

**A Comparison of Returns to Acquiring Firm Shareholders in
Domestic and Cross-Border M&As: Evidence from the UK**



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ABSTRACT

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This paper investigates the returns for acquiring firm shareholders in domestic UK deals and cross-border acquisitions into the UK over the timeframe of 2006 to 2011. A sample of 126 deals is analysed, including 82 domestic and 44 cross-border transactions. The firm specific determinants of returns achieved in M&A deals in the UK are the secondary focus of this research as called for by Moeller and Schlingemann (2005).

The UK is one of the most open markets for corporate control. The debate around foreign takeovers and ownership in the UK has been gathering strength since the Kraft takeover of Cadbury in 2009. Most recent data suggests that inward cross-border deals are now exceeding outward deals by UK firms, leading to increased concern and consideration of regulation change. It is therefore imperative for management and researchers alike to understand the determinants of deals as the environment for M&A activity changes.

An event study methodology is used to measure announcement returns via the market-adjusted model. Returns are null or negative on average for acquiring shareholders consistent with prior research. The domestic sample yields negative results of -1.3% over the five day window with marginally negative results of -0.7% for the cross-border sample equivalent.

The study also finds the following to be significant determinants of acquirer returns: method of payment, prior toehold and relative size. Further to this cash resources and relatedness are significant in the domestic and cross-border sub-samples respectively. The market prefers deals in which the acquirer is relatively larger and has a prior toehold in the target and the method of payment used is cash. This suggests that acquirers are risk adverse consistent with the era of uncertainty due to the financial crisis. Cross-border acquirers interestingly are content with geographic diversification only and seek operational synergies in related acquisitions.

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ETHICAL DECLARATION

ETHICAL DECLARATION

I declare that this document is wholly my own work except where I have made explicit reference to the work of others. I have read *Doing a Dissertation in Business: Structured Masters Programmes Research Policy, Procedures and Guidelines* and hereby declare that this document is in line with these requirements. I have discussed, agreed and complied with whatever confidentiality or anonymity terms of reference were deemed appropriate by those participating in the research.

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ABBREVIATIONS & TERMINOLOGY

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AR: Abnormal Returns compare the performance of a company stock to the performance of the index on the market on which it is listed. To calculate this the daily percentage returns for the stock and the index are calculated and the index return is subtracted from the stock return.

CAR: Cumulative Abnormal Returns is calculated by adding the company returns over a specified number of days.

EMH: Efficient Market Hypothesis states that it is impossible to beat market and make excess market returns as all information is publicly available and reflected in the stock price.

EU: European Union

EEA: European Economic Area

FDI: Foreign Direct Investment refers to flows of investment internationally into and out of countries.

M&A: Mergers and Acquisitions refer to the purchase of a target company by an acquiring company. There are different forms and meanings but the aforementioned definition is used for the purpose of this research.

SIC: Standard Industrial Classification is a system used to classify companies into particular industries based on a four digit code.

SPSS: Statistical Package for the Social Sciences is a computer package utilised to examine and analysed data in many forms both quickly and comprehensively.

UK: United Kingdom

US: United States of America

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- Appendix B Further Analysis of the Six Completed Merger Waves
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INTRODUCTION

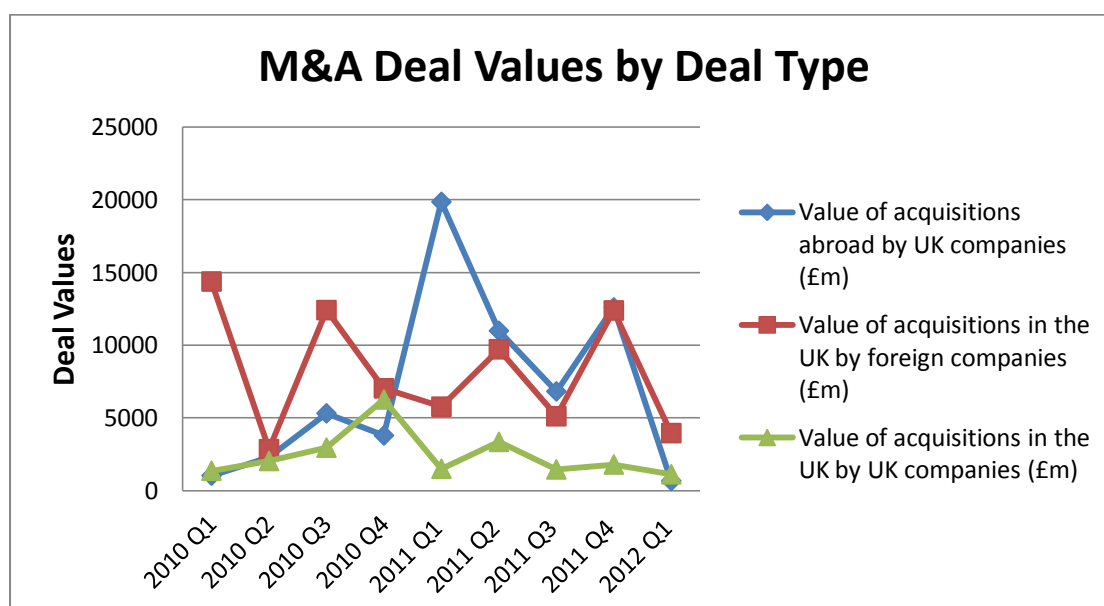
Chapter One:

INTRODUCTION

1. Introduction

The news in recent months about the proposed takeover of London-listed miner Xstrata by Swiss trader Glencore in what is seen as a “merger of equals” (Financial Times, 2012) is one of the largest deals ever to occur in the UK market valued at \$37 billion (should it be completed). The deal comes at a time when merger and acquisition activity (hereafter M&As) is at a low ebb, since the financial crisis brought an end to the sixth wave of mergers and acquisitions. According to the Office for National Statistics (ONS) in their report on 2012 Q1 M&A activity, domestic acquisitions are at their lowest value since 2009 standing at £1.1 billion and they further state that cross-border acquisitions into the UK have exceeded the value of outward deals by UK firms (See figure 1.1)

Figure 1.1: M&A Deal Values



Source: ONS M&A Report Q1 2012

The Glencore-Xstrata deal is characterised as friendly. This is consistent with Martynova and Renneboog (2008) who find that the occurrence of hostile takeovers has decreased in recent years. It has brought with it a new trend for the UK where-by inward deals exceeded outward deals in what is the second largest market for M&A activity globally (Financial Times, 2012). The Glencore-Xstrata merger however, has brought to the fore once again a contentious debate in the UK surrounding the volume of large inbound cross-border deals and the potential impact of increasing foreign ownership of key companies and strategic assets. The Kraft Foods takeover of iconic UK firm Cadbury in 2010, via a prolonged hostile takeover battle brought this issue to the fore leaving palatable anger across the UK.

New takeover rules were introduced in September 2011 in response to this deal with the aim of giving hostile bidders less influence, giving targets more power and allowing their Boards to take increased note of the views of employees and other stakeholders. However no specific changes were made to deter and reduce the ability of foreign companies to bid for domestic firms (Reuters, 2011). Thus many countries have adapted a protectionist position blocking international deals however the UK remains an open market for inward investment.

Domestic deals are defined as deals in which the target and bidder are both based within the same geographic location. Cross-border deals refer to M&A activity that occurs between companies in different countries. Literature on domestic deals is well developed whereas literature on cross-border deals is still relatively undeveloped. This paper therefore compares the wealth effects to acquiring firm shareholders from domestic UK deals and cross-border deals into the UK to determine if there is a difference in returns from these domestic as opposed to foreign deals.

Evidence pertaining to cross-border deals and acquiring shareholders remains sparse. While many existing studies focus on the outward acquisitions few consider inbound deals and the associated wealth effects (Goergen and Renneboog, 2004, Conn et al, 2005 and Moeller and Schlingemann, 2005). Acquisitions are significant investments for firms and are a significant part of the restructuring process arising from the financial crisis, therefore acquiring shareholders as the key stakeholders are the focus of this paper.

The contribution of this paper is twofold, similar to Danbolt and Maciver (2012) the focus is on analysing the announcement effects for acquiring shareholders of domestic and international deals into the UK for the sample period 2006-2011. This paper adds to the limited empirical analysis of inward cross-border M&As as alluded to above. The study similar to Danbolt and Maciver (2012) focuses on acquiring shareholder returns as recent research in this area for the UK – as a key market for corporate control - is relatively sparse. However they do not analyse firm specific characteristics impacting these returns as is completed in this study.

However the added contribution of this study is that it provides up-to-date analysis, capturing the impact of the financial crisis which brought to an end the most recent merger wave (Alexandridis *et al*, 2011). Secondly analysis of the firm specific factors influencing acquiring firm returns is conducted. The inclusion of firm specific variables in analysing acquiring shareholder returns was called for by Moeller and Schlingemann (2005). This paper focuses on cross-border deals involving US, EU and Canada – which account for 93% of all deals.

With the global recovery from the recent financial crisis greater activity in the takeover market is expected as investors' confidence increases and stronger surviving firms look towards growth and expansion. International deals are high on the agenda as they are the larger deals hence it is imperative to understand the main motives for such deals, the impact on shareholder returns and especially to understand the impact of individual firm and deal characteristics on these. As such this paper provides significant insight into these important factors.

The structure of this paper is as follows:

Chapter 2 provides a critique of the literature with respect to acquiring shareholders returns and the firm specific factors impacting these returns in both a domestic and cross-border setting before a summary is presented of the key literature.

Chapter 3 firstly lays out the five research questions analysed in this study. Secondly the sample utilised in this study is set out and the methodology undertaken to analyse acquiring shareholder gains and their determinants. Limitations of the study from an analytical viewpoint are put forward in this chapter also.

In chapter 4 detailed analyses of the significant findings of the research are laid out.

Discussion of the key findings in the context of the literature follows in chapter 5.

Finally chapter 6 outlines the conclusions of the paper and recommendations for future research.

LITERATURE REVIEW

Chapter Two:

LITERATURE REVIEW

2.1 Introduction

Empirical evidence on the wealth effects accruing to acquiring firm shareholders from cross-border vis-à-vis domestic acquisitions in the UK is relatively limited (Danbolt and Maciver, 2012, Conn *et al.*, 2005). The majority of M&A research to date focuses on target shareholder returns rather than acquirer returns in domestic settings primarily, in comparison to outward deals thereby providing evidence of wealth effects of individual countries only (Berkovitch and Narayanan, 1993 and Danbolt, 2004). Also a plethora of research has been undertaken in the US and Europe while a gap exists in research based in the UK solely (Martynova and Renneboog, 2008 and Moeller and Schlingemann, 2005). The general consensus is that target shareholder returns are positive whereas acquirer returns are frequently found to be insignificant or negative (Sudarsanam *et al*, 1996).

This chapter will introduce the main motives and empirical studies in relation to M&As. The key theoretical motives for M&A activity will be presented first, followed by details of the recent M&A waves. A critical analysis of literature on the impact of M&A activity on the UK market is presented followed by the key theoretical motives for cross-border deals. A detailed study of empirical evidence around acquiring firm shareholders in the UK and in cross-border studies precedes an analysis of shareholder returns. The chapter concludes with a summary of the most important points from the literature.

2.2 Theoretical Framework – Motives and Expectations

Table 2.2.1 Motives for M&As

Motives	Gains to Target	Gains to Acquirer	Total Gains
Synergy	+	+	+
Agency	+	-	-
Hubris	+	-	0

Source: Berkovitch and Narayanan (1993)

2.2.1 Synergy

Berkovitch and Narayanan (1993) analyse the theoretical framework for M&As and define the three motives listed in table 2.2.1 above. They state that synergy is defined as the economic gains achieved from the merging of the two firm's resources. Synergy results in a "win-win" situation for the target and the acquirer resulting in a gain for both. Synergy gains market themselves in the form of operational, managerial or financial improvements of the merged entity. Stock market reaction to the announcement of the bid is expected to be positive for both the target and acquiring shareholders when synergy is perceived as a key motive. They further establish that the greater the bargaining power of the target the greater their portion of total gains. Perceived operational synergies come from gains achieved by sharing resources and economies of scale. Managerial synergies exist in reducing two management teams into one with the optimal structure in place. Finally financial synergies are deemed to be one-off and accrue from benefits of combining two balance sheets.

2.2.2 Agency Theory

The agency motive in contrast is centred upon the acquiring firm's management and their quest for expansion. According to Berkovitch and Narayanan (1993), acquiring firm management are motivated by self-interest and increasing their own utility at the expense of acquiring shareholders. There are various reasons for this motive including; management acquire firms that increase shareholder dependence on their own skills and abilities (Shleifer and Vishny, 1989), they are motivated by excess free cash flows that should be returned to shareholders but is used to exercise management power (Jensen, 1986, cited in Berkovitch and Narayanan, 1996).

Berkovitch and Narayanan (1993) state that target shareholders whom identify this motive will utilise it to increase their bargaining and power and gains. They suggest the greater the agency problem the greater the returns to target shareholders. The payment to the target represents a transfer of gains from the acquiring shareholders. In effect the target gains at the expense of acquiring firm shareholders and the net effect is reduction in value.

2.2.3 Hubris

The hubris motive involves manager's tendency to systematically overestimate their ability to improve the performance of the target (Sudarsanam *et al.*, 1996). Hubris stems from greed and animal spirits and describes managers whom are over-confident in their own abilities. The herding behaviour can originate from following other leaders and successful takeovers (Gregoriou and Renneboog, 2007). Expected benefits and anticipated synergies are over estimated by the acquiring management and thus the premium paid is greater resulting in a transfer of gains from the acquiring shareholders to the target shareholders (Roll, 1986). Berkovitch and Narayanan (1993) find that target gains and acquirer loses with an overall net effect of zero.

2.2.4 Summary of Motives

Berkovitch and Narayanan (1993) whilst establishing the theoretical framework in the motives for M&A deals suggest that it is difficult to disentangle all three motives. Synergy results in expected positive gains for all parties whilst hubris suggests that management make mistakes in their decision to acquire the target as there are no net gains or losses. The rationale for this is empire building by management and improving their own reputation. In contrast agency theory is the most destructive as value is transferred to the target at the expense of the acquiring shareholders resulting in a net loss. This paper seeks to determine the motives for deals by testing for the presence of the following: operational synergies, financial and managerial.

2.3 M&A occurrences over time

The motives detailed above describe the theoretical framework underpinning expansion via M&A from a finance perspective. Analysis of M&A activity overtime has produced the stylised fact that deal activity occurs in cyclical waves (Goergen & Renneboog, 2004). Gugler *et al*, (2012) state that waves coincide with strong market advances and Gregoriou and Renneboog (2004) assert they are driven by technological and regulatory change. The next section looks at the development of M&A waves over time.

2.3.1 Waves in M&A Markets

The market for corporate control that facilitates the occurrence of M&A deals exhibits a cyclical wave pattern (Shleifer and Vishny, 1991, Hartford, 2005 and Martynova and Renneboog, 2011). Martynova and Renneboog (2008) assert there are five complete waves and suggest another wave was created from 2003 onwards. This is confirmed by Alexandridis *et al.* (2011) whom found evidence of six completed waves the latest one began in 2003 and ended in 2008 due to the onset of the financial crisis.

Sudarsanam (2010) details each of the waves and the key characteristics and hallmarks of each. The first wave occurred in the late 1890s known as the “Great Merger Wave” resulting in the creation of many monopolies (Stigler, 1950). The second began in the post-World War I era of the 1920s with a considered move towards oligopolies.

The third wave then commenced in the 1950s and lasted almost two decades partially attributable to the destruction caused by World War II and the economic depression of the 1930s that had kept activity depressed worldwide. This third wave is characterised by diversification and the creation of many conglomerates. Later in 1981 the fourth wave commenced alongside changes in anti-trust policy, deregulation in financial markets and the invention of new financial mechanisms. Whilst the third wave had created conglomerates – had become inefficient- the fourth saw reversing of many of these and a large increase in the occurrence of hostile bids.

The fifth wave started in 1993 due to technological advancement and globalisation. One key feature of this was the advent of international takeovers and especially the growth of the European takeover market which matched the US. In 1996 the total value of US and European deals was USD\$1,117 million with European deals accounting for 37% of the worldwide value. (Goergen & Renneboog, 2004) Alexandridis *et al.* (2011) demonstrate how this era was marked by mega-deals and widespread overpayments.

The most recent wave (sixth) began in 2003 shortly after the technology crash and coincided with increasing international industry consolidation. Goergen & Renneboog (2004) illustrate how cross-border deals grew in number and size during the latest two waves increasing the importance of understanding the motives for these deals and creating value in geographically dispersed companies. Over this era the number of hostile bids decreased in favour of friendly negotiations. Martynova and Renneboog (2008) assert that takeover activity is usually disrupted by a steep decline in stock markets and an economic recession follows this event. The most recent wave came to an end due to investor's scepticism about the state of credit markets and the financial system (Alexandridis *et al.*, 2011). Due to the effects of the global recession bidders found their access to finance sharply curtailed and as such deals were renegotiated or abandoned, bringing the sixth wave to an end by 2008 (Gaughan, 2011).

