision-making quality (Roberts and Yuan, 2010).

Table 4.8 OLS regression results of announcement abnormal return of event window (-1, +1)

Deal Size is measured by log (deal value.) Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior the deal announcement. t-statistics are reported in parenthesis *** ,** and * indicate significant level at 0.01, 0.05, 0.1 respectively.

	Panel A: Value (Low MTBV) acquirers				Panel B:Glamour (High MTBV) acquirers				Panel C: Median MTBV acquirers			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Deal size	0.042	(0.76)	0.040	(0.73)	-0.067	(-1.07)	-0.080	(-1.28)	0.078	(1.50)	0.036	(0.72)
Foreign institutional ownership	-0.003	(-0.34)			-0.013	(-1.43)			-0.030***	(-3.55)		
Lowturnover institutional ownership	-0.014	(-2.59)			-0.001	(-0.16)			0.005	(1.01)		
Total institutional ownership			-0.012***	(-3.27)			-0.004	(-0.87)			-0.002	(-0.71)
ROA	-0.768	(-1.73)	-0.715	(-1.60)	0.503	(1.29)	0.512	(1.30)	-2.838***	(-3.79)	-2.678***	(-3.56)
Leverage	-1.646***	(-2.47)	-1.720***	(-2.57)	1.101	(1.60)	1.008	(1.48)	-1.371**	(-1.93)	-1.407**	(-1.98)
Intangibility			-0.401	(-0.87)			-1.296**	(-2.50)			-0.318	(-0.74)
Constant	2.160	(2.35)	2.281**	(2.48)	0.296	(0.34)	0.640	(0.72)	-0.129	(-0.14)	-0.140	(-0.14)
Industry/Year Dummies	√		√		√		√					
Adjusted R^2	1.28		1.41		0.08		0.35		2.27		1.20	
N	1,045		1,045		1,062		1,060		1,078		1,078	

Table 4.9 OLS regression results of announcement abnormal return of event window (+2, +20)

Deal Size is measured by log (deal value.) Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Low-turnover Institutional Ownership is the percentage of institutional investors with annual portfolio turnover rate is less than or equal to 50% at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement. t-statistics are reported in parenthesis *** ,** and * indicate significant level at 0.01, 0.05, 0.1 respectively.

	Panel A: Value (Low MTBV) acquirers				Panel B:Glamour (High MTBV) acquirers				Panel C: Median MTBV acquirers			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Deal size	-0.008	(-0.09)	-0.011	(-0.13)	-0.073	(-0.67)	-0.076	(-0.70)	0.020	(0.27)	0.031	(0.44)
Foreign institutional ownership	0.004	(0.32)			-0.011	(-0.66)			0.003	(0.21)		
Low turnover institutional ownership	-0.002	(-0.25)			0.032	(3.11)			0.000	(0.06)		
Total institutional ownership			0.001	(0.19)			0.020***	(2.66)			-0.001	(-0.28)
ROA	1.332*	(1.91)	1.233*	(1.76)	0.130	(0.19)	0.382	(0.55)	2.172***	(2.03)	2.103**	(1.97)
Leverage	-2.048**	(-1.96)	-1.970**	(-1.88)	-0.489	(-0.41)	-0.390	(-0.33)	-0.118	(0.91)	-0.024	(-0.02)
Intangibility			0.493	(0.68)			-0.995	(-1.10)			-1.400**	(-2.31)
Constant	2.993**	(2.08)	2.861**	(1.99)	-5.371	(-3.50)	-5.238	(-3.38)	-1.895	(-1.48)	-1.884	(-1.37)
Industry/Year Dummies	√		√		√		√					
Adjusted R^2	0.54		0.58		2.47		2.32		0.40		0.89	
N	1,045		1,045		1,062		1,060		1,078		1,078	

Cross-border is significantly associated with the market reactions to the announcement event returns (-1, +1) and is consistent with Goergen and Renneboog (2004) argument that wealth creation generated by cross-border M&As is lower than that by domestic M&As and M&As with high-technology targets presents negative impacts on short-term post-M&As returns.