In conclusion M&A activity has been shown to occur in waves since the 1800s (See Appendix B). These waves are well documented with respect to the US market since the beginning as it is one of the most vibrant markets for corporate control (Martynova and Renneboog, 2008 and Gugler *et al.*, 2012). This paper focusses on UK domestic and cross-border deals. Cross-border activity has become increasingly important since the 1990s with deals accounting for 80% of foreign direct investment (hereafter FDI) by industrialised countries (Conn *et al.*, 2005).

2.4 Motives for Cross-Border Deals

The motives governing cross-border M&A activity theoretically resembles those for domestic deals but with the extension of national borders lead to the inclusion of other variables that can impede/assist the deal success. As alluded to earlier the volume of cross-border acquisitions globally has increased dramatically from 23% of all deals in 1998 to 45% in 2007 (Erel *et al.*, 2012). Danbolt and Maciver (2012) state that cross-border deals account for 25% of acquisitions of UK firms and that 40% of acquisitions by UK companies are outside the country from 1980 to 2008. This highlights the importance of these deals in the UK context. Further to this Boeh (2011) states that M&As accounted for 78% of global foreign direct investment inflows in 2005. They further state that half of all deals in the last decade were cross-border in nature approximately \$1.25 trillion annually.

There are many reasons for cross-border deals found in studies in this area and listed in table 2.4 below are the main motives and some of the key empirical studies in which they are analysed. Discussed in the subsequent section are the primary motives as applicable to this study.

Table 2.4: Motives for Cross-Border Deals

Motive	Empirical Studies
Global diversification	Moeller & Schlingemann, 2005
Industrial diversification	Danbolt & Maciver, 2012
Increased investor protection	La Porta <i>et al.</i> , 2002
Strong corporate governance regime	Rustige and Grote, 2011
Market imperfections/Information asymmetry	Fatemi & Furtado, 1988
Local market access	Danbolt, 2004
Exchange rate strength	Harris & Ravenscraft, 1991
Cultural similarity	Erel <i>et al.</i> , 2012
Political & economic stability	Rossi & Volpin, 2004
Tax regime	Erel <i>et al.</i> , 2012
Technological exploitation	Watson <i>et al.</i> , 2001
Differential labour costs	Watson <i>et al.</i> , 2001

Moeller and Schlingemann (2005) in their analysis of US find that deal characteristics differ significantly between domestic and cross-border transactions. They summarise the various motives for cross-border deals in their study as follows. Firstly asymmetry of information is a key concern for foreign acquirers as targets may hold proprietary information. Equity payment is one means used to reduce this concern as the risk is shared by both sets of shareholders however foreign equity is often unacceptable to the target and thus cash is most frequently the form of payment.

Secondly due to the existence of agency and information asymmetry issues measures of acquirer's growth opportunities such as free cash flow and market-to-book ratio will be more important in explaining returns. Global diversification and industrial diversification are both significant motives in determining returns and are treated independently. The relative strength of the home currency is also a significant variable as it impacts the cost of capital of the deal and makes foreign targets more/less attractive for takeover. There are also a number of country specific variables studied by the afore mentioned authors including ownership, corporate governance structure and general economic conditions.

2.4.1 Market Imperfections and Access

Traditional economic theory suggests perfect mobility of the factors of production particularly capital across national boundaries. However Harris and Ravenscraft (1991) suggest that foreign direct investment (FDI) is a result of the imperfections in the markets for these factors. Fatemi and Furtado (1988) assert that international mergers act as a vehicle to bridge imperfections in factor and capital markets. Industrial organisation theory proposes that value can be created in cross-border deals by firms who take advantage of these imperfections.

According to Danbolt (2004) under certain market inefficiencies such as information asymmetries, investors could benefit from diversification through international M&As as the company can make better informed decisions than investors. Furthermore investors also benefit from having their portfolio diversified indirectly through the acquiring company. Boeh (2011) however asserts that information asymmetry is greater in cross-border deals and mechanisms employed to bridge these gaps increase the contracting costs and premiums paid internationally.

Local market access is another important consideration in international deals in order to avoid international trade barriers and access new markets. Danbolt (2004) asserts that if market access is valuable acquirers without a foothold in the UK will be willing to pay higher takeover premiums for UK targets than others already established in the market.

Erel *et al.* (2012) state that geographic closeness and higher levels of trade between the countries are significant in determining the success of deals. This is due to a shared cultural background and an increased likelihood of realised synergies.

In summary it is generally accepted that cross-border deals account for much of global foreign direct investment and as such are used as a means of bridging the gap caused by market imperfections. Market access is viewed as a key rationale for engaging in a cross-border bid as local access is keenly contested by companies. The role of culture and information asymmetry in cross-border bids cannot be ignored however a number of studies suggest that the higher premiums paid in these deals are due to higher costs associated with relieving this problem.

2.4.2 Exchange Rates

Imperfections in foreign-exchange markets may allow acquiring firms to take advantage of market fluctuations to acquire the target firm more cheaply. Froot and Stein (1991) developed a framework linking M&A activity to exchange rates. They predict that acquiring firms will have a cost of capital advantage if their currency is strong vis-à-vis that of the target. An appreciation of the domestic currency will lead firms to seek out potential targets in other countries that are relatively inexpensive leading to some deals potentially being profitable than under old exchange rates (Danbolt & Maciver, 2012). Harris and Ravenscraft (1991) similarly assert there is a cost of capital advantage favouring foreign buyers.

However in the longer-term Cackici *et al* (1991) suggest that acquirers may incur losses from holding the strong currency when profits that are repatriated profits will be lower. Harris and Ravenscraft (1991) find the exchange rate has a significant positive announcement return effect. Alternatively Danbolt and Maciver (2012) in a study based on UK cross-border deals find that exchange rate changes are positive but insignificant.

In summary there is mixed evidence on the impact exchange rates in the motives for cross-border deals with some evidence of acquiring firms with a strong currency more likely to undertake takeovers in countries with a relatively weak currency. Alternatively others find no exchange rate effect and negative long run consequences for acquiring firms from strong currency areas due to impact on future profits.

2.5 Evidence of Shareholder Wealth Effects in M&A activity

The following section is an analysis of the key empirical evidence of returns to acquiring firm shareholders. The motives for domestic and cross-border deals are analysed alongside firm and country specific determinants as they occur in the research.

2.5.2 Domestic Deals

Conn *et al.* (2005) examine the announcement effects of UK acquirers in domestic and cross-border deals of public and private firms over the period 1984-1998. The sample consists of 576 domestic public acquisitions and 131 acquisitions out of the UK. They establish the announcement returns achieved by acquiring shareholders in domestic deals are significantly negative while zero for cross-border deals. They find that acquisitions of private firms both domestic and cross-border out-perform acquisitions of public companies.

They conclude that domestic acquirers using mixed payment forms underperform. Cash is found to be the main source of payment in cross-border deals similar to Moeller and Schlingemann (2005) who state that targets are wary of foreign equity and as such are paid in cash. They also establish a positive but insignificant impact of a strong currency (sterling) on cross-border deals. Finally they find that hostile deals have a significantly positive effect on acquirer returns. In conclusion they find weak evidence that cross-border acquisitions experience lower returns than in domestic deals.

More recently Danbolt and Maciver (2012) set out to measure the announcement returns in domestic deals and cross-border deals (those into and out of the UK) over the period 1980 to 2008 and the determinants of those returns. Their sample consists of 535 acquisitions in total of which 305 are acquisitions into the UK and 230 cross-border deals by UK firms of European, US and firms in the rest of the world. This

suggests that there was greater inward cross-border activity over the sample period. Returns to UK target shareholders are shown to be significantly higher in cross-border deals in contrast to their domestic deal counterparts i.e. targets fair better when the acquirer is from abroad. In contrast acquiring firm shareholders whilst not experiencing returns significantly different from zero in cross-border deals are significantly negative in domestic deals. This suggests acquirers far better from engaging in international deals rather than in domestic ones.

2.5.3 International Cross-Border Deals

Goergen and Renneboog (2004) note that cross-border deals have increased in number, importance and value in recent years. They review the debate surrounding the differences in returns in domestic versus cross-border deals. Firstly Harris and Ravenscraft (1991) suggest there should be no difference in announcement returns if capital and factor markets are not segmented internationally. Alternatively FDI theory suggests that multi-national firms have a competitive advantage over domestic firms due to the existence of imperfections in the market suggesting that cross-border returns should be greater than those achieved in domestic bids.

Goergen and Renneboog (2004) study M&A activity in 18 European countries – Continental Europe and the UK over the period 1993-2000 with a sample of 187 deals consisting of 118 domestic deals and 69 cross-border deals. Firstly they find large significant positive returns for target shareholders in the overall sample however the wealth effects for the acquiring shareholders is 0.7% and only significant at the 10% level. Target shareholders are found to gain more following hostile bids whereas bidding shareholders experience losses.

Goergen and Renneboog (2004) further assert that the market for corporate control is much more developed in the UK with dispersed ownership, a highly developed stock market and greater shareholder protection than in Continental Europe. In line with this they find that targets receive higher premiums than their Continental counterparts. Similarly UK acquirers achieve higher returns compared with Europe. They further conclude there is a statistically significant difference in returns between domestic and cross-border deals with cross-border acquirers achieving higher returns. Shareholders of target firms achieve greater returns when the offer is cash based whereas the acquiring firm shareholders are found to prefer equity payment. They conclude the

most significant (positive) determinants of short-run wealth effects for the bidding shareholders are friendly (as opposed to hostile bids), equity (rather than cash offers), low relative target market-to-book and diversification level of the acquiring firm.

In a more recent study Rustige and Grote (2011) analyse 1,931 domestic and cross-border deals over the period 1985 to 2009 in the European area. They find that acquirers in cross-border deals pay substantially higher premiums than acquirers in domestic deals. Also “cash rich” acquirers pay significantly higher premiums for targets. Different to Goergen and Renneboog (2004) they further find that abnormal returns for acquiring shareholders in cross-border deals in Europe are significantly lower than in domestic deals. They conclude the payment of higher premiums and lower value achieved from cross-border deals is due to the agency conflict, level of discretion of management and poor governance standards.

One of the latest empirical studies by Erel *et al.* (2012) establish that cross-border deals account for one-third of all mergers across the world and hence it is important to enhance our understanding of these deals.

They examine merger deals globally over the period 1990 to 2007 with a sample of 187,841 transactions covering 48 countries. They test the determinants of cross-border deals and find the exchange rate to be a significant variable whereby firms in a country where the currency has appreciated are more likely to acquire in countries with weaker currencies. In summary they find the following cross-border characteristics to be significant in explaining the rationale for deals: Geographic closeness of the countries, major positive currency movements and the relative strong performance of the acquirer countries’ stock market.

In summary there is mixed evidence as to the effect of cross-border M&As on acquirers (Francis *et al.*, 2008). Goergen and Renneboog (2004) find cross-border deals are value enhancing whereas Moeller and Schlingemann (2005) conclude that cross-border deals decrease acquiring shareholder value. Many of the studies listed above compare domestic and cross-border deals and find that domestic achieve significantly greater returns than international transactions (Danbolt & Maciver, 2012 and Conn *et al.*, 2005). This particular study seeks to determine if cross-border deals provide significant returns and then compare these returns to those of domestic deals for the same period.

2.6 Determinants of Acquiring Shareholder Returns

The returns achieved by acquiring firm shareholders following the announcement of an M&A deal are influenced by a number of factors. These include firm specific factors namely; acquirer toehold, relatedness of the two parties, overvaluation, gearing level of the parties and cash resources of the parties.

2.6.1 Bidder Toehold

Bidder toehold refers to M&A deals where the acquirer already owns a stake in the target company. Generally the acquirer builds this stake from purchasing shares of the target in the market. According to Betton and Eckbo (2000) the benefits of building up a toehold prior to a takeover bid include reducing the number of shares purchased at the premium rate and secondly if the bid is unsuccessful due to a rival bid a capital gain is made on owning the toehold shares.

Betton and Eckbo (2000) further state that there is considerable support of the role of the size of the bidder's toehold in forming optimal M&A strategies. However they find there is limited empirical evidence in the area of the impact of toeholds on acquiring shareholder returns. For target shareholders the evidence is mixed with some studies finding returns increasing with prior toeholds and others finding returns decreasing. Bugeja and da Silva Rosa (2006) note that in the UK has a very active market for corporate control that 30% is the maximum ownership threshold a company can acquire without launching a full takeover bid. Theory suggests that bids are more successful when the acquirer has a larger toehold as this discourages other firms from entering the bidding racing.

Betton and Eckbo (2000) study a sample of M&A deals in the US over the period of 1971-1990 that included 2,335 takeover bids. Prior toeholds are present in 47% of the sample. They find that the largest toeholds (20%) are accounted for in single-offer contests however smaller toeholds (5%) are found when there are multiple bidders. They further find that bidder toeholds are negatively correlated with the premium offered by the acquirer.

Pre-bid toeholds are discovered to provide significant acquiring shareholder returns. Betton and Eckbo (2000) also find that toeholds are smaller the larger the run up in the pre-bid price of the target's shares. Finally they conclude that the build-up of a toehold in a takeover bid strategy increases the chance of success, decreases the

chance of a rival entering and decreases target management resistance. Similarly Baixauli and Fernandez (2009) conclude that toeholds increase the likelihood of a tender offer being successful. More recently Danbolt and Maciver (2012) findings concur with Betton and Eckbo (2000) in that greater pre-bid stakes held by the acquirer are negatively related to target shareholder returns. They find that bidders hold greater toeholds in domestic deals than cross-border.

In summary bidder toeholds in previous studies have been found to have a significant positive impact on bidder returns. This variable is examined in this study to determine if this phenomenon still exists and has a significant impact on the announcement returns of acquiring shareholders.

2.6.2 Industry Relatedness

As previously discussed one of the primary motives of M&A activity is the search for synergies that can be achieved by merging companies together and sharing resources. According to Homberg *et al.* (2009) M&As aim to increase the wealth of bidding firms shareholders by creating synergies. They state that relatedness is a source of synergy and as such synergies are expected to be highest in related acquisitions. Industry relatedness is a primary measure used in this paper and across many others (Danbolt & Maciver, 2012) to determine if operational synergy is a primary factor in determining acquiring shareholder returns. The 2-digit standard industry classification (SIC) code is analysed for the acquirer and the target firms.

Homberg *et al.* (2009) conducted a meta-analysis of 67 prior M&A studies consisting of domestic and cross-border deals. They note that synergies are a primary motive in increasing acquiring shareholder wealth but also note that a large portion of M&A deals fail. They sub-divide relatedness into business, cultural, technological and size. Related business and technology are positively associated to the performance of the deal whereas culture and relative size are negatively related. They conclude that to optimise synergies businesses should be similar, share technology and the acquirer should be larger than the target in terms of value.

In a more recent study of synergistic gains achieved during the different merger waves, Alexandridis *et al.* (2011) find that gains were present during all waves apart from during the sixth wave which dates from 2003-2008. Further to this less value was created when cash was the method of payment used during the most recent wave.

Similarly Danbolt and Maciver, (2012) study relatedness and find that a higher portion of domestic deals involve industrial diversification. Foreign bidders are more likely to acquire firms in the same industry thus adding to the possibility of creating operational synergies. They find however no significant impact of diversification on target or bidding shareholder returns. Danbolt (2004) examined 116 cross-border and 514 domestic takeover bids in the UK over the period 1986-1991. Similar to Danbolt and Maciver (2012) they find that relatedness has an insignificant but positive impact on returns.

In summary there is mixed evidence of the role of industry relatedness and its impact on acquiring shareholder returns in domestic and cross-border deals. Hence we test its role in a sample of more recent deals using the SIC code as the standard measure of relatedness.

2.6.3 Gearing & Cash Resources and Overvaluation

The financing of deals is deemed to be an important factor in determining shareholder returns. The correct mix of cash and debt in financing M&A activity is not clear however there are opposing arguments to the use of each of these means. Jensen's free cash flow hypothesis (FCF) states that firms with excess cash are more likely to partake in value destroying acquisitions due in part to the agency conflict and managerial hubris (Jensen, 1986). However Gregory and Wang (2010) offer an alternative in the pecking order theory which states that management conserve cash in order to undertake positive NPV investments.

Alternatively the use of excessive debt increases the risk of financial distress and the risk absorbed by the acquiring shareholders. There is a conflicting debate here however as debt can also have a positive impact in so far as it is tax efficient and has a disciplinary effect on management. Examination of gearing levels and cash resources as a determinant of returns is limited in prior studies and as such is included in this study to determine its importance. Also more and more deals were debt financed from 2001-2008 due to existence of cheap debt.

In a recent paper on this topic, Kling and Weitzel (2011) study the firm characteristics, industry effects and corporate governance regimes that support the growth of firms internationally through M&A activity. Their study focusses on the cross-border deals by Chinese firms as compared to domestic deals over the time period 2001-2008. Cross-border deals have rarely been studied due to the fact they only account for 4.8% of all deals in China. They establish that cross-border deals generate the same level of shareholder value as domestic ones.

Kling and Weitzel (2011) measure the financial leverage (gearing) as a proxy for access to finance and find that cash is the primary means of payment with few equity deals. They state that Chinese firms that are highly leveraged may face challenges in accessing additional capital and increasing leverage therefore this increases risk for shareholders. Financial leverage is found to have a significant but negative effect on announcement returns.

More recently Erel *et al.* (2012) analyse the relative value of the acquirer and their target in order to determine the impact of valuation on the deal premium and financing arrangements. They study 56,978 cross-border deals worldwide over the period 1990-2007 using the average market-to-book as the measure of valuation. Changes in valuation are shown to affect the likelihood of mergers by making mergers more attractive and not based purely on financial arbitrage. This is similar to the FCF hypothesis that large cash resources increase the likelihood of management undertaking M&A activity. They further conclude that the market is wary of overvaluation.

In summary the optimal means of financing a deal depends largely on available cash resources and access to financial leverage from external sources. Jensen's FCF hypothesis suggests that large levels of cash will entice management to partake in value-destroying acquisitions. Alternatively the use of debt while considered to have a disciplinary effect also increases the risk of financial distress. Limited evidence is available on the optimal means and of what does exist evidence is mixed hence this firm specific characteristic is included here.

2.7 Control variables influencing acquiring shareholder returns

The following are deemed to be the most important control variables included in this study to determine their impact on acquiring shareholder returns: Means of payment and the impact of size.

2.7.1 Means of Payment

The method of payment is an important consideration for the acquiring firm's management and the options available include cash, stock or some combination of the two (Conn *et al*, 2005 and Facio and Maulis, 2005). According to Facio and Maulis (2005) the acquirer faces a conflicting decision between using cash – which generally requires debt financing – and the issue of new equity. They state there is a trade-off between the introduction of corporate control issues arising from new equity issue and the possibility of financial distress by increasing the financial leverage of the company and decreasing the cash resources.

Facio and Maulis (2005) analyse M&A payment choices of 13 European acquirers – including UK - in both public and private deals over the period 1997-2000. They find that the incentive to use cash is strong when the controlling shareholder in the acquiring firm has 20-60% of all voting rights and hence corporate control becomes a strong consideration. Acquirers prefer to use cash when voting control is threatened. They conclude that acquirer financial resources and corporate control fears have a significant influence on European M&A financing decisions. They further establish that differences in the legal environment and investor protection impact the relationship between corporate control and means of payment.

Conn *et al* (2005) also debate the optimal payment method by examining acquirer returns in 4,000 domestic and cross-border deals by UK acquirers over the period 1984-1998. They suggest that the status of the firm – whether it is public or private - has a significant impact on the method of payment employed in the deal. They assert that in cross-border bids there are conflicting arguments in favour of cash and equity. The use of equity decreases the uncertainty around information problems associated with acquiring abroad and shares the risk with target shareholders. Alternatively cash payment may be preferable as there is no change to corporate control and target shareholders can be reluctant to accept foreign equity. They conclude that cross-border deals are dominated by cash.

Similarly De La Bruslerie (2012) in a more recent study analyse the optimal payment mixture in the context of information asymmetry. They state that the number of mix payment deals often exceeds the number of equity deals in studies (including Martynova and Renneboog, 2009) thus indicating the importance of understanding the optimal ratio. They indicate that mixed payments act as an insurance mechanism and show that the setting of a cash percentage is a key means of conveying private information to shareholders on the synergistic gains and overall transaction value gains. Cash-equity payment mix decreases the information risk and will have an impact on modifying the offer price.

In conclusion there are mixed arguments to determining the optimal payment structure for M&A deals. The above studies indicate that there are many other variables impacting decisions around payment means including access to finance, degree of financial leverage and deal status – domestic versus cross-border. Domestic deals are most likely to be equity or mixed whilst cross-border deals tend to favour cash payment.

2.7.2 Impact of Size

The relative size of the two parties in the M&A deal are included in the majority of studies as a control variable when analysing abnormal returns. Relative size of the two firms is measured by different means including relative size of the market value of both (Barbopoulos & Sudarsanam, 2012) and the relative size of total value of assets of the target to the total value of the assets of the bidder (Danbolt and Maciver, 2012). Also the relative size of the bid is included in some studies including Barbopoulos & Sudarsanam, (2012) as they hypothesise that the greater the deal value the greater the possibility of misvaluation and the increased importance of optimal payment mix.

There are two arguments pertaining to the optimal size ratio of the two firms. Firstly if the bidder is large relative to the target this increases the possibility of overpaying on the premium however greater operational synergies may be achieved due to economies of scale for the integrated target. Homberg *et al* (2009) assert that acquirers should be larger than targets and in such cases acquisitions are more successful in terms of returns achieved. Different to the argument above they state that synergies may decrease if the bidder is too large relative to the target. Danbolt and Maciver (2012) however agree that target returns are greater if the target is

relatively smaller due to the possibility of overpaying. Campa and Hernando (2004) concur with the Danbolt and Maciver (2012) in their study of European M&As.

The alternative argument however is that larger targets are more difficult to integrate into with the acquiring firm. Conn *et al* (2005) concur that the larger the target the more negative the returns thus confirming the idea of difficult integration. Goergen and Renneboog (2004) and Danbolt and Maciver (2012) however find that relative size is not statistically significant in explaining acquirer returns. We therefore conclude there is mixed evidence in prior literature on the impact of size however it is an important control variable for testing.

2.7.3 Hostile V Friendly Bids

The number of hostile bids has decreased significantly since the end of the fourth wave which was characterised by hostile bids (Craninckx and Huyghebaert, 2010). Hostility is seen as an important control variable as it can further inflate the premium paid to target shareholders. Sudarsanam *et al.* (1996) finds that both target and acquiring shareholders gain from hostile bids. Similarly Conn *et al.* (2005) that hostile bids have a significantly positive effect on acquirer returns in domestic deals but no impact in cross-border deals. Different to the afore mentioned Gregory and Matatko (2005) find that friendly acquirers exhibit significantly worse performance than there hostile counterparts.

2.8 Conclusion

This chapter analysed all the relevant literature pertaining to domestic and cross-border M&A activity with a particular focus on UK and European studies. The chapter began by examining the generally agreed motives for M&As followed by an analysis of the different merger waves. The motives for cross-border deals as an increasingly important area of study was next followed by a review of the empirical evidence pertaining to short term wealth effects of acquiring shareholders. Both domestic and cross-border deals are reviewed herein this section. Moeller and Schlingemann, (2005) called for further research on firm specific variables as key determinants of acquiring shareholder returns. These firm specific variables along with control variables were the basis of the final section of this literature review as they are tabulated in chapter three.

DATA & METHODOLOGY

Chapter Three:

DATA AND METHODOLOGY

3.1 Chapter Overview

This chapter will outline the research objectives followed by details of research design and the data and method utilised. Finally the chapter concludes with an overview of the limitations of the method used.

3.2 Research Objectives

The aim of this research is to calculate the returns to UK acquiring firm shareholders following the announcement of domestic deals and also returns to international acquiring firm shareholders following the announcement of deals in the UK. Furthermore we seek to evaluate the key determinants of the short-term wealth effects. The objectives are stated more specifically below.

Table 3.2: Research Questions

<i>Number</i>	<i>Research Questions</i>
<i>R.Q. 1</i>	What are the announcement effects for UK firms acquiring in the UK?
<i>R.Q. 2</i>	What are the announcement effects for International firms acquiring in the UK?
<i>R.Q. 3</i>	Are there differences in acquiring shareholder returns from domestic and cross-border deals?
<i>R.Q. 4</i>	Are there significant differences across the deal and firm specific characteristics of domestic and cross-border takeovers?
<i>R.Q. 5</i>	What explanatory power have the firm specific characteristics impacting the returns to acquiring shareholders in domestic and cross-border acquisitions in the UK?

3.3 Research Design

The sample used incorporates deals in which acquirers are both UK and international whereas all targets are UK. International acquirers include firms from the US, Canada and EU and these three cumulatively account for 93% of value of all deals announced over the period studied in this paper. This sample is deemed adequate to facilitate the comprehensive analysis of domestic and cross-border M&A activity in the UK.

The timeframe covered is 1st January 2006 to 31st December 2011 and as such captures all recent activity in the UK market. The six years includes the peak and subsequent decline of the sixth merger wave due to the occurrence of the financial crisis in 2008. Acquiring shareholder returns were analysed as most studies to date in the UK focus on target shareholder returns. The inclusion of firm specific variables follows a call by Moeller and Schlingemann (2005) for greater research in the area of the firm specific factors impacting returns and as such is the significant contribution of this paper to research in this area.

The list of deals was found through the *Thomson One* database and the following criterion was applied. All deals must be completed as of December 2011, the targets must be publically listed companies on the London Stock Exchange and the acquirers must also be publically listed similar to other studies (Moeller and Schlingemann, 2005 and Danbolt and Maciver, 2012). The deals included involved the acquirer purchasing 50% or more of the target firm and thus becoming the majority shareholder in the firm. This initial search returned 374 bid announcements after application of the above criteria.

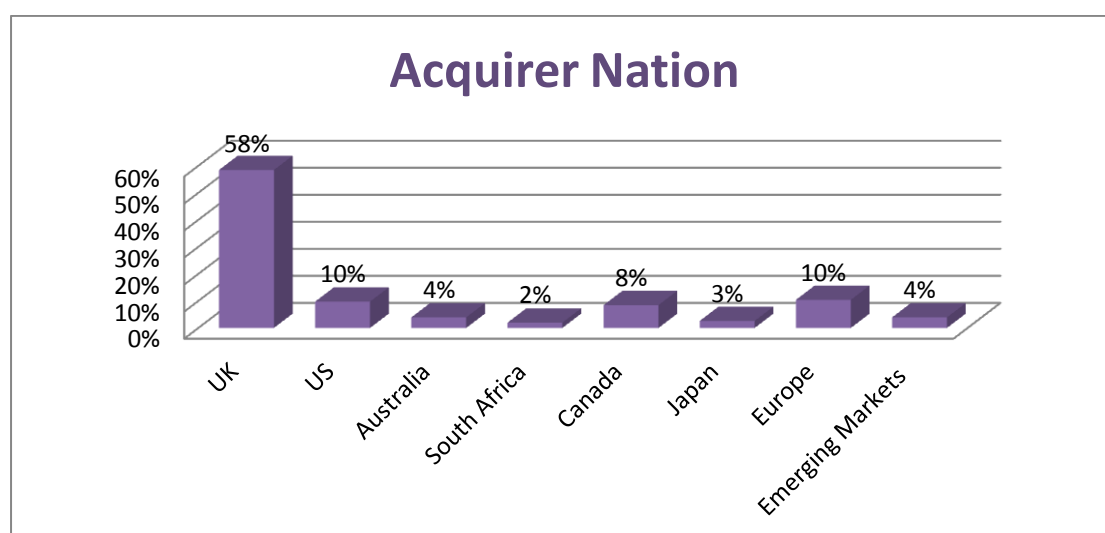
Further deals were then excluded and the final sample consists of 126 deals in total which are comprised of 82 domestic deals and 44 cross-border deals. Of these cross-border deals 15 were from the US, 13 from Canada and 16 from European Union (EU) countries. The sample was reduced to this number due to restrictions surrounding the availability of data. The largest UK domestic deal is the Lloyds TSB Group takeover of HBOS Plc. in 2008 for £14.6 billion. The largest cross-border deal is the controversial takeover of Cadbury Plc. by the US listed company Kraft Foods Inc. in 2009 for £11.4 billion.

All deals in the sample are valued at \$1 million or more in order to generate a significant announcement effect. The main source of information on the individual deals comes from the *Thomson One Banker* database from which data was exported to Excel for further analysis. The basic information collected on each deal includes the nationality of the acquirer, the announcement date, the value of the deal, percentage of shares acquired, whether a previous toehold was held by acquirer, the primary Standard Industry Classification (SIC) of both the bidder and the target as these form the basis of the analysis and the criteria for collection of extra firm specific data.

Excel and SPSS were utilised to analyse the returns to acquiring shareholders and to determine if these results were statistically significant for the whole sample and the sample sub-sets. In order to calculate the abnormal returns the share price data was collected for the acquirer one month prior to and post announcement date. The relevant market index data was also downloaded for the same period around the announcement (see Appendix C).

Below is a breakdown of the acquisitions by the acquirer's country

Figure 3.3.1: Distribution by Acquirer Nation into the UK Market 2006-2011

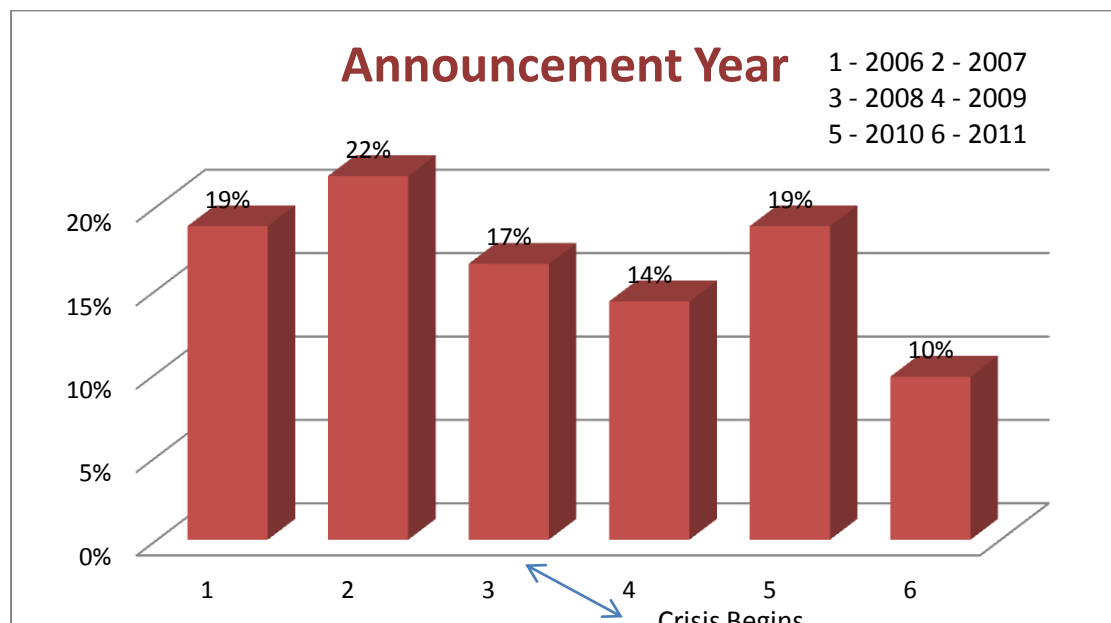


The above chart indicates that UK accounts for the greater number of acquisitions suggesting a vibrant domestic market for corporate control. This 58% is comparable to Danbolt and Maciver (2012) whom state that 55% of their bidder sample is account for by UK firms.

Furthermore it demonstrates that foreign acquirers firms come from geographically dispersed areas. According to Goergen and Renneboog (2004) the majority of M&A research focuses on the US market as they traditionally are the biggest market for corporate control. Martynova and Renneboog (2011) note that European firms during the fifth merger wave and beyond have become as eager as their US counterparts to participate in takeovers. This is endorsed by the results above that demonstrate both US and EU acquirers account for 10% of the total sample respectively. A surprising finding is that Canadian acquirers account for 8% of the total sample as this relationship is not a focus of any prior studies in the UK. This may be due to Commonwealth links between the nations.

Figure 3.3.2 below outlines the percentage of deals announced (by year) over the sample period 2006-2011. The sixth merger wave came to an end in late 2007 and early 2008 due to the financial crisis as evidenced by Martynova and Renneboog (2008) and Alexandridis *et al.* (2011) and this is demonstrated below by the significant decrease in the number of deals from 2007 to 2008 and a further fall in 2009.

Figure 3.3.2: Distribution of UK M&A by Announcement Year



As previously indicated Alexandridis *et al.* (2011) note that the most recent wave began in 2003 but was brought to an end in 2007-2008 as investors became sceptical about the state of the market and as macro-conditions disimproved so did the acquisition activity. There is somewhat of a reduction in the number of deals in 2008 and 2009 in line with their theory. In 2010 the number of deals increased possibly due to signs of improvement in the global economy. Whilst 2011 saw the lowest amount of acquisitions over the full period and this may be due to the Eurozone crisis and the impact it had on other European countries including the UK.

3.4 Event Studies

Event studies have become hugely popular in capital market research over the past number of decades and have made a large contribution in the area. These methods are used to determine the average stock price change over a certain period generally in reaction to some form of announcement for example an M&A deal. Event studies remove the impact of noise in the marketplace for the researcher and generally it is accepted that results are similar from studies regardless of the specific method used to calculate the abnormal returns. Danbolt (2004) utilises four different methods in calculating cumulative abnormal returns but state they only report two sets of results as the different models produce similar results.

Event study analysis relies on the concept of the semi-strong form of efficiency in financial markets. The Efficient Market Hypothesis (EMH) was first introduced by Bachelier (1990) however it was popularised by Fama (1965) who first introduced the idea of the random walk and the phrase “efficient market.” The semi-strong form assumes that all publicly available information is evaluated and incorporated by the market immediately and reflected in the share price. If markets are rational, reaction to an event announcement (M&A announcement) should be a reliable judgement by the market of the deal and the prospects of the two firms involved.

Event windows utilised in studies vary significantly in the area of M&A research. There is no consensus on the best approach to take when deciding on the optimal event window for measuring the impact of announcements on shareholder wealth (Gregory & Michou, 2009). Goergen and Renneboog (2004) state there are vast differences in the event windows studied. There is conflicting theories on the use of

shorter and longer time periods. Using the three day window, (-1, +1) days, is thought to be too short as rumours prior to the announcement may already be factored into the share price. Alternatively using a longer event window increases the likelihood of other events compounding the share price for example earnings announcements. Hence it was decided to use two event windows, a 5-day and 11-day in this study consistent with a number of key studies on this area and on which this paper is based.