In order to make the results more comparable with previous regression presented in Table 4.8 and 4.9, a new categorical variable Market-to-book category (1 for value acquirers, 2 for median MTBV acquirers and 3 for glamour acquirers) is employed instead of the market-to-book value. The findings in Table 4.10 for the pooled sample suggest that short-term returns of both event windows (-1, +1) and (+2, +20) are negatively related with market-to-book category which is consistent with previous univariate analysis. Thus, high level market-to-book value (glamour acquirers) negatively impacts market stock reactions on the M&As announcement and this is consistent with similar results from Sudarsanam and Mahate (2003) and Hamza (2011) that acquirers with low market-to-book value significantly and positively influence share price around M&As announcement. And the finding is in contrary to 'over-extrapolation' hypothesis from Rau and Vermaelen (1998) that market will overreact to glamour acquirers which will results in higher short-term abnormal returns for glamour acquirers. Therefore, the hypothesis 1 is rejected based on the evidence.

Both foreign institutional ownership and total institutional ownership perform significantly negative impacts on announcement returns of event window (-1, +1), suggesting high level shareholdings of foreign institutional investors and total institutional investors will reduce market reactions to the deal announcement. This is mainly because institutional investors are considered as well informed investors, and the result is supportive to O'Neill and Swisher (2003) that the degree of informed trading and information asymmetry cost component are lower in stocks with relatively high institutional ownership. Lakonishok et al. (1992) and Del

Guercio (1996) suggest that institutional investors are more likely to shift their investment towards the 'good' or 'glamour' equity rather than basing their investment decisions on objective risk characteristics, especially for banks and mutual funds.

Foreign institutions can act as facilitators in M&As transactions especially in cross-border deals by reducing transaction costs and information asymmetry associated with cross-border M&As, thus reducing the announcement abnormal returns.

However, this study does not find significantly positive impacts of foreign institutional ownership for short-term post-M&As event window (+2, +20) in the regressions as well as previous univariate analysis in Table 4.5. This is consistent with evidence from Ferreira et al. (2010) that firms with more foreign institutional ownership experience significantly lower announcement abnormal returns in cross-border M&As. This can be explained by the preference of glamour acquirers by foreign institutional investors who are underperformed in M&As announcement than value acquirers.

When it comes to post-M&As event window (+2, +20), top 5 institutional ownership and total institutional ownership both show significantly positive coefficients. The evidence supports hypothesis 3, that effective monitor roles of institutional investors by focusing on the managers' behaviour and firms' developing strategy.

Furthermore, large deal size is negatively associated with post-M&As CAARs at 0.1 significant level. This is consistent with previous compelling empirical evidence that large takeover transactions destroy more value for acquirers. Business Week (2002) reports 61% of M&As deals with the minimum deal value of $500 million ends up being costly for acquirer shareholders. Loderer and Martin (1990) argue that acquirers experience greater loses with large deal size as they are more likely to pay too much for the transactions especially when there

is excessively confident managers that overestimate their ability to extract acquisition benefits and thus overpay (Hayward and Hambrick, 1997; Malmendier and Tate, 2008), tend to bid for larger targets.

Finally, the financial crisis performs significantly negative impacts on both announcement return (-1, +1) and short-term post-M&As abnormal returns (+2, +20). The results suggest that financial crisis does not only bring sharp decline on the number and deal value of M&As but also significantly reduce market reactions to the M&As deal announcement.