Campa and Hernando (2004) in their European M&A study use seven different event windows that incorporate pre-announcement, short-term and post-announcement returns ranging from: (-90, -1), (-60, -1), (-30, -1), (-1, +1), (-30, +1), (-1, +30) and (-30, +30). Conn *et al.* (2005) select the three day event widow only (-1, +1) around the announcement date in their UK based research. Danbolt and Maciver (2012) utilise the three day window also, (-1, +1) days but they state this may not capture the full impact of acquisitions if there is speculation of a bid or information is leaked prior to the official announcement. Hence they also use an 11-day window (-5, +5) in their study.

Earlier Petmezas (2009) in their study of market valuation and bidder performance in understanding what drives acquisitions in the UK utilise a 5 day event window (-2, +2) and the market-adjusted model to analyse CARs to acquiring shareholders. Consistent with this study the 5-day window is chosen and a second 11-day window is selected similar to Danbolt and Maciver (2012), a paper closely followed by this research.

3.5 Methodology Employed

Two forms of analysis are undertaken on the data, firstly the calculation of the cumulative abnormal returns followed by a regression analysis of the determinants of acquiring shareholder returns.

3.5.1 Cumulative Abnormal Returns

There are a variety of methods that can be employed to measure abnormal returns. There is an absence of convincing evidence on the optimal model to use particularly in the UK. Following De Bondt and Thaler (1985), Danbolt and Maciver (2012) and Moeller and Schlingemann (2005) the market adjusted model (also known as the

index model) is used in this study. Alternative models include CAPM and the market model which are undertaken by Danbolt (2004).

The market adjusted model as opposed to the market model assumes that market risk (α) is zero and company risk (β) is one. This is seen to be a detraction from the model as each firm is assumed to have the same risk and return as the overall market ($\beta = 1$). Intuition would suggest that this assumption is untrue.

Using this method entails subtracting the daily returns of the related market index from the daily stock returns of the acquiring firm. Use of a broad market index is important due to the assumption of an α of zero, in this case the FTSE 350 was used for UK acquirers, S&P 500 for US, Eurostoxx 500 for EU and TTO Composite index for Canadian acquirers. The justification for of the indices chosen is included in Appendix C. The market adjusted model uses daily price data which allows for the calculation of cumulative abnormal returns. Further to this the model allows for findings to be compared with findings for other events. The index model used in this study is as follows:

$$AR = R_{it} - R_{mt}$$

$$\text{Where } R_{it} = (P_t - P_{t-1}) / P_{t-1}$$

And

$$R_{mt} = (I_t - I_{t-1}) / I_{t-1}$$

The following is an explanation of the variables listed above:

R_{it} is the rate of return on a particular stock I on day t

R_{mt} is the rate of return on the appropriate market index on day t

P_t is the price of a particular stock on day t

I_t is the value of the relevant market index on a particular day t

Following this the cumulative abnormal returns are calculated for the 5-day and 11-day event windows as per the below:

$$CAR_{iT} =$$

3.5.2 Determinants of the Returns to Acquiring Shareholders

To analyse the determinants of the returns achieved by acquiring shareholders the regression model below is utilised for the domestic and foreign samples respectively.

Domestic Acquirer Shareholder Returns:

$$\text{CAR} = \alpha + \beta_1 \text{ Payment method} + \beta_2 \text{ Cash Resources} + \beta_3 \text{ Gearing} + \beta_4 \text{ Hostile} + \beta_5 \text{ Prior Toehold} + \beta_6 \text{ Relatedness} + \beta_7 \text{ M-to-B} + \beta_8 \text{ Relative Size} + \varepsilon$$

Cross-Border Acquirer Shareholder Returns:

$$\text{CAR} = \alpha + \beta_1 \text{ Payment method} + \beta_2 \text{ Cash Resources} + \beta_3 \text{ Gearing} + \beta_4 \text{ Hostile} + \beta_5 \text{ Prior Toehold} + \beta_6 \text{ Relatedness} + \beta_7 \text{ M-to-B} + \beta_8 \text{ Relative Size} + \beta_9 \text{ Exchange Rate}^1 + \beta_{10} \text{ US Dum} + \varepsilon$$

Table 3.5.2: Summary of Hypothesis

Variable	Hypothesised Direction	Prior Empirical Evidence
Domestic/Cross-Border	Positive	Conn <i>et al</i> , 2005 Danbolt & Maciver, 2012
Relative Size	Negative	Conn <i>et al</i> , 2005 Homberg <i>et al</i> , 2009
Relatedness	Positive	Homberg <i>et al</i> , 2009 Alexandridis <i>et al</i> , 2011
Prior Toehold	Positive	Betton & Eckbo, 2000 Danbolt & Maciver, 2012
M-to-B	Positive	Erel <i>et al</i> , 2012
Hostile	Positive	Sudarsanam <i>et al</i> , 1996 Gregory & Matatko, 2005
Payment Method	Negative	Facio & Maulis, 2005
Gearing	Negative	Kling & Weitzel, 2011
Cash Resources	Negative	Jensen, 1986
Exchange Rate	Negative	Harris & Ravenscraft, 1991

¹ The exchange rate is calculated using the methodology of Harris & Ravenscraft, 1991. Based on home currency of acquirer (per GBP), subtract the exchange rate in the year of the takeover from average exchange rate for the sample period (2006-2011) and divide by the average exchange rate. If merger was after June, use the exchange rate of that year and if before June the exchange rate of the previous year is used.

In order to ensure the reliability of results correlation analysis of the variables is undertaken along with an analysis of the variance inflation factor statistics to ensure no multicollinearity issues arise.

Table 3.5.1: Variable Definitions

Variable	Definition
Relative Size	The value of the deal divided by the market value of the acquirer
Relatedness	Dummy equal to one if the acquirer and target share the same 2-digit SIC code
Prior Toehold	The percentage of any toehold shareholding that the acquirer has in the target
M-to-B	Market-to-Book of the acquirer
Hostile	Dummy equal to one if the acquisition is defined as hostile by Thomson One Banker
Payment Method	Dummy equal to one if the acquirer finances the bid using equity or part equity
Gearing	Debt to market value ratio of the acquirer as at year end prior to deal announcement
Cash Resources	Cash and marketable assets of the acquirer divided by acquirer net assets at year end prior to deal announcement
Exchange Rate	Calculated as per footnote. Dummy variable introduced to indicate if currency was stronger/weaker at the time of the deal relative to the mean
Domestic/Cross-Border	Dummy equal to one if acquirer is foreign
US Dum	Dummy equal to one if acquirer is US or Canadian. Tested difference due to geographic location of foreign acquirer

3.6 Limitations

There are a number of limitations involved in the methodology chosen for this study. A quantitative based approach is utilised in this study as it is deemed optimal by previous research in the area of M&As. However the use of quantitative data through the event study approach means the paper is limited to analysing share price data and short-term wealth effects only. Event studies further rely on semi-strong market efficiency described by EMH, and assumes there is no prior leakage of information prior to announcement date which is debatable but unlikely in UK.

The market adjusted model utilised to analyse the abnormal returns of acquiring shareholders assume that α is zero and β is exactly one. This is debatable as firms in the market vary in terms of risk and return profile.

The sample analysed is comprised of 126 deals which is relatively small. Further to this the sample is a mix of domestic and cross-border deals whereby domestic deals account for twice as many as foreign deals. Also the returns of acquiring shareholders are analysed and the determinants of short-term wealth effects however there is no attention paid to the returns generated by the target shareholders. Finally the analysis focuses on public firms only due to constraints around the availability of data on private entities.

Due to the availability of data the relative size variable is calculated using the deal value and not the target market value. As such there may be a premium factored into the price and represent 110-120% of the market value. Another limitation is the number of variables controlled for when analysing the acquirer's returns. There are a multitude of added firm specific, macro-variables and control variables that could have been included also.

3.7 Conclusions

This chapter outlined the research methodology chosen. The research questions to be studied in the paper were presented followed by a brief summary of the data collection method and sample collected. This study is quantitative based and will utilise an event study approach as completed in prior studies. Finally the chapter is completed by referring to a number of limitations of the data and method used.

FINDINGS

Chapter Four:

FINDINGS

4.1 Introduction

This chapter presents the research findings from the data analysis outlined in chapter three. The chapter is laid out as follows: sample descriptives, sample analysis followed by research objective findings.

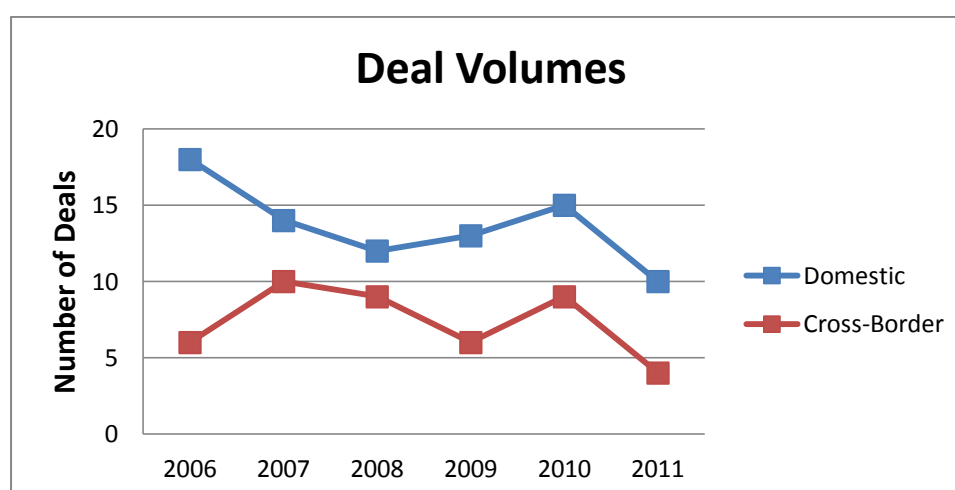
4.2 Descriptives

Below are detailed a number of deal descriptives generated through the data analysis.

4.2.1 Annual Deal Volumes

Figure 4.2.1 overleaf demonstrates the volume of cross-border and domestic deals announced per year. Unsurprisingly the number of domestic deals is greater than cross-border deals announced in any one year. In 2006 approximately 75% of deals were domestic compared to 25% being cross-border in type. However in 2007 and 2008 the split between the two deal types was more evenly balanced before domestic deals began to dominate the sample once again. The peak in cross-border deals occurred in 2007 which was prior to the start of the financial crisis and then subsequently declined. Domestic deals were at their highest in 2006 and began to decline but in 2010 there was a short-lived upturn in the volume of deals announced in the UK.

Figure 4.2.1: Volume of Domestic and Cross-Border M&As announced per annum



It is suggested previously that the merger wave commencing in 2003 came to an end in 2008 when the financial crisis began (Alexandridis *et al.*, 2011) and as such cross-border deals would be immediately effected as investor scepticism of markets increased. Interestingly it would seem from figure 4.2.1 that domestic deal volumes were already in decline from their peak in 2006 and subsequently began to increase after 2008 albeit by small amounts.

Table 4.2.1: Number of Domestic and Cross-Borders Deals announced each year

Announcement Year	Domestic		Cross-Border		Total
	N	%	N	%	N
2006	18	75.00%	6	25.00%	24
2007	14	58.33%	10	41.67%	24
2008	12	57.14%	9	42.86%	21
2009	13	68.42%	6	31.58%	19
2010	15	62.50%	9	37.50%	24
2011	10	71.43%	4	28.57%	14

From the above table it is evident that cross-border deals into the UK for the sample time period peaked in 2007 and 2008 and subsequently declined with the onset of the financial crisis was felt across the globe.

4.2.2 Domestic Sample Descriptives

The following is an analysis of the domestic sample in terms of the key descriptive features. The domestic sample includes 82 deals over the period 2006-2011 which account for 65% of the total sample. Up to 16% of domestic acquiring firms come from the financial services sector followed by 13% from healthcare, 12% from industrials and 9% from consumer products. Up to 55% of bids were into related industry sectors which suggests operational synergy may be a key motive in many of these deals. Hostile bids only accounted for a small portion of the domestic sample at 1.2% according to *Thomson One*.

Only 10% of domestic acquirers built up a toehold prior to announcing a takeover bid. Up to 49% of deals were paid for in cash and 51% by equity or a mixture of cash and equity. A greater portion of cash deal would be expected due to the availability of cheap credit during the merger wave. Approximately 60% of both domestic and cross-border deals occur in the post crisis period (2008-2011) however the criteria for this descriptive is such that 60% accounts for four years and 40% accounts for only two years. Finally there are eight domestic acquirers that undertake two takeover bids during the sample period and as such they may be referred to as serial acquirers however they are all undertaken in different years.

4.2.3 Cross-Border Sample Descriptives

The following is an analysis of the cross-border sample in terms of the key descriptive features. The cross-border sample includes 44 deals over the period 2006-2011 which account for 35% of the total sample. Of these 30% are by Canadian acquirers, 37% by EU firms and 34% from US acquiring firms. Up to 23% of cross-border acquirers into the UK had a prior toehold in the target company compared with 10% in domestic deals. This may suggest that foreign acquirers are less sure of whether a deal will be successful due to other bidders entering the race and therefore build up a toehold to gain some profit regardless of the outcome. Up to 61.4% of cross-border deals are undertaken in related sectors perhaps demonstrating the motive of operational synergies by sharing resources. Also geographic diversification may be sufficient rather than industrial diversification in cross-border deals.

Interestingly acquirers from the high technology sector account for 25% of the full cross-border sample followed by materials at 20% and financial sector and industrials at 16%. There are two acquiring firms that occur in the sample more than once however the deals are more than a year apart and therefore no issues arise. Hostile bids are again low in number at 6.8% of all deals. Cash is the most common method of payment as used in 55% of deals and this is as expected as target shareholders tend to be wary of foreign equity. Finally 61% of deals take place after the end of the merger wave which is comparable to the domestic sample.

4.2.4 Mean Deal Values

Table 4.2.4 (overleaf) demonstrates the distribution of deals per year in terms of their deal values, mean, minimum and maximum values. It is clear from the table that deal values were at their peak at the beginning of the sample period (2006) but began a significant decrease as the merger wave came to an end in 2008. From 2006-2010 the table shows us there are large differences between the maximum deal values and the lowest value deals across the period as a whole.

Cross-border mean deal values are significantly larger than domestic deal mean values as would be expected particularly at the beginning of the sample period – evident from figure 4.2.2 overleaf. In 2008 at the end of the merger wave domestic values were higher however this is mainly due to the largest deal in the sample the takeover of HBOS by Lloyds TSB. Interestingly the largest deals in each of the other years in the sample were all cross-border deals including the high profile takeover of Cadbury by Kraft Foods and also the takeover of Scottish Power by Iberdrola. The smallest deals by value tend to be domestic deals.