Table 4.10 Regression of announcement period abnormal returns

This table presents results from cross-sectional OLS regressions, where the dependent variable is the cumulative abnormal returns for acquirers over the announcement period. Deal Size is measured by log (deal value).High-tech is a dummy variable equals to 1 when target firm belongs to high-tech industry, otherwise 0. Cross-industry is a dummy variable takes value of 1 when acquirer firm and target firm are in different industries, otherwise 0. Cross-border is a dummy variable equals to 1 when the deal is a cross-border deal, otherwise 0. Cash payment is a dummy variable equals to 1 when the deal payment method is cash, otherwise 0. Top 5 Institutional Ownership is the percentage of top 5 institutional investors' ownership at the year -end prior deal announcement. Foreign Institutional Ownership is the percentage of non-UK institutional investors' ownership at the year-end prior to the deal announcement. Total Institutional Ownership is the total institutional ownership of acquirer firms at the year-end prior to the deal announcement. Firm Size is measured by the natural logarithm of total assets at the year-end prior to the deal announcement. ROA is the return on assets of acquirer firm at the year-end prior to the deal announcement. Leverage is total debts to total assets at the year-end prior to the deal announcement. Cash ratio is the ratio of cash and equivalent assets to total assets at the year-end prior to the deal announcement. Intangible assets is the ratio of total intangible assets to total assets at the year-end prior to the deal announcement. Market-to-book category is a dummy variable equals to 1, 2 and 3 respectively for value acquirers, median MTBV acquirers and glamour acquirers. t-statistics are reported in parenthesis *** ,** and * indicate significant level at 0.01, 0.05, 0.1 respectively.

	Panel A: CARs (-1,+1)				Panel B: CARs (+2,+20)			
	Model1		Model 2					
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Deal size			0.007	(0.21)			-0.007*	(-1.13)
High-tech	-0.099	(-0.50)			-0.570**	(-2.04)		
Cross-industry	0.047	(0.34)			-0.305	(-1.58)		
Cross-border	-0.303**	(-2.18)	-0.351***	(-2.52)	-0.123	(-0.62)	-0.081	(-0.41)
Cash payment	-0.128	(-0.83)	-0.133	(-0.86)	0.275	(1.25)	0.239	(1.10)
Financial crisis	-0.283*	(-1.65)			-1.087***	(-4.49)	-1.095***	(4.52)
Top5 institutional ownership	0.006	(1.23)			0.016**	(2.30)		
Foreign institutional ownership	-0.014***	(-2.66)			0.001	(0.06)		
Total institutional ownership			-0.004*	(-1.74)			0.007**	(1.94)
Firm size					0.129	(1.07)		
ROA	-0.259	(-0.91)	-0.232	(-0.83)	0.583	(1.42)	0.721*	(1.77)
Leverage	-0.224	(-0.49)	-0.470	(-1.08)	-0.446	(-0.70)	-0.569	(-0.88)
Cash ratio	0.253	(0.62)					-0.641	(-1.05)
Intangible assets			-0.589**	(-2.04)			-0.594	(-1.37)
Market-to-book category	-0.215***	(-2.51)	-0.261***	(-3.23)	-0.435***	(-3.67)	-0.465***	(-3.90)
_cons	0.784	(1.22)	1.33**	(2.11)	-2.138**	(-2.00)	-1.223	(-1.37)
Industry/Year Dummies	√		√		√		√	
Adjusted R^2 (%)	0.89		0.86		2.18		1.99	
N	2,845		2,843		2,845		2,843	

4.6. Conclusion

The purpose of this chapter is to provide a comprehensive analysis of market reaction to the announcement of mergers and acquisitions in the UK. This study expects to find that the market perception and reactions to the deal announcement differs due to different payment methods and different acquirers' potential growth situation (Market-to-book value). Moreover, this study also expects to find the influences from institutional ownership, in order to provide further supportive evidence about institutional investors' external monitoring role. In addition, this chapter includes the analysis of impacts of financial crisis on market reactions. This study examines the short-term M&As returns based on sample of M&As by UK listed firms between 2000 to 2010 to explores the role of institutional investors and glamour acquirers performance.

The results report positive announcement event returns for UK acquirers on event window (-1,+1), but negative short-term post-M&As returns. Meanwhile, domestic deals outperform cross-border deals can be explained by the higher level of uncertainty and risk in cross-border deals.

Glamour acquirers underperform value acquirers in different event windows, and the evidence strongly supports Sudarsanam and Mahate (2003) that glamour UK acquirers experience lower event and short-term post-M&As returns, while contrasting with the positive and higher announcement returns for glamour acquirers from Rau and Vermaelen (1998). Cash payment is preferred by value acquirers (low MTBV) while glamour acquirers (high MTBV) have high probability of share payment. Share payment presents higher announcement returns than cash payment, but only for non-glamour acquirers. In the UK most targets are private held companies which tend to accept the equity of value bidders as it is less likely to be overpriced.

Cash payment is preferred by value acquirers while glamour acquirers have high probability of share payment. Share payment presents higher announcement returns than cash payment, but only for non-glamour acquirers. It is important to add that while for the short-term post-M&A (+2, +20), share payment underperforms both cash and earn-out payment. Glamour acquirers with share

payment suffer significant shareholder losses.

This study extends and provides additional insight into the empirical relation between ownership and shareholder value documented. Institutional investors play important roles in the financial market not only because of their increasing and high shareholding proportion, but also because they are often considered informed traders due to their lower average costs of acquiring information. Consequently, institutional investors can be more effective in processing information and effective monitors.

Overall, both institutional ownership concentration and total institutional ownership report positive coefficient with short-term post-M&As returns which support the effective monitor roles of institutional investors by focusing on the managers' behavior and the firms' investment strategy. As a result, the finding confirms that acquirers with high level institutional ownership experience lower announcement returns. The findings also confirm the special role of foreign institutional ownership in M&As especially in cross-border deals, that can help to decline transaction costs and information asymmetry associated with cross-border M&As, therefore, bring negative impacts on announcement returns.

Finally, there is strong evidence that the 2007-2008 financial crisis brings significant negative impacts on the M&As activities. There is not only share decline on both deal numbers and deal values, but also the shareholder wealth creation. The explanation for this is that the M&As activity is disrupted by the steep decline in stock markets and a subsequent period of economic recession.

Chapter 5. Conclusion

In the past two decades, as a significant external expansion strategy, mergers and acquisitions (M&As) grew rapidly, especially the cross-border M&As. At the same time, the interactions between ownership structure, corporate governance and the value of firms have achieved recognition as a crucial topic in corporate finance. Institutional investors' control of equity market has grown rapidly in the last decades in the UK, and approx. 50 percent of the UK equity market is controlled by institutional investors over the last decade. Compared to the US, UK managers do not have the same freedom as their US counterparts and therefore, institutional investors are able to co-ordinate more and become actively involved in the monitoring activities. Meanwhile, UK institutional investors are proved to experience much lower turnover rate which suggests that the UK institutional shareholdings are more stable and may contribute more to the monitoring role.

Ownership becomes more fractioned as many institutions grow significantly, thus making the gap between the owners of the corporations and their managers to increase significantly. However, the increasing proportion of insitutional ownership is argued to contribute to reducing the information asymetry and providing effective external monitor, thereby helping to deal with the agency problems and improve the mangement. The motivation of this thesis is to investigate the institutional ownership's external monitoring in companies' investment strategies via the study of UK acquirers M&As activities, including the payment method choice, target firm preference as well as the market reactions to the deal announcement. A large sample of M&As deals undertaken by UK listed companies from 2000 to 2010 is employed by this research, while the exact sample number is a bit different due to different sample criteria in each chapter.