Table 4.2.4: Deal Values for the Sample Period

Year	N	Total Deal Value	Minimum Deal Value	Maximum Deal Value	Domestic Mean Value	Cross-Border Mean Value
		£M	£M	£M	£M	£M
2006	24	24,259.31	2.93	11,464.0	212.90	3,404.55
2007	24	24,439.15	6.39	8,870.0	472.60	1,628.34
2008	21	18,969.58	10.52	14,611.0	1,382.03	295.70
2009	19	16,168.52	3.5	11,469.0	103.02	2,471.55
2010	24	6,330.69	3.53	2,497	322.07	165.58
2011	14	2,027.69	1.77	374.37	109.12	282.50

Figure 4.2.4: Domestic & Cross-Border Mean Values

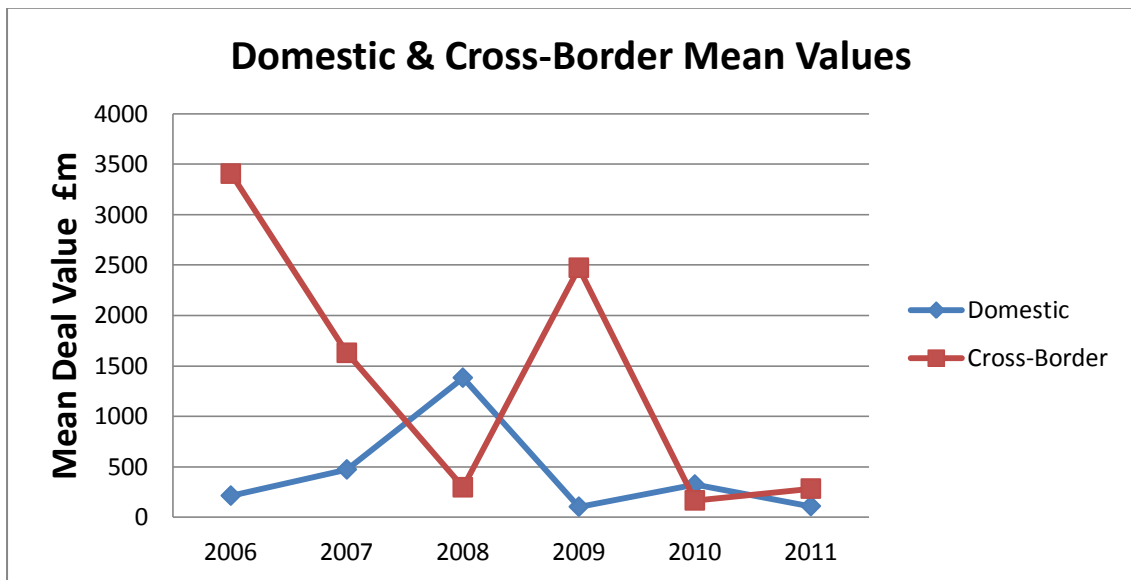
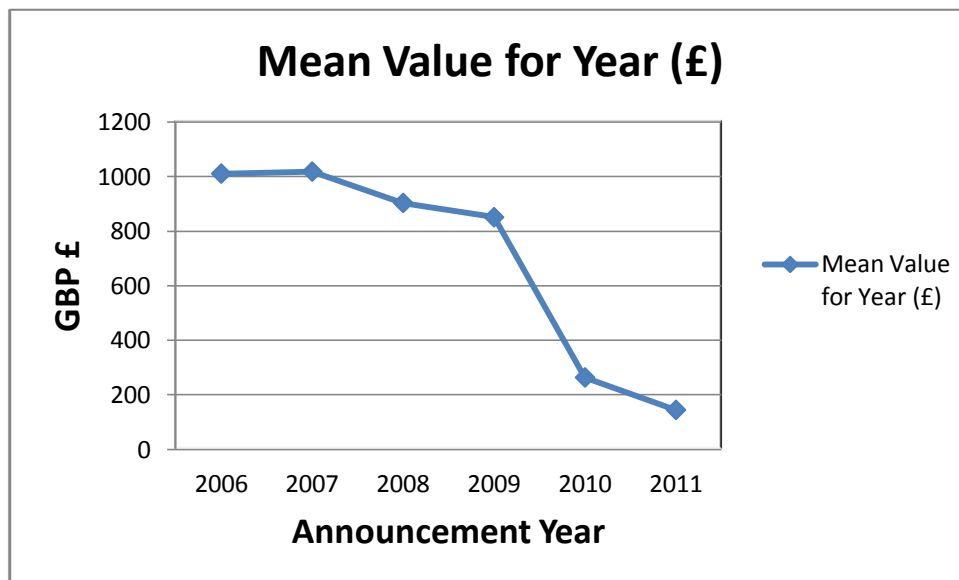


Figure 4.2.5 demonstrates that the deal values were at their peak in 2006 and 2007 (the pre-crisis era) before the end of the sixth merger wave. Since then the mean value of deals has been decreasing significantly year on year. From Table 4.2.4 the large differences in deal size are apparent and as such the mean is driven by a small number of large deals which are included in the sample. The mean value for the entire sample is £731.7m and from 2006-2009 the yearly mean values are above this while in 2010 and 2011 deal values see a significant fall off.

When compared with Figure 4.2.1 - depicting the volume of deals – the volume of deals remains relatively stable over the sample period and recovers somewhat from its

fall off from 2009 to 2010. However in the graph below it is noticeable that the biggest fall in average deal values was from 2009 to 2010. This is interesting as it suggests that market for M&A activity was beginning to improve but firms were focussing on smaller targets as opposed to larger deals. This also suggests that smaller firms are more likely to be in financial distress or under-valued hence subject to takeover bids.

Figure 4.2.5 Diagram of Mean Deal Values



4.3 Announcement Effect

In this section the announcement effects are analysed for the domestic, cross-border and full samples over the 5-day and 11-day event windows studied.

4.3.1 Research Question 1 & 2

RQ.1: What are the announcement effects for UK firms acquiring in the UK?

RQ.2: What are the announcement effects for International firms acquiring in the UK?

The research questions above are analysed together to allow for greater comparability and clarity of results. Outlined in table 4.3.1 is the announcement effect for all UK and cross-border acquiring firm shareholders. The cumulative abnormal returns for the full sample are included also.

Table: 4.3.1 Cumulative Abnormal Returns (CARs) for Market –Adjusted Model for Full Sample and Domestic & Cross-Border Sub-Samples

Event Window	N	CAR %	Maximum %	Minimum %	P- Value	% +	% -
Overall							
CAR (-2, +2)	126	-.0106	0.25	-0.57	0.174	51.6	48.4
CAR (-5, +5)	126	0.004	0.45	-0.55	0.713	51.6	48.4
Domestic							
CAR (-2, +2)	82	-0.013	0.25	-0.34	0.702	50	50
CAR (-5, +5)	82	0.008	0.45	-0.25	0.524	48.8	51.2
Cross-Border							
CAR (-2, +2)	44	-0.007	0.21	-0.57	0.733	54.5	45.5
CAR (-5, +5)	44	-0.005	0.40	-0.55	0.558	56.8	43.2

Overall Sample CARs

The results in table 4.3.1 are statistically insignificant regardless of the sample and event window studied which suggest that the announcement effects are negligible. Yet a number of interesting observations can be gleaned from the data within. Acquiring shareholders achieve negative returns over a five day window for the full sample of 1.06% albeit statistically insignificant. However over the slightly longer 11-day window small positive returns are found. Further to this the percentage of returns that are positive and negative are approximately 50% respectively over each of the event windows indicating a breakeven position for acquiring shareholders.

Domestic Sub-Sample CARs

The results suggest that the wealth effects to acquiring shareholders in domestic deals are over five days an average loss of 1.3% albeit insignificant. Yet over the 11-day window shareholders make small positive returns but again are insignificant. The findings are similar to the overall sample which is unsurprising as domestic deals dominate the sample.

Cross-Border Sub-Sample CARs

The returns achieved from cross-border deals over the 5-day window are negative albeit very small and statistically insignificant. Results are similar for the 11-day window of the cross-border sample suggesting that value is not created for acquiring shareholders in cross-border deals.

4.4 Research Question 3

RQ.3: Are there differences in acquiring shareholders returns from domestic deals and cross-border deals?

The results of the independent sample t-test are demonstrated in table 4.4 below suggest there are no significant differences between returns achieved in domestic and cross-border acquisitions over either of the event windows studied.

Table 4.4: Differences in Returns from Domestic and Cross-Border Deals

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Domestic</i>	82	-0.013	0.07369	.747	-.323
	<i>Cross-Border</i>	44	-0.007	0.10961		
CAR (-5, +5)	<i>Domestic</i>	82	0.008	0.09973	.244	.693
	<i>Cross-Border</i>	44	-0.005	0.13063		

4.4.1 Differences in Returns from Hostile and Friendly Bids

Table 4.4.1: Differences in Returns from Hostile and Friendly Bids

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Friendly</i>	122	-0.0103	0.08838	.835	.209
	<i>Hostile</i>	4	-0.0196	0.03489		
CAR (-5, +5)	<i>Friendly</i>	122	0.0038	0.11267	.962	.048
	<i>Hostile</i>	4	0.0010	0.07358		

The results of the independent t-tests shown in table 4.4.1 demonstrate that acquiring shareholders in hostile bids are deemed worse off than in friendly bids. However the results are statistically insignificant with returns over the 5-day window of -1.03% for friendly takeovers and -1.96% for hostile bids a significantly inferior outcome.

4.4.2 Differences in Returns due to Form of Payment

Table 4.4.2: Differences in Returns due to Form of Payment

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Cash</i>	64	.0063	.04724	.026	2.254
	<i>Equity(Mix)</i>	62	-.0281	.11243		
CAR (-5, +5)	<i>Cash</i>	64	.0086	.06040	.612	.508
	<i>Equity(Mix)</i>	62	-.0015	.14707		

M&A deals can be paid for in cash, equity or mix of cash and equity. Half of all deals are paid for in cash and the other 50% is equity or a mixture of the two. The results of the independent t-test suggests a statistically significant difference in returns from cash as oppose to equity (mix) payment form in the five day window only. Cash deals generate marginally positive returns of 0.63% for shareholders whereas equity deals saw shareholders lose out by a significant -2.81%.

4.4.3 Differences in Returns due to Relatedness

Table 4.4.3: Differences in Returns due to Relatedness

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Related</i>	54	-.0186	.09470	.374	-.893
	<i>Unrelated</i>	72	-.0046	.08116		
CAR (-5, +5)	<i>Related</i>	54	-.0070	.10872	.353	-.932
	<i>Unrelated</i>	72	-.0117	.11353		

The results of the independent sample test are insignificant nevertheless the 5-day window suggests that returns achieved from acquiring firms in related industries (based on SIC code) are more negative at -1.86% on average compared to -0.46% for unrelated deals. This indicates that expected synergies are not viewed by the market as reasonable. Yet in the 11-day window the opposite result is found as unrelated acquisitions yield large negative returns of -1.17% compared to -0.70% for related. The difference may be accounted for by early information leakage in which case 11-day is more representative and we conclude that operational synergies are viewed as important and achievable.

4.4.4 Differences in Returns due to Prior Toehold

Table 4.4.4: Differences in Returns due to Prior Toehold

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Toehold</i>	108	-.0041	.07505	.04	2.076
	<i>No Toehold</i>	18	-.0496	.13602		
CAR (-5, +5)	<i>Toehold</i>	108	.0080	.10498	.287	1.068
	<i>No Toehold</i>	18	-.0223	.14532		

Table 4.4.4 demonstrates that results for the 5-day window are statistically significant and as such acquiring firm shareholders that had a prior toehold achieved higher returns than those without a toehold, -0.41% compared to -4.96% for those who did not own shares. Building up a prior toehold before launching a bid sends a positive signal to the market and reassures shareholders. This is due to the fact that if they lose out to a rival bid the company will benefit from selling their toehold at a premium to the rival. There is also less of an announcement effect with a prior toehold as a deal may be expected due to having to announce stakes above a small percentage.

4.4.5 Differences in Returns Pre and Post-Crisis

Table 4.4.5: Differences in Returns Pre and Post-Crisis

		N	Mean %	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Pre-Crisis</i>	49	.0022	.05468	.189	1.321
	<i>Post-Crisis</i>	77	-.0188	.10211		
CAR (-5, +5)	<i>Pre-Crisis</i>	49	.0073	.07321	.770	.293
	<i>Post-Crisis</i>	77	.0013	.13049		

The pre-crisis period is defined as any deals occurring before 2008 and post-crisis incorporates deals from 2008-2011. The start of the crisis saw the end of the sixth merger wave and as such deals in the pre-crisis era are part of the wave where as those post are not. Acquiring shareholders are deemed to achieve better returns from deals within the wave for both the 5-day and 11-day event windows. The 5-day window demonstrates the biggest difference in returns albeit statistically insignificant with returns of 0.22% pre-crisis and -1.88% post-crisis.

4.5 Univariate Analysis of Deal and Firm Specific Characteristics

RQ.4: Are there significant differences across the deal and firm specific characteristics of domestic and cross-border takeovers?

This section lays out the findings for research questions four utilising univariate analysis of the main deal and firm characteristics tested.

Table 4.5.1 (below) exhibits the findings of testing the differences in gearing ratios, cash resources, relative size and market-to-book ratios of acquirers in domestic and cross-border deals.

Table 4.5.1: Differences in Gearing, Cash Resources, Relative Size & M-to-B in Domestic & Cross-Border Deals

		N	Mean%	Std Dev	P-Value	T-Statistic
Relative Size	<i>Domestic</i>	78	0.49	.632000	.005	2.836
	<i>Cross-Border</i>	44	0.20	.270800		
Gearing	<i>Domestic</i>	78	79.35	176.78	.881	-.150
	<i>Cross-Border</i>	44	83.90	129.24		
Cash Res	<i>Domestic</i>	78	0.35	.286169	.582	-.552
	<i>Cross-Border</i>	44	0.39	.436529		
M-to-B	<i>Domestic</i>	78	2.63	2.32379	.463	.737
	<i>Cross-Border</i>	44	2.35	1.43583		

Unsurprisingly, foreign acquirers appear more indebted², have more cash, are larger and have a higher market value in contrast to their UK counterparts.

Relative size is found to be the only statistically significant characteristic when analysed at the univariate level that is independently tested from the other variables. Each of the other variables provides useful information albeit insignificant. Targets in the domestic sample are relatively bigger compared with the size of the acquirer at 48.8% of the acquirers' size.

² When testing the gearing level of firms there was deemed to be four acquirers with large negative gearing ratios that were causing the data to be skewed. These were excluded to increase quality of results. Firms included: Premier Foods Plc., Euromoney Institutional Investor Plc., Ultrasis Plc. and Smiths News Plc.

In the cross-border sample the target is about 27% of the size of the acquiring firm. These are the expected findings as generally cross-border deals involve a large international acquirer taking over a relatively smaller target firm in a foreign country. Also in the domestic sample the acquiring firms tend to be smaller and as such the target accounts for a bigger portion of the relative size.

The gearing ratio (total debt to equity) of cross-border acquirers is close to 84% which is higher than the ratio for domestic acquirers at 79%. Although this is not significant it suggests that foreign acquirers are more highly indebted. The findings in relation to cash resources concur with the afore suggested that targets prefer to receive cash from foreign acquirers and as such cross-border acquirers have greater cash resources at their disposal prior to the deal at 39% of total shareholders' equity compared to 35% for domestic. Finally domestic acquirers have a higher market-to-book suggesting they are more highly valued on average than cross-border acquirers. They may be using their higher valuation – if paying in equity – to lower the cost of the deal and the premium paid towards that payable if cash resources were used.

Figure 4.5.1: Relative Exchange Rates for the Sample Period

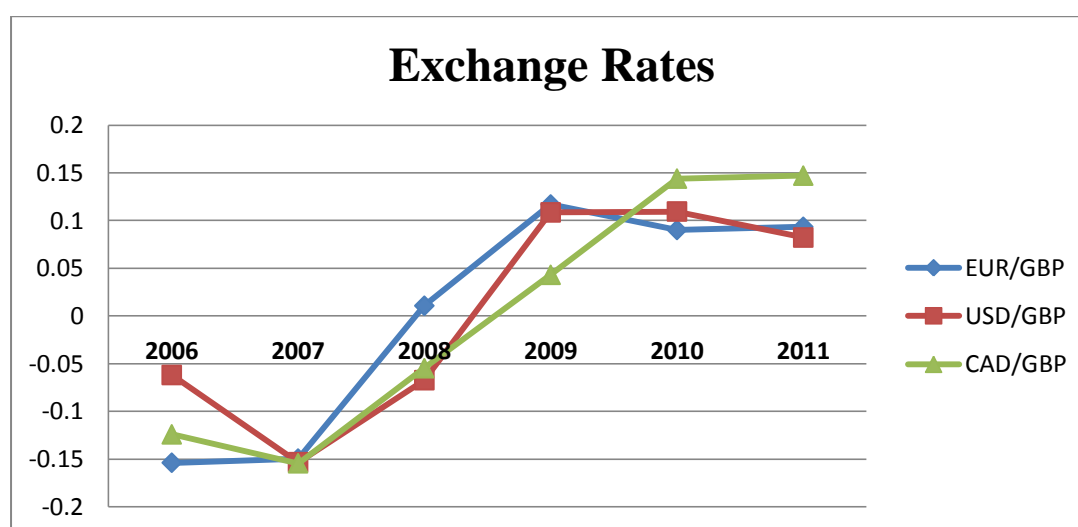


Figure 4.5.1 demonstrates the movement of the euro, US dollar and Canadian dollar against the British pound sterling over the period 2006-2011. Each of the three foreign currencies strengthened against the pound over this time period and as such acquiring UK targets becomes relatively more expensive. Expected findings would be that an appreciation in the foreign currency would have a negative impact on acquiring shareholder returns and on the attractiveness of cross-border deals.

Table 4.5.2: Impact of Exchange Rate on Returns in Cross-Border Deals

		N	Mean	Std Dev	P-Value	T-Statistic
CAR (-2, +2)	<i>Weak ER</i>	29	-.0053	.12631	.921	.099
	<i>Strong ER</i>	15	-.0088	0.06737		
CAR (-5, +5)	<i>Weak ER</i>	29	-.0017	.14959	.821	.277
	<i>Strong ER</i>	15	-.0113	.08894		

The above table indicates there are no significant differences in returns achieved by acquiring shareholders and however a number of interesting findings emerge. Firstly over both event windows shareholders achieve losses when the currency is stronger, -1.13% compared with -0.17% when weak. This is as expected based on prior literature in the area. Secondly twice the amount of deals takes place when the foreign currency is weak relative to the pound and as such the target appears to be better value prospect thus encouraging takeover bids.

4.6 Multivariate Analysis of Deal and Firm Characteristics

RQ.5: What explanatory power have the firm specific characteristics impacting the returns to acquiring shareholders in domestic and cross-border acquisitions in the UK

This section answers the final research question by laying out the results of the regression analysis used to determine the impact of the deal and firm characteristics on the full sample, domestic and cross-border sub-samples.

4.6.1 Multivariate Analysis – Full Sample

Overleaf is table 4.6.1 which displays the results of multiple regressions completed to determine the impact of deal and firm characteristics on the sample as a whole.

There are six models reported in each of the following tables. Each of the analyses began with the inclusion of control variables and subsequently each of the firm specific variables were added and removed depending on their explanatory power. The final regression model for each of the samples includes all the variables however in the case of the cross-border sample the degrees of freedom are reduced to the extent that the overall regression becomes insignificant and therefore model five is deemed to be the most optimal.