In chapter 2, acquirers with high level of institutional ownership perform higher chance of paying the deal through cash while the earn-outs are the most preferred method when the acquirer firms experience financial crisis. This chapter makes contribution for the identification of the determinants that influence the acquirer firms' decision to make the choice for the deal payment method. The

results provide supportive evidence that institutional investors are effective monitors to involve in firms' investment strategy. Meanwhile, in order to keep their external monitoring positions, high level institutional ownership lowers the probability of a share payment. Amihud et al. (1991) argues the managerial ownership will support cash or debt financing investment rather than by issuing new stock to avoid diluted holdings and risk of losing control. While in this chapter, the study expands the impacts of ownership structure to the institutional ownership. This chapter provides evidence to support the external monitors also prefer to finance the investment via cash payment rather than share payment to keeping their share voting power. This supports Jensen 1991 and Martin 1996 who argue that block institutional investors tend to reduce the probability of a stock payment of the investment activities in order to keep their share voting power.

In chapter 3, the result shows positive relationship between high levels institutional ownership and the probability of cross-border M&As deals, full control and large transactions. Additionally, both institutional ownership concentration and foreign institutional ownership are significantly and positively associated with cross-border deals. However, only foreign institutional ownership is positively related to large size deals. This chapter makes further contribution that provides evidence to support that institutional investors are effective external monitors that are involved in a firms' real strategies decision process. Also, the result shows that foreign institutional investors are effective external investors involved in firms' investment strategies where they can help acquirer firms to reduce asymmetric information which is an important determinant for cross-border investment. Another contribution is providing supportive evidence that institutional ownership concentration can help to protect shareholders interests, particularly for cross-border deals which may relate to low legal protection countries.

In chapter 4, the event study reports positive abnormal market reactions to UK acquirers that there are significant positive returns at the announcement of the M&As deals, while making negative short-term post-M&As returns. Domestic deals outperform cross-border deals and value acquirers outperform glamour acquirers. The result is consistent with precious evidence that domestic M&As are reported to outperform cross-border transactions regarding to acquirer shareholders announcement abnormal returns. Doukas and Travlos (1988) argue that

cross-border expansion signals the limited or rapidly decaying capacity to extract additional benefits from existing domestic operations. Meanwhile high agency costs in terms of mentoring and bonding foreign investment may also have a negative effect on bidder firms' market value when the cross-border M&A information is announced. Similarly, Moeller et al. (2005) report lower acquirer announcement returns for cross-border M&As compared to domestic deals. This is related to the more information asymmetries, agency problems and managerialism that cross-border deals may associated with. In cross-border deals targets are frequently unwilling to accept equity payment which will force the bidding firms to pay cash. Therefore the positive signal from the cash payment is diminished or non-existent for cross-border deals.

In the post-M&As period, cash offers outperform both the share payments and the earn-out payment deals. Additionally, this study makes contributions to explore the impacts of institutional ownership on the market reactions to the M&As announcement. Both the high institutional ownership concentration and total institutional ownership are positively associated with post-M&As short-term abnormal returns. The result confirms that acquirers with high level institutional ownership experience lower announcement returns. And the finding also confirms the special role of foreign institutional ownership in M&As, especially in cross-border deals, that can help to decline transaction costs and information asymmetry associated with cross-border M&As by which it brings negative impacts on announcement returns.

Generally, the main contribution of this research is to explore the external monitoring role of institutional shareholders and provide evidence about the monitoring role of institutional ownership when the firms have M&As activities from different aspects: deal payment method choice, target preference, and market perception and reactions to the deal announcement. This thesis finds that UK acquirers with high level institutional ownership prefer to finance the M&As with cash, while lower probability of share payment. This is in line with the US based evidence presented in Jensen (1991) and Martin (1996) and this gives the first evidence based on the UK market that higher institutional ownership will lower the probability of share payment to keep their voting power and external monitoring position. This study further confirms that indeed institutional investors are effective

external monitors which involve in firms' real strategies decision process by examining the impacts on the targets choice. In this case, high levels institutional ownership has a positive relationship with the Cross-border M&As deals, full control and large transactions. And delve deeper into institutional investors' type, namely domestic and foreign, investment horizon, and institutional ownership concentration. Finally, the study finds evidence that in the UK, value acquirers outperform glamour acquirers around the announcement date, while institutional ownership can help to ameliorate the glamour acquirers' low announcement return situation. Consequently, institutional investors can be more effective in processing information as effective monitors. Institutional investors play important roles in the financial market, not only because of their increasing and high shareholding proportion, but also because they are often considered informed traders due to their lower average costs of acquiring information.

The contribution of this thesis to the existing literature is as follows: Firstly, this study explores the existing gaps in the external monitoring role of institutional investors and the firms' real investment strategies making process. Secondly, this study contributes to the analysis of foreign institutional investors' monitoring role, as well as impacts of institutional ownership concentration. Thirdly, this thesis also provides a thorough analysis of the actual takeover target preference and deal payment method choice. Fourthly, this thesis thoroughly examines the impact which the announcement, and even more so, the reporting of the M&As have on firms' risk. Lastly, this search contributes by identifying and examining the significant influences on the M&As activities from 2007-2008 financial crisis.

However, there are still a number of important issues that have not been investigated and covered by this thesis based on the previous literature review. The first one is that the impacts of target firms' institutional ownership characteristics which include the institutional ownership proportion and concentration. Of course, this can be taken one step further, and be investigated whether the cross shareholdings especially institutional shareholdings between the acquirer firms and target firms perform any preference or influence among the M&As strategies and process.

Furthermore, there is still a number of issues about the ownership structure,

such as insider ownership, management ownership, individual ownership which are also important shareholders that are involved in the corporate governance and relative to the M&As management decision. Similarly, this ownership structure can be related to potentially conflicting interests, tax strategies, and benefits that each shareholding group may have different preference when faced with further investment opportunities. Therefore, they may present different preference of deal target choice, payment method, and therefore influence the further market reactions to the deals announcement.

With regards to the institutional ownership structure, it would be interesting to investigate the detailed foreign institutional ownership of acquirer firms, for instance, detailed origin national information, especially the ownership from the host countries. As foreign institutional ownership has been confirmed as contribution to reduce culture distance and transaction costs, it would be possible that the foreign institutional investors encourage the companies to choose cross-border targets from their home countries. The topic of institutional ownership and firm behavior attests to the importance of the corporate governance landscape. The investigation of institutional ownership can be expanded to other firms' behavior, such as share repurchase and Greenfield foreign direct investment in order to recognize the real effects of institutional ownership.

Another issue is the long-term market reactions, acquirer firms' operating performance and profitability after the M&As. And furthermore, the investigation between the link of short-term and long-term value creation driven by M&As for the acquirers can be used to analyze the market reaction ability to anticipate the long-term effect of the M&As. Moreover, there are M&As deals that have been announced or even rumored, but never completed or event announced. There can be further steps to study the market reaction and investigate whether there are significant differences between the acquirers that have completed the deals and those only announced but never completed deals.

An additional limitation of this research is that it does not consider the macroeconomic factors, such as industry cycles and policy changes which could add more explanatory power on the investigation to the target choices. However, the sample period is not long enough to cover all the takeover waves which occur

during the economic recovery and frequently driven by industrial and technological shocks. Also, the M&As market is fuelled by regulatory changes, for instance, the deregulation and anti-trust legislation. And for the cross-border deals, the target countries' investment situation are not included by this research, such as the legal environment, economic situation, accounting standard and culture distances which could add explanatory power to the study of the M&As strategy and market reaction to the announcement. Meanwhile, this thesis does not explore the cyclical rise and fall of hostile M&As which is a challenge in the M&As studies. For instance, there is almost no existence of hostile takeovers in Continental Europe during 1980s, and unprecedented numbers during 1990s. It should be realized that the hostile takeover hinges on interplay of the offensive strategies of acquirers and defensive strategies of targets.