Table 4.6.1: Multivariate Analysis of Full Sample

Full Sample	Test (1)	Test (2)	Test (3)	Test (4)	Test (5)	Test (6)
Pay Method		-.321 (.073)***			-.316 (.08)***	-.299 (.10)***
Cash Res			-.321 (.205)		-.325 (.199)	-.333 (.196)
Gearing						.000 (.921)
Hostile					-.349 (.485)	-.374 (.464)
Toehold	-.619 (.015)*	-.650 (.010)*	-.634 (.012)*	-.662 (.010)*	-.617 (.015)*	-.628 (.016)*
Related	.184 (.312)				.185 (.314)	.178 (.343)
M-To-B				.042 (.350)		.035 (.440)
Rel Size	-.525 (.002)*	-.422 (.012)*	-.499 (.003)*	-.453 (.010)*	-.471 (.015)*	-.436 (.018)*
C-B/ Domestic				.043 (.824)		.045 (.816)
N	122	122	122	122	122	122
R2	.112	.128	.116	.111	.151	.156
F	4.94*	5.77*	5.159*	3.637*	3.415*	2.301**
Adj R2	.089	.106	.093	.080	.107	.088

* Significant at the 1% level, ** Significant at the 5% level, *** Significant at the 10% level

Cash resources, gearing, relatedness, deal status – hostile/friendly, market-to-book and deal type are all statistically insignificant across the six models tested. Prior toehold, means of payment and relative size are all statistically significant variables in explaining returns in acquiring shareholders over the 5-day event window. The variable included to test for the existence of a cross-border effect has a positive coefficient albeit insignificant. This indicates that cross-border firms perform relatively better than their domestic counterparts.

Regression models two; five and six all indicate that method of payment has statistically significant explanatory power. The results indicate that the use of cash as a means of payment has a positive impact on acquiring shareholder returns whereas the use of equity or a mixture of cash and equity has a negative impact. The fact that equity payment is negative suggests that deals may not be perceived to create the value suggested by management and there is a fear of overpaying and as such the acquiring shareholders see wealth loss through a drop in their share price.

Firms that have a prior toehold in the target firm make significantly negative returns for their shareholders compared to those without a toehold. Many previous studies suggest that a prior toehold has a positive impact as a portion of shares have been acquired without the premium and if a deal is unsuccessful they benefit from selling those shares at a premium. Further to this it can be a signal to the market of a takeover intention. The reason for the results above may be that there is a more significant announcement effect if there is no toehold and over the 5day window returns may be positive as shareholders react to the news.

Finally relative size is a statistically significant variable at 99% level in line with the findings of many prior studies. The results indicate that the smaller the size of the target relative to the size of the acquirer the greater the returns to acquiring shareholders. This suggests that the takeover of smaller firms achieves greater value than firms that are closer in relative size to the acquirer as they are easier to integrate.

4.6.2 Multivariate Analysis – Domestic Sub-Sample

Table 4.6.2 overleaf demonstrates the results of the multivariate analysis of the deal and firm characteristics for the domestic sub-sample only.

Table 4.6.2: Multivariate Analysis of Domestic Sub- Sample

Domestic	Test (1)	Test (2)	Test (3)	Test (4)	Test (5)	Test (6)
Pay Method	-.125 (.513)	-.156 (.416)		-.147 (.434)		-.139 (.473)
Cash Res			-.441 (.082)***	-.444 (.081)***	-.281 (.296)	-.300 (.270)
Gearing					.000 (.169)	.000 (.160)
Hostile					-.054 (.947)	.095 (.909)
Toehold	-.382 (.210)				-.365 (.231)	-.367 (.241)
Related		-.031 (.868)				-.119 (.530)
M-To-B			.046 (.258)	.043 (.287)	.047 (.249)	.046 (.257)
Rel Size	-.418 (.007)*	-.384 (.016)*	-.408 (.006)*	-.371 (.018)*	-.471 (.002)*	-.413 (.014)*
N	82	82	82	82	82	82
R ²	.130	.112	.145	.152	.180	.189
F	3.876*	3.287**	4.148*	3.452*	2.742*	2.131**
Adj R ²	.096	.078	.112	.108	.114	.100

* Significant at the 1% level, ** Significant at the 5% level, *** Significant at the 10% level

Test (6) from table 4.6.2 demonstrates the result of the regression when all variables are included is statistically significant at the 5% level of significance with an R^2 value of 0.189. However when each of the individual variables are studied relative size is the only statistically significant variable. Relative size is significant at the 1% level regardless of the composition of the regression analysis demonstrating its importance in explaining acquiring shareholders returns. Similar to the findings for the full sample the smaller the relative size of the target to that of the acquirer the higher the returns achieved by acquiring shareholders. As the relative size increases returns become more negative suggesting acquirers are wary of integration issues due to size. This is consistent with expected results based on prior literature.

The only other variable that was statistically significant at the 10% level when tested for significance alongside relative size, market-to-book and also when method of payment was included was cash resources. Results indicate that firms with greater cash resources achieve more negative returns. Jensen's free cash flow hypothesis indicates that firms with higher levels of cash undertake value-destroying acquisitions.

4.6.3 Multivariate Analysis – Cross-Border Sub-Sample

Table 4.6.3 overleaf demonstrates the results of the multivariate analysis of the deal and firm characteristics for the cross-border sub-sample only.

The results of the six regression models in table 4.6.3 overleaf indicate that the only consistently significant variables are relatedness, bidder toehold and means of payment. All other variables are insignificant including the dummy variable for difference between foreign acquirers and the variable measuring the strength of the exchange rate.

Similar to the findings of the overall sample, cash payment is deemed to have a positive impact on acquiring shareholder returns while equity or mixed payment decreases returns. This variable is statistically significant at the 5% level. Again the findings for the cross-border sample are similar to that of the overall sample as holding a prior toehold in the target firm has a negative impact on acquiring shareholder returns. Finally relatedness is statistically positively related to returns at the 5% level. This suggests that operational synergies are a key motive in cross-border deals and have a positive impact on returns achieved.

Table 4.6.3: Multivariate Analysis of Cross-Border Sub- Sample

Cross-Border	Test (1)	Test (2)	Test (3)	Test (4)	Test (5)	Test (6)
Pay Method	-.774 (.052)**	-.691 (.068)***	-.669 (.074)**	-.755 (.041)**	-.752 (.05)**	-.794 (.067)***
Cash Res			-.218 (.602)	-.296 (.469)		-.313 (.476)
Gearing					.0001 (.985)	.000 (.816)
Hostile				-.661 (.361)		-.870 (.281)
Toehold	-.835 (.052)**			-.891 (.042)**	-.854 (.05)**	-1.096 (.027)**
Related	.781 (.035)**	.914 (.025)**	.843 (.029)**	.830 (.030)**	.779 (.044)**	1.001 (.021)**
M-To-B					.47 (.717)	.056 (.680)
Rel Size		-.335 (.639)				-.940 (.243)
Exchange Rate					-.036 (.926)	.019 (.965)
US Dum						-.014 (.976)
N	44	44	44	44	44	44
R ²	.233	.161	.162	.258	.236	.295
F	4.059*	2.559**	2.579**	2.637**	1.909***	1.380
Adj R ²	.176	.098	.099	.160	.113	.081

* Significant at the 1% level, ** Significant at the 5% level, *** Significant at the 10% level

4.7 Conclusion

This chapter has presented the findings from data analysis undertaken as part of this piece of research. It contains a comprehensive summary of the results and those results that are deemed to be the most pertinent to the research objectives outlined in chapter three. Y indicates the statistically significant variables found in the each of the regression analyses in table 4.7.1 below. The hypothesised direction of each of the variables was given in chapter three and these are compared to the actual findings in table 4.7.2 overleaf. Following in chapter five is a discussion of the results presented herein this chapter.

4.7.1: Summary of Significant Variables

	Full Sample	Domestic	Cross-Border
Means of Payment	Y		Y
Prior Toehold	Y		Y
Relative Size	Y	Y	
Cash Resources		Y	
Relatedness			Y

Table 4.7.2: Comparison of Hypothesised Findings for Firm-Specific Variables vis-à-vis Actual Findings

Variable	Hypothesised Direction	Prior Empirical Evidence	Findings
Domestic/Cross-Border	Positive	Conn <i>et al</i> , 2005 Danbolt & Maciver, 2012	Positive
Relative Size	Negative	Conn <i>et al</i> , 2005 Homberg <i>et al</i> , 2009	Negative
Relatedness	Positive	Homberg <i>et al</i> , 2009 Alexandridis <i>et al</i> , 2011	Positive
Prior Toehold	Positive	Betton & Eckbo, 2000 Danbolt & Maciver, 2012	Negative
M-to-B	Positive	Erel <i>et al</i> , 2012	Positive
Hostile	Positive	Sudarsanam <i>et al</i> , 1996 Gregory & Matatko, 2005	Negative
Payment Method	Negative	Facio & Maulis, 2005	Negative
Gearing	Negative	Kling & Weitzel, 2011	Null
Cash Resources	Negative	Jensen, 1986	Negative
Exchange Rate	Negative	Harris & Ravenscraft, 1991 Danbolt & Maciver, 2012	Inconclusive

DISCUSSION

Chapter Five:

DISCUSSION

5.1 Introduction

This chapter lays out a discussion of the findings presented in chapter four in the context of prior literature reviewed in chapter two.

5.2 Announcement Effect for Domestic & Cross-border Acquiring Shareholders

This dissertation examines the wealth effects for domestic and cross-border shareholders acquiring UK targets following the announcement of M&A deals. We find there are negative announcement returns for shareholders over the 5-day event window. However over the longer event window of 11 days results are only marginally different to zero. Whilst the returns are not significant similar to Gregory and Wang (2010) there are notable differences across the windows and samples.

The method used in the analysis in this study was the market-adjusted model based on prior empirical studies (Moeller and Schlingemann, 2005 & Danbolt and Maciver, 2012). It is evident that acquiring shareholders achieve notably more negative returns over the shorter 5-day window and there may be two possible reasons for this difference. Information may be leaked prior to the official announcement and the price rises in anticipation. The deal announced may not live up to the shareholder expectations thus causing a fall in share value. Alternatively the market may take longer to incorporate the effect into the share price. This suggests that the UK market is not semi-strong efficient which is unlikely given its highly developed structure. The results of this study albeit insignificant are broadly consistent with the results of previous empirical studies which have found acquiring shareholders returns in UK acquisitions to be on average null or negative (Campa and Hernando, 2004, Conn et al, 2005, Danbolt and Maciver, 2012).

5.2.1 Discussion of the Domestic Sample Analysis

Research question one refers to the short term wealth effects achieved in domestic acquisitions following a deal announcement. Returns found in domestic deals are negative at -1.28% consistent with Danbolt and Maciver (2012) and Conn *et al.* (2005) whom also found negative returns.

Conn *et al.* (2005) study 576 domestic acquisitions in the UK over the period 1984-1998 and find significantly negative returns at -.99%. In a more recent similar study Danbolt and Maciver (2012) examined 251 domestic UK deals over the period 1980-2008. Over comparable 3 and 11-day windows they conclude that acquirers achieve significantly negative abnormal returns of -1.8% and -1.3% respectively. We similarly find that more negative returns are experienced over the shorter period. Our results are in the same region as the above listed studies and these recent negative results could be attributable to the end of the merger wave which saw a decrease in deal number and value. Also over the subsequent period there was increased market turbulence and external factors may be impacting deal success. An example of this is the largest domestic deal, Lloyds TSB takeover of HBOS as this was against a back drop of panic, turbulence and distress and as such short-term returns may not be the optimal measure of success.

Many studies find alternative results including Campa and Hernando (2004) whom conclude that domestic European deals achieve positive returns albeit insignificant at 1.15%. UK acquisitions account for the largest portion of this sample. Martynova and Renneboog (2011) similarly study 1,692 intra-European domestic deals of which the UK is the most dominant country and find that bidders achieve marginally positive returns of 0.59%.

In summary although prior studies are not conclusive our results are broadly consistent with other UK domestic research.

5.2.2 Discussion of the Cross-Border Sample Analysis

The second research question focusses on the returns to acquiring shareholders in cross-border deals into the UK and are found to be negative but almost null at -0.5% and -0.7% over the two event windows. A comprehensive result cannot be identified in prior studies although returns for cross-border acquirers tend to be relatively close to zero, at less than 1% across a range of studies (Goergen and Renneboog, 2004 and Francis et al, 2008). Our findings are similar to Conn *et al.* (2005) whom state that acquiring shareholders in cross-border deals at best break even upon announcement of M&A activity citing results of -0.09%.

Goergen and Renneboog (2004) analyse the short term wealth effects to acquiring shareholders in 158 large intra-European cross-border deals and find small positive returns of 0.7% that are comparable to our findings. The UK accounted for 27.5% of cross-border European deals and 65% of domestic deals. They find that cross-border returns are lower than domestic returns due to higher premiums paid in domestic deals because of the portion of UK companies in the domestic sample and relative to the cross-border sample.

Francis *et al.* (2008) state that there is mixed evidence on the wealth effects accruing from cross-border transactions and the existence of a cross-border effect. They analyse 1,491 cross-border transactions involving US firms over the period 1990-2003 with US acquisitions into the UK accounting for 24% of the sample. Different to our results they find that cross-border transactions achieve significant positive returns of 0.96%. They follow the same methodology as Moeller and Schlingemann, 2005 and conclude that there is a significantly negative cross-border effect as cross-border deals generate lower returns. This is comparable to Moeller and Schlingemann whom also find a negative cross-border effect.

5.2.3 Summary of Domestic and Cross-Border Discussion

The results of this paper are comparable to a number of seminal papers in the area of M&A research albeit insignificant. Returns tend to be null or negative consistent with our findings however this is not definitive as firms would cease to undertake these deals if they were all found to be value destroying.

5.3 Differences in Returns: Existence of Cross-Border Effect

The third research question in this study attempts to identify if there are significant differences in returns across deal types. The findings laid out in chapter four indicate that while domestic acquirers achieved more negative returns there is no significant difference in returns achieved by domestic and cross-border acquiring shareholders. Therefore we conclude that the cross-border effect is not significant in this sample. The results herein are dissimilar to those found in prior studies including Moeller and Schlingemann (2005), Conn *et al.* (2005) and Martynova and Renneboog (2011).

Moeller and Schlingemann (2005) study domestic acquisitions in the US and the acquisitions of cross-border targets by US firms over the period 1985-1995 and find a significant difference in returns achieved. They conclude that cross-border acquirers achieve significantly lower returns than domestic acquirers in the region of 1%. Similarly Conn *et al.* (2005) study UK domestic acquisitions and UK acquisitions abroad and report related findings to those of Moeller and Schlingemann in that cross-border acquisitions achieve lower announcement returns.

Martynova and Renneboog (2011) find that returns in domestic deals are statistically different to cross-border deals and more negative. This is similar to our findings albeit they find a significant difference. Our results are comparable to those found in the recent paper by Danbolt and Maciver (2012) whom studied similar samples to this paper. They note that there is a significant difference in the two sets of returns with domestic acquirers observing more negative returns for the domestic which are consistent with our findings.

In conclusion there is no difference in returns achieved across the two samples and as such there is found to be no significant cross-border effect. The absence of the effect may be due to the highly developed state of UK market in which there are high levels of information available and the market is efficient. We further note that all cross-border deals are between developed countries and as such have similar standards and regimes. Finally in chapter one we observed that the UK is a very open market and foreign acquirers have the same ability to purchase domestic firms without overpaying for the privilege, therefore suggesting that returns should be similar and a cross-border effect absent.

5.4 Determinants of Acquiring Shareholder Returns

The secondary aim of this study was to analyse the determinants of acquiring shareholder returns. Discussed in this section are the main firm and deal characteristics found to be significant in the analysis detailed in chapter four. Interestingly the control variables – relative size, means of payment and prior toehold – were significant as expected however the only firm specific variables deemed statistically important are cash resources and relatedness in the domestic and cross-border samples respectively.

5.4.1 Method of Payment

The importance of method of payment as a control variable has been established by its inclusion in multiple prior studies (Facio and Maulis, 2005, Moeller and Schlingemann, 2005, Martynova and Renneboog, 2009). Method of payment is found to be significant in determining returns to acquiring shareholders across the full and the cross-border samples. Cash is deemed to achieve marginally positive returns whereas equity and mixed payment achieve negative returns for shareholders of approximately -2.81% consistent with prior studies (Moeller and Schlingemann, 2005, Petmezas, 2009 and Kling and Weitzel, 2011).

Moeller and Schlingemann (2005) similar to our results find that cash is the optimal means of payment. They further state that returns improve the greater the fraction of cash used in mixed payment schemes. More recently Petmezas (2009) study domestic acquisitions in the UK over the period 1984-2003. Consistent with the results of this study they find cash-financed deals perform relatively better. Cash deals achieve returns of 0.93% compared to insignificant returns for stock-financed. Demonstrating that evidence is mixed Dutta *et al.* (2013) examine the role of cash and equity payment in M&A activity in Canada over the period 1993-2002. Different to our results they find that stock-financed deals have a significantly positive effect particularly in cross-border deals.

Although there is mixed evidence as to the optimal means of payment, we conclude that cash has a positive announcement effect for this UK sample and there are a number of possible reasons for the cash preference. The study incorporates a time period where shareholders were risk adverse due to the financial crisis. Cash resources are relatively high at 37% of shareholder equity and as such using firms

own resources for expansion is seen as the safest means. Further to this the market prefers cash as it suggest that adequate due diligence has been undertaken and that management are willing to pay for their investment. It was also easily supplemented with cheap debt available in the early sample period. Facio and Maulis (2005) find that firms with high levels of cash will utilise cash as payment whereas firms with high leverage will opt for equity to decrease the risk of financial distress consistent with our risk aversion rationale.