Furthermore, this research only focuses on the M&As in the UK, although UK is confirmed to be a typical equity market with significant institutional control. However, with the increasing popularity of the institutional investors worldwide, the investigation should be extended to other countries and find the different performances of institutional investors as external monitors involve in the corporate management.

In sum, it is acknowledged that this thesis has certain limitations that can be taken into further consideration when interpreting the findings and results reported by this study. Equally, , these limitations can constitute a fertile ground for further research work which could strengthen the findings and outcomes of this thesis, as well as add to the knowledge regarding the relationship between institutional ownership and M&As activities.

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Appendix

Appendix 1 Correlation matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	HIGHTECH	1																		
2	CROSS_INDUSTRY	-0.132***	1																	
3	LISTED_TARGET	-0.083**	0.027	1																
4	CROSS_BORDER	-0.127***	0.036	0.082**	1															
5	BANK&TRUST	-0.070*	-0.033	0.016	0.051	1														
	INSURANCE																			
6	COMPANY	-0.0694*	0.009	0.009	0.043	0.050	1													
7	PENSION FUND	-0.128***	0.029	0.049	0.157***	0.230***	0.100***	1												
	INVESTMENT																			
8	ADVISOR	-0.037	0.000	0.008	0.139***	0.193***	0.048	0.394***	1											
9	I/HEDGE	-0.100***	0.016	-0.034	0.124***	0.172***	0.031	0.360***	0.497***	1										
	INSTITUTIONAL																			
10	OWNERSHIP	-0.086**	0.008	-0.013	0.152***	0.268***	0.090**	0.488***	0.825***	0.872***	1									
11	FIRM_SIZE	-0.213***	-0.003	0.220***	0.287***	0.303***	0.117***	0.564***	0.328***	0.276***	0.375***	1								
12	RELATIVE_SIZE	0.020	-0.012	-0.093**	-0.137***	-0.147***	-0.014	-0.273***	-0.237***	-0.198***	-0.257***	-0.429***	1							
13	ROA	-0.0476	-0.029	0.080**	0.127***	0.049	0.073*	0.160***	0.179***	0.160***	0.213***	0.277***	-0.235***	1						
14	R&D	-0.009	-0.020	-0.023	-0.040	0.059*	-0.046	-0.105***	-0.131***	-0.091**	-0.120***	-0.131***	0.050	-0.282***	1					
15	INTANGIBILITY	0.249***	-0.128***	-0.076*	0.011	0.027	-0.027	0.068*	0.073*	-0.001	0.038	0.002	-0.087**	-0.061*	0.011	1				
16	FIN'LEVERAGE	-0.051	0.001	-0.056	0.022	-0.044	0.026	-0.064*	-0.210***	-0.202***	-0.232***	-0.077**	0.544***	-0.116***	0.044	-0.070*	1			
17	QUICK_ RATIO	0.112***	-0.022	-0.041	-0.055	-0.096**	-0.081**	-0.178***	-0.177***	-0.080**	-0.150***	-0.296***	0.175***	-0.112***	0.318***	-0.147***	0.026	1		

18	FCF/SHARE	-0.003	0.012	0.146***	0.050	0.090**	0.043	0.141***	0.176***	0.198***	0.229***	0.238***	-0.170***	0.408***	-0.147***	-0.014	-0.189***	-0.088**	1	
19	TOBIN'Q	0.160***	-0.097**	-0.011	0.004	0.025	-0.058	-0.027	-0.100***	-0.157***	-0.137***	-0.120***	-0.028	0.061*	0.113***	0.007	0.140***	0.196***	-0.066*	1
20	FINANCIAL_CRISIS	0.032	-0.010	0.074*	-0.007	0.115***	-0.033	-0.088**	0.006	0.112***	0.073*	-0.017	0.004	0.090**	0.077**	0.037	0.024	0.058	0.111***	0.051