In times of uncertainty equity payment can be problematic due to external factors and lead to an adverse impact on acquiring shareholders wealth via share price decline. Also equity payment raises issues of control that are important to bidder shareholders and signals that shares may be overvalued and as such may be construed as negative. Finally cross-border firms achieve positive returns from cash whilst in the domestic sample it is not significant. Foreign acquirers tend to be bigger firms acquiring smaller targets and have greater cash reserves alongside the ability to absorb high levels of gearing; therefore the use of cash is optimal.

5.4.2 Cash Resources

Cash is deemed the preferred method of payment above and as such cash resources and gearing would be expected to be significant variables also in determining returns. Cash resources however are found to be significant in the domestic sample only where payment method was not significant. Higher levels of cash resources have a negative impact on returns consistent with Jensen's FCF hypothesis which states that firms with high levels of cash partake in value-destroying acquisitions (Jensen, 1986). This may also be due to risk aversion as shareholders are wary of paying cash and may prefer using cheap debt which disciplines management. Consistent with this gearing is found to be positive but insignificant. However different to our findings, Gregory and Wang (2010) find that firms in the UK with high FCF actually achieve significantly higher returns than low FCF at the 5% level. While this study finds in favour of the FCF hypothesis greater analysis is needed of cash resources and other firm-specific criteria.

5.4.3 Relative Size

Similar to method of payment, relative size is deemed an important control variable across prior empirical studies (Conn *et al.*, 2005, Homberg *et al.*, 2009 and Danbolt and Maciver, 2012). Targets are statistically relatively larger in domestic deals at 48.8% of acquirer value compared to 20.4% of the value of cross-border acquirers. This is as expected as cross-border acquirers tend to be large firms while the domestic sample has a wider variety of acquirers.

Relative size is a significant explanatory variable in the full sample and domestic sample. The results indicate that the larger the relative size of the target the lower the returns similar to Moeller *et al.* (2004) whom also find a significant and persistent size effect. Francis *et al.* (2006) also conclude that relative size is significant in explaining returns with larger relative bidders achieving more positive returns. Danbolt and Maciver (2012) however found that size was not significant explanatory variable.

In conclusion our findings are consistent with the majority of prior studies. The findings pertaining to relative size suggest that shareholders are risk adverse and are wary of attaining larger targets possibly due to integration issues and other risks. In times of economic turmoil also, smaller firms tend to meet distress more quickly due to lack of access to alternate resources and therefore good value would be available to acquirers who could afford to purchase these. Consistent with this the smaller deals provided the best returns for the bidder. Size is not a significant variable in cross-border deals and we propose this is due to the acquirers being larger and having a greater ability to absorb any adverse shocks pertaining to the acquisition.

5.4.4 Toehold

Previous research states that a prior toehold serves as signalling to the market, deters competition from entering bidding race and guarantees some gains even if deal fails (Betton and Eckbo, 2000 and Baixauli and Fernandez, 2009). Our findings demonstrate that having a prior toehold leads to significantly negative returns for the full and cross-border samples which is different to expected findings and majority of prior research.

Betton and Eckbo (2000) study M&As in the US over the period 1971-1990 and find that toeholds are positively related to bidder returns and negatively related to premium paid. In a recent study Baixauli and Fernandez (2009) similarly study the link between toeholds and takeover probabilities and returns in the Spanish market over the period 1990-2004. They observe that toeholds increase the likelihood of a bid and its degree of success. They find that the greater the toehold the greater are the returns achieved therefore toeholds have a positive effect. Both this studies are different to our findings however Danbolt and Maciver (2012) in a similar study to this paper find that a toehold has no impact on returns achieved.

Although results are different to those reported previously we suggest a number of reason for the differences. Betton and Eckbo (2000) study a sample whereby 47% of bids incorporate a toehold whereas only 14.5% of our sample had a toehold. Interestingly the 23% of the cross-border sample had a toehold compared to 10% of the domestic; this is different to Danbolt and Maciver (2012) whom find that toeholds are more prevalent in domestic bids. The existence of a toehold is said to decrease information asymmetry particularly in cross-border deals and as such allows shareholders to evaluate deals effectively. We suggest that shareholders had greater time and information to evaluate any deal and reacted negatively consistent with overall returns which were found to be null or negative.

5.4.5 Relatedness

Relatedness is identified as two companies sharing the same 2-digit SIC number and is included as the proxy for the existence of operational synergies (Berkovitch and Narayanan, 1993 and Moeller and Schlingemann, 2005). If relatedness is non-existent then companies are said to be undertaking industrial diversification (Doukas and Kan, 2006). The results demonstrate that relatedness is statistically positively related to returns in the cross-border sample. This indicates that cross-border firms are perceived to achieve operational synergies. Further to this by purchasing a similar firm abroad they are not undertaking industrial diversification but opting for geographic diversification instead.

Consistent with the above results Moeller and Schlingemann (2005) find that relatedness is positively and significantly related with acquirer returns and therefore expected operational synergy is a greater motive than diversification. Similarly Homberg *et al.*, (2009) conclude that business relatedness has a positive effect on acquisition performance. In conclusion perceived operational synergies are a key motive in cross-border deals and receive a positive reaction from acquiring shareholders.

5.5 Conclusion

This chapter related the reported findings to the most relevant prior empirical studies. The perceived rationale for each of the results is also discussed herein this section. In chapter six there follows the conclusion of the research and recommendations for the future.

CONCLUSION

Chapter Six:

CONCLUSION

6.1 Overview

The primary aim of this study was to explore acquiring shareholder returns of UK firms acquiring in the UK and foreign firms buying into the UK. The methodology applied an event study approach based on the adjusted market model and the use of two event windows (2-day and 5-day) in order to calculate cumulative abnormal returns around announcement date. The results indicate that acquiring shareholders achieve more negative returns of -1.06% at 5-day window compared to 0.4% over the wider window (-5, +5). Domestic acquirers are deemed to achieve more negative returns than their cross-border counterparts whose returns are close to null. Interestingly when tested the results were not significantly different and the domestic/cross-border variable remained insignificant across the multivariate analysis.

The secondary aim of this research was to analyse the key determinants of these acquiring shareholder returns focussing on the major firm and deal characteristics. The findings suggest the control variables – method of payment, relative size and prior toehold – are most significant. Payment via equity or mixed method resulted in two percent lower returns than deals that were paid for in cash. Also the larger relative size of targets in domestic deals is significant in reducing returns to acquiring shareholders in the domestic sample. Firm specific characteristics, cash resources and relatedness are the only significant variables in the domestic and cross-border samples respectively out of all variables tested. Cross-border firms are perceived to prefer geographic diversification over industrial and to seek operational synergies in these related deals.

6.2 Practical Implications

This study provides a number of implications for future deals and academic research in relation to domestic and cross-border acquisitions in the UK.

One of the key debates around M&A activity in the UK alluded to in chapter one is the ever increasing foreign ownership of UK assets due to cross-border acquisitions into the UK. Cross-border acquirers achieve returns that are close to null and therefore the rationale for these purchases must be considered in view of the lack of value. John Kay notes that the UK is a very open market for corporate control and as such may be disproportionately vulnerable to takeover bids (Kay Review of UK Equity Markets, 2012). He discusses the idea of the UK Government increasingly using its authority to ensure deals are in the best interest of the target and the wider economy. As such the UK would be more in line with other countries but still have a liberal stance. It has previously been stated that cross-border transactions carry higher risk however with greater barriers in place in the UK it will become increasingly difficult to undertake value creating transactions. This is an area for firms to observe and for possible future research as changes take place.

Returns achieved by domestic acquirers were found to be negative at -1.28% and this result is consistent with prior studies in the UK market (Danbolt and Maciver, 2012). UK market dynamics advocate openness and traditional expansion via M&A activity and this may require a change as it is not creating acquiring shareholder value. There is currently discussion in the UK around the level of regulation of domestic merger activity (Kay Review of UK Equity Markets, 2012). Presently regulation is limited to competition concerns and a widening of this role may discourage firms from partaking in risky ventures and as such there may be an improvement in returns achieved. Also as noted in chapter four the largest amount of deals (16%) takes place in the financial sector with the largest individual deal by value (Lloyds takeover of HBOS) coming from this industry. Since the advent of the crisis increasing regulation of this industry has been to the fore and as such the possibility for expansion by financial firms may be limited. However this may be good for shareholders as greater thought and research will go into successful bids.

6.3 Future research and recommendations

Limitations are associated with all areas of research not withstanding this study and as such there remains significant opportunity for further research. There is no consensus on the optimal model and event window to use when analysing abnormal returns. Future research should focus on comparing the results from multiple models (CAPM and the market model) to determine the most applicable model to use.

An extension of the time frame studied would increase the sample size, degrees of freedom and statistical significance of the analysis.

Another addition of this study would be to look at long term returns to determine if results remain negative over a longer time frame.

Firm specific characteristics require further study over an extended time period to fully determine their significance and the importance of their inclusion in future research. Further to this the inclusion of corporate governance and investor protection issues were beyond the scope of this study but there inclusion in future studies would add to the analysis of determinants of deal returns.

A comparison of returns in the UK market versus other developed markets would be interesting to determine if the openness of the market is having an impact on the number of deals and value created.

Finally another area of research would be to study target shareholder returns along with acquirer returns and the firm specific determinants of those target returns.

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APPENDICES

APPENDICES

Appendix A: Personal reflections on the dissertation process

I began the dissertation process back in semester one with the completion of a research proposal incorporating an outline of my proposed path of research. My initial idea was to look at investor confidence and financial performance in the banking sector before and after the financial crisis. I soon realised this was too broad and not a topic I could realistically study for a Master's dissertation. I then decided to look at analyst recommendations and the returns achieved from following these recommendations. Finally at the end of semester two after studying a number of finance subjects I chose to change my topic once more and focus on the area of mergers and acquisitions in the UK market. One of the critical learning points I take from this process is that it is important to make the correct research decision. Continuing with an area that is of little interest to you or where data is limited is the wrong thing to do and it is best to change regardless of the hours spent gathering literature and writing reviews of this. I was happy with my final decision to research in the area of M&As.

The completion of the dissertation was a very challenging experience but a most rewarding one. As I near the end of the process I am proud to say I have mastered even a small portion of the subject area of M&As. The process shows what determination, hard-work and interest in research can achieve.

Writing a dissertation involves the use of many skills, the development of new one alongside the refinement of others developed during my college career. The key skills I have developed and will bring forward with me into my career include: the ability to read vast quantities of information and find relevant and succinct points within these, the use of huge amounts of data in Excel and SPSS for analysis forced me to become more aware of the functionality of these packages in terms of shortcuts and the use of new functions. Finally organisation and time management were preached to us from day one of the Master's programme and these were skills

utilised throughout the dissertation process and are invaluable life skills applicable to all areas of life.

There were times this year when I thought why am I doing it and is it worth the effort as the deadlines seemed never ending. What really helped me at this point was knowing that a postgraduate qualification from W.I.T. is a unique selling point for any graduate starting out in their career. The mix of skills developed and experiences gained from this year provide excellent talking points. This dissertation process was challenging but most of all rewarding as I have acquired specific knowledge in an important area of finance (M&As) that is the source of extensive coverage in financial newspapers, articles and research.

If I was to redo the dissertation process over again I would focus more on data measurement and availability from the beginning to ensure I chose the right topic for me from the outset. I would allow a greater length of time for data analysis so I could focus on target shareholders returns also and an analysis of the firm specific factors impacting their returns.

I am very proud to have completed my Master's in W.I.T. however I could not have done it without the help of so many especially my supervisor Dr. Sheila O'Donohoe whom offered advice and assistance throughout the dissertation process.

Appendix B: Further Analysis of the Six Completed Merger Waves

Merger Wave	Dates	Driven By	Results
Horizontal Concentration	1897-1904	Anti-trust legislation, Recovery from economic depression, Consolidation & drive for efficiency.	Consolidation & the creation of monopolies, Reduced competition, Ended with stock market crash of 1904
Increasing Concentration	1916-1929	US entered WWI, Post war boom, Anti-trust legislation took hold	Oligopolies created, Focussed on economies of scale, Ended with 1929 crash & economic depression
Conglomerate Era	1965-1969	Tighter regulation made led to expansion outside own industry, Economic & technological change	Conglomerates created Firms characterised by high P/E valuations, Ended by oil crisis in 1973
Retrenchment Era	1981-1989	Recovery from recession, Financial services deregulation & development of markets, Looser regulation	Characterised by divestures, Also predatory & hostile takeovers were common, Re-focus on core business, Increase in leveraged buy-out,
Strategic Megamerger	1992-2000	Wave occurred alongside bull market, Increased deregulation and	Unprecedented deal values & volumes,

		privatisations, Globalisation & technology, Restructuring of mature industry	Increased cross-border activity & decrease in hostile bids, Shareholder value became imperative & emergence of shareholder activism, Brought to an end by dot com crash & equity collapse
Cross-Border & Horizontal Megamerger	2003-2008	Triggered by market recover, Continued deregulation & globalisation to achieve economies of scale, Low interest rate era, Private equity investment, Increasing equity prices	Characterised by larger deals than the 1980s and 1990s, Horizontal mergers mainly in banking, communication, utilities & commodities, Brought to an end by the financial crisis of 2008

Source: Gregoriou & Renneboog, 2007 & Sudarsanam, 2010

Appendix C: Rationale for Selection of Market Indices

Market Index	Description
FTSE 350	The Financial Times Stock Exchange 350 Index is an extension of the first stock market index introduced in the UK in the early 1900's. It is a share index of the top 350 stocks listed on the London Stock exchange and is weighted by market capitalisation. The index is compiled and maintained by FTSE International a company jointly owned by the Financial Times and the London Stock Exchange.
S&P 500	The Standard and Poor's 500 Index is a broad index incorporating 500 US firms. It is named after the two men who founded the company back in the early 1900's. The firms are included based on the following criteria: market size, liquidity, industry grouping and others and incorporate the majority of large cap stocks in the US. Similar to the FTSE it is also a market-weighted index
Eurostoxx 500	The Eurostoxx index is a relatively new index that combines the biggest large cap stocks from across the Euro area by market capitalisation. It is compiled by Stoxx Limited since 1998 and has expanded its range of indices in recent years.
TTO Composite Index	The Toronto Composite Index is the equivalent of the S&P 500 in the US. Toronto is the financial centre of Canada with the majority of companies listed on the Toronto Stock Exchange. It contains stock from all industry sectors and is weighted by market capitalisation also.

Appendix D: Data Set of Domestic Deals

Date Announced	Target Name	Target Nation	Acquirer Name	Acquire Nation	Prior Toehold	Status	Deal Value £Mil
09/17/2008	HBOS	UK	Lloyds TSB	UK	No	Completed	14611
03/26/2007	George Wimpey	UK	Taylor Woodrow	UK	No	Completed	2769
07/21/2010	SSL International	UK	Reckitt Benkiser	UK	No	Completed	2497
05/02/2007	Wilson Bowden	UK	Barratt Developments	UK	No	Completed	2136
02/15/2010	VT Group Plc.	UK	Babcock Int Group Plc.	UK	No	Completed	1324
12/04/2006	RHM Plc.	UK	Premier Foods Plc.	UK	No	Completed	1228
05/04/2008	Taylor Nelson Sofres Plc.	UK	WPP Group Plc.	UK	No	Completed	1072
11/14/2006	London Merchant Sec Plc.	UK	Derwent Valley Holdings	UK	No	Completed	980
09/16/2009	Central African Mining	UK	Eurasian Natural Res	UK	No	Completed	574
10/16/2007	Alfred McAlpine Plc.	UK	Carillion Plc.	UK	No	Completed	571
05/15/2006	Cambridge Tech Group Plc.	UK	AstraZeneca Plc.	UK	No	Completed	550
05/28/2010	BSS Group Plc.	UK	Travis Perkins Plc.	UK	No	Completed	539

10/02/2007	Foseco Plc.	UK	Cookson Group Plc.	UK	No	Completed	491
02/04/2008	FKI Plc.	UK	Melrose Plc.	UK	No	Completed	480
01/09/2009	Aricom Plc.	UK	Peter Hambro Mining Plc.	UK	No	Completed	366
02/11/2011	Eaga Plc.	UK	Carillion Plc.	UK	No	Completed	302
12/15/2006	European Motor Holdings	UK	Inchcape Plc.	UK	No	Completed	263
05/30/2007	Kensington Group Plc.	UK	Investec Plc.	UK	No	Completed	260
08/04/2011	Evolution Group Plc.	UK	Investec Plc.	UK	No	Completed	233
07/17/2006	Metal Bulletin Plc.	UK	Euromoney Inst Invest Plc.	UK	No	Completed	219
10/05/2011	EnCore Oil Plc.	UK	Premier Oil Plc.	UK	No	Completed	205
09/18/2008	Protherics Plc.	UK	BTG Plc.	UK	No	Completed	200
10/26/2006	Isotron Plc.	UK	Synergy Healthcare Plc.	UK	No	Completed	181
11/19/2010	Biocompatibles Int Plc.	UK	BTG Plc.	UK	No	Completed	177
11/17/2006	Innovata Plc.	UK	Vectura Group Plc.	UK	No	Completed	129
05/02/2006	MacLellan Group Plc.	UK	Interserve Plc.	UK	No	Completed	116
01/26/2007	JS Real Estate Plc.	UK	Warner Estate Hold Plc.	UK	No	Completed	114
03/07/2011	Ed Dev Int Plc.	UK	Pearson Plc.	UK	No	Completed	113

01/30/2009	New Star Ast Mgt Group Plc.	UK	Henderson Group Plc.	UK	No	Completed	110
01/18/2007	ICM Computer Group Plc.	UK	Phoenix IT Group Plc.	UK	No	Completed	108
05/22/2009	Brixton Plc.	UK	Segro Plc.	UK	No	Completed	107
05/19/2010	Melorio Plc.	UK	Pearson Plc.	UK	No	Completed	88
06/05/2008	IBS Opensystems Plc.	UK	Capita Group Plc.	UK	No	Completed	78
10/24/2011	Alterian Plc.	UK	SDL Plc.	UK	No	Completed	68
09/05/2007	Cozart Plc.	UK	Concateno Plc.	UK	No	Completed	64
07/19/2011	The Capital Pub Co Plc.	UK	Greene King Plc.	UK	No	Completed	63
02/14/2011	IS Pharma Plc.	UK	Sinclair Pharma Plc.	UK	No	Completed	53
07/21/2010	Kopane Diamond Dev	UK	Firestone Diamonds Plc.	UK	No	Completed	46
12/07/2010	Focus Solutions Group Plc.	UK	Standard Life Plc.	UK	No	Completed	42
12/23/2009	MAMA Group Plc.	UK	HMV Group Plc.	UK	Yes	Completed	39
12/11/2009	Coffeeheaven International Plc.	UK	Whitbread Plc.	UK	No	Completed	37
07/23/2007	Quantica Plc.	UK	Berkeley Scott Group Plc.	UK	No	Completed	34.38
03/29/2010	Soverign Reversions Plc.	UK	Grainger Plc.	UK	No	Completed	34.25
11/10/2010	SpiriTel Plc.	UK	Daisy Group Plc.	UK	No	Completed	33.4

06/26/2006	Birse Group Plc.	UK	Balfour Beatty Plc.	UK	No	Completed	31.9
04/08/2011	Praesepe Plc.	UK	Marwyn Mgt Partners Plc.	UK	No	Completed	31.85
04/04/2008	Virtotec International Plc.	UK	HydroDec Group Plc.	UK	Yes	Completed	31.06
11/15/2006	FirstAfrica Oil Plc.	UK	BowLeven Plc.	UK	No	Completed	30.21
12/10/2010	AH Medical Properties Plc.	UK	Assura Group Plc.	UK	No	Completed	28.3
03/11/2008	ComputerLand UK Plc.	UK	Capita Group Plc.	UK	No	Completed	27.58
12/18/2009	Supporta Plc.	UK	Mears Group Plc.	UK	No	Completed	26.8
03/31/2006	Urban Dining Plc.	UK	Clapham Hse Group Plc.	UK	No	Completed	25.33
09/16/2008	Vebnet (Holdings) Plc.	UK	Standard Life Plc.	UK	No	Completed	24.26
07/03/2009	Braemore Resources Plc.	UK	Jubilee Platinum Plc.	UK	No	Completed	22.63
04/04/2007	Int Nuclear Solutions Plc.	UK	Babcock Int Group Plc.	UK	Yes	Completed	22.27
03/05/2007	Careforce Group Plc.	UK	Mears Group Plc.	UK	No	Completed	22.22
05/29/2009	Advantage Property Inc Trust	UK	The Conygar Inv Co Plc.	UK	Yes	Completed	22.13
06/07/2011	Dawson Holdings Plc.	UK	Smiths News Plc.	UK	No	Completed	20.6
09/30/2008	Chieftain Group Plc.	UK	Redhall Group Plc.	UK	No	Completed	18.32
05/16/2008	Mediasurface Plc.	UK	Alterian Plc.	UK	No	Completed	17.67

01/26/2006	Savoy Asset Management Plc.	UK	Syndicate Ast Mgt Plc.	UK	No	Completed	17.35
06/22/2006	Symphony Tele Holdings Plc.	UK	Redstone Plc.	UK	No	Completed	16.95
09/24/2009	Medical House Plc.	UK	Consort Medical Plc.	UK	No	Completed	16.53
09/29/2006	MSB International Plc.	UK	Networkers Int Plc.	UK	No	Completed	14.97
03/11/2008	Sumus Plc.	UK	Lighthouse Group Plc.	UK	No	Completed	12.82
12/08/2008	Blue Oar Plc.	UK	Evolve Capital Plc.	UK	No	Completed	11.73
02/01/2006	Legend Communications Plc.	UK	THUS Group Plc.	UK	No	Completed	11.53
11/30/2006	IDN Telecom Plc.	UK	Redstone Plc.	UK	No	Completed	11.25
07/25/2007	Poole Investments Plc.	UK	Inland Plc.	UK	No	Completed	11.1
02/18/2010	BNS Telecom Group Plc.	UK	Daisy Group Plc.	UK	No	Completed	10.45
06/01/2010	Telephonetics Plc.	UK	Netcall Plc.	UK	No	Completed	10.08
04/03/2009	ATI Oil Plc.	UK	Northern Petroleum Plc.	UK	Yes	Completed	7.09
04/24/2007	Cornwell Mgt Consultants Plc.	UK	Serco Group Plc.	UK	No	Completed	7.05
09/14/2007	Eq Group Plc.	UK	Optimisa Plc.	UK	No	Completed	6.39
01/09/2009	Curidium Medica Plc.	UK	Avacta Group Plc.	UK	No	Completed	6.18
02/05/2009	Broca Plc.	UK	2 Ergo Group Plc.	UK	No	Completed	4.89

06/08/2010	Braemar Group Plc.	UK	Brooks MacDonald Group	UK	No	Completed	3.87
09/14/2006	NMT Group Plc.	UK	Volvere Plc.	UK	Yes	Completed	3.71
07/30/2010	Hartest Holdings Plc.	UK	Elektron Plc.	UK	Yes	Completed	3.63
01/04/2010	Minster Pharmaceuticals Plc.	UK	Proximagen Neuroscience Plc.	UK	No	Completed	3.53
03/15/2006	Healthstar Group Plc.	UK	Ultrasis Plc.	UK	No	Completed	2.93
11/04/2011	Mobile Doctors Group Plc.	UK	Quindell Portfolio Plc.	UK	Yes	Completed	1.77

Appendix E: Dataset of Cross-Border Deals

Date Announced	Target Name	Target Natio	Acquirer Name	Acquire Nation	Toe- Hold	Status	Deal Value
10/18/2010	BlueBay Ast Mgt Plc.	UK	Royal Bank of Canada	Canada	No	Completed	963
12/15/2011	Collins Stewart Plc.	UK	Canaccord Financial Inc	Canada	No	Completed	238.1
11/23/2009	Kiwara Plc.	UK	First Quantum Minerals Ltd	Canada	No	Completed	146.5
01/18/2006	Adastra Minerals Inc	UK	First Quantum Minerals Ltd	Canada	No	Completed	121.3
10/04/2010	African Diamonds Plc.	UK	Lucara Diamond Corp	Canada	No	Completed	100.8
07/29/2008	Advent Capital Plc.	UK	Fairfax Fin Holdings Ltd	Canada	Yes	Completed	50.13
11/29/2010	Centric Energy Corp	UK	Africa Oil Corp	Canada	No	Completed	39.13
12/24/2008	Cambrian Mining Plc.	UK	Western Coal Corp	Canada	No	Completed	27.77
06/09/2010	EnergyBuild Group Plc.	UK	Western Coal Corp	Canada	Yes	Completed	24.64
03/30/2007	Int Molybdenum Plc.	UK	Quadra Mining Ltd	Canada	No	Completed	15.13
03/02/2010	Gladstone Plc.	UK	Constellation Software Inc	Canada	Yes	Completed	9.01
04/26/2007	Pixology Plc.	UK	PhotoChannel Networks Inc	Canada	No	Completed	8.12
04/15/2009	African Aura Resources Ltd	UK	Mano River Resources Ltd	Canada	No	Completed	3.5

09/07/2009	Cadbury Plc.	UK	Kraft Foods Inc	USA	No	Completed	11469
05/07/2007	Reuters Group Plc.	UK	Thomson Corp	USA	No	Completed	8870
06/22/2009	Thompson Reuters Plc.	UK	Thomson Reuters Corp	USA	No	Completed	3021
08/22/2008	Benfield Group Plc.	UK	Aon Corp	USA	No	Completed	737.5
09/24/2010	Intec Telecom Systems Plc.	UK	CSG Systems Int Inc	USA	No	Completed	236.7
07/06/2011	Axis-Shield Plc.	UK	Alere Inc	USA	No	Completed	235
06/05/2009	Concateno Plc.	UK	Inverness Medical Inn Inc	USA	No	Completed	124.5
11/10/2008	European Capital Ltd	UK	American Capital Ltd	USA	Yes	Completed	100.6
12/11/2007	BBI Holdings Plc.	UK	Inverness Medical Inn Inc	USA	Yes	Completed	73.66
09/20/2010	Clipper Windpower Plc.	UK	United Technologies Corp	USA	Yes	Completed	69.89
06/16/2010	Intelek Plc.	UK	Teledyne Technologies Inc	USA	No	Completed	27.96
05/09/2008	Flomerics Group Plc.	UK	Mentor Graphics Corp	USA	Yes	Completed	19.54
01/23/2008	Superscape Group Plc.	UK	Glu Mobile Inc	USA	No	Completed	18.31
02/11/2007	Insignia Solutions Plc.	UK	Smith Micro Software Inc	USA	No	Completed	9.53
01/30/2009	Tepnel Life Sciences Plc.	UK	Gen-Probe Inc	USA	No	Completed	64.78
11/28/2006	Scottish Power Plc.	UK	Iberdrola SA	EU	No	Completed	11464

01/25/2006	BOC Group Plc.	UK	Linde AG	EU	No	Completed	8027
06/18/2007	Imperial Chemical Ind Plc.	UK	Akzo Nobel NV	EU	No	Completed	8008
07/14/2008	Allianz and Leicester Plc.	UK	Banco Santander	EU	No	Completed	1263
03/17/2006	Body Shop International Plc.	UK	L'Oreal SA	EU	No	Completed	652.9
07/30/2007	Xansa Plc.	UK	Steria SA	EU	No	Completed	472.4
11/17/2011	Hamworthy Plc.	UK	Wartsila Corp	EU	No	Completed	374.4
10/02/2007	Christian Salvesen Plc.	UK	Groupe Norbert Dentre SA	EU	No	Completed	244.1
01/14/2008	Coda Plc.	UK	Unit 4 Agresso NV	EU	No	Completed	157.8
08/17/2006	Baggeridge Brick Plc.	UK	Wienerberger Finance BV	EU	No	Completed	95
06/01/2007	Alpha Airports Group Plc.	UK	Autogrill SPA	EU	Yes	Completed	89
12/27/2006	Punch Graphix Plc.	UK	Punch International NV	EU	Yes	Completed	67.13
11/29/2007	VEGA Group Plc.	UK	Finmeccanica SpA	EU	No	Completed	61.56
05/17/2007	Bridgewell Group Plc.	UK	Landsbanki Islands hf	EU	No	Completed	60.27
10/01/2010	British Midland Plc.	UK	Deutsche Lufthansa AG	EU	Yes	Completed	19
04/10/2008	CeNeS Pharmacueticals Plc.	UK	Paion AG	EU	No	Completed	10.52

Appendix F: Full Data Set with all CARs included

Acquirer Name	Date Announced	Market Adjusted Model CAR (-2, +2)	Market-Adjusted Model CAR (-5, +5)	Deal Value (£Mil)	Domestic=0 Cross-Border=1	Toe-hold	Acquirer Nation	Friendly=0 Hostile=1	Cash=0 Equity=1
Lloyds TSB	09/17/2008	0.05	-0.02	14611	0	No	UK	0	1
Taylor Woodrow	03/26/2007	0.11	0.17	2769	0	No	UK	0	1
Reckitt Benkiser	07/21/2010	0	-0.02	2497	0	No	UK	0	0
Barratt Developments	05/02/2007	0.01	0	2136	0	No	UK	0	1
Babcock Int Group Plc.	02/15/2010	-0.01	-0.09	1324	0	No	UK	0	1
Premier Foods Plc.	12/04/2006	0.09	0.11	1228	0	No	UK	0	1
WPP Group Plc.	05/04/2008	-0.01	0.05	1072	0	No	UK	1	1
Derwent Valley Holdings	11/14/2006	-0.03	-0.02	980	0	No	UK	0	1
Eurasian Natural Res	09/16/2009	0.03	0	574	0	No	UK	0	0

Carillion Plc.	10/16/2007	-0.05	-0.05	571	0	No	UK	0	1
AstraZeneca Plc.	05/15/2006	0.04	0.04	550	0	No	UK	0	0
Travis Perkins Plc.	05/28/2010	0.04	0.04	539	0	No	UK	0	1
Cookson Group Plc.	10/02/2007	0.07	0.11	491	0	No	UK	0	0
Melrose Plc.	02/04/2008	0.01	-0.03	480	0	No	UK	0	1
Peter Hambro Mining Plc.	01/09/2009	-0.05	0.06	366	0	No	UK	0	1
Carillion Plc.	02/11/2011	0.02	0.02	302	0	No	UK	0	0
Inchcape Plc.	12/15/2006	-0.03	0	263	0	No	UK	0	0
Investec Plc.	05/30/2007	0	-0.05	260	0	No	UK	0	1
Investec Plc.	08/04/2011	-0.02	-0.05	233	0	No	UK	0	0
Euromoney Inst Invest Plc.	07/17/2006	-0.01	0	219	0	No	UK	0	0
Premier Oil Plc.	10/05/2011	0.01	0.04	205	0	No	UK	0	1
BTG Plc.	09/18/2008	-0.14	-0.17	200	0	No	UK	0	1
Synergy Healthcare Plc.	10/26/2006	0.01	-0.01	181	0	No	UK	0	1
BTG Plc.	11/19/2010	-0.1	-0.14	177	0	No	UK	0	1

Vectura Group Plc.	11/17/2006	-0.06	-0.06	129	0	No	UK	0	1
Interserve Plc.	05/02/2006	0.01	0.06	116	0	No	UK	0	1
Warner Estate Hold Plc.	01/26/2007	0.01	0.02	114	0	No	UK	0	0
Pearson Plc.	03/07/2011	0.06	0.07	113	0	No	UK	0	0
Henderson Group Plc.	01/30/2009	0.13	0.45	110	0	No	UK	0	1
Phoenix IT Group Plc.	01/18/2007	0.03	0.06	108	0	No	UK	0	1
Segro Plc.	05/22/2009	-0.03	0.09	107	0	No	UK	0	1
Pearson Plc.	05/19/2010	-0.01	0	88	0	No	UK	0	0
Capita Group Plc.	06/05/2008	0.04	0.07	78	0	No	UK	0	0
SDL Plc.	10/24/2011	0.04	0.01	68	0	No	UK	0	0
Concateno Plc.	09/05/2007	0.01	-0.03	64	0	No	UK	0	0
Greene King Plc.	07/19/2011	-0.02	-0.05	63	0	No	UK	0	0
Sinclair Pharma Plc.	02/14/2011	0	0.01	53	0	No	UK	0	1
Firestone Diamonds Plc.	07/21/2010	-0.2	-0.25	46	0	No	UK	0	1
Standard Life Plc.	12/07/2010	0.02	-0.01	42	0	No	UK	0	0

HMV Group Plc.	12/23/2009	-0.02	-0.05	39	0	Yes	UK	0	0
Whitbread Plc.	12/11/2009	0.06	0.07	37	0	No	UK	0	0
Berkeley Scott Group Plc.	07/23/2007	-0.04	-0.02	34.38	0	No	UK	0	1
Grainger Plc.	03/29/2010	0.02	-0.01	34.25	0	No	UK	0	0
Daisy Group Plc.	11/10/2010	-0.01	-0.06	33.4	0	No	UK	0	0
Balfour Beatty Plc.	06/26/2006	0.01	0.04	31.9	0	No	UK	0	0
Marwyn Mgt Partners Plc.	04/08/2011	0.01	-0.01	31.85	0	No	UK	0	1
HydroDec Group Plc.	04/04/2008	-0.02	-0.01	31.06	0	Yes	UK	0	1
BowLeven Plc.	11/15/2006	-0.01	-0.01	30.21	0	No	UK	0	1
Assura Group Plc.	12/10/2010	-0.03	-0.04	28.3	0	No	UK	0	1
Capita Group Plc.	03/11/2008	-0.01	0.04	27.58	0	No	UK	0	0
Mears Group Plc.	12/18/2009	0	-0.01	26.8	0	No	UK	0	1
Clapham Hse Group Plc.	03/31/2006	0	0.1	25.33	0	No	UK	0	0
Standard Life Plc.	09/16/2008	0.02	0.03	24.26	0	No	UK	0	0
Jubilee Platinum Plc.	07/03/2009	-0.17	0.31	22.63	0	No	UK	0	1

Babcock Int Group Plc.	04/04/2007	0.04	0.04	22.27	0	Yes	UK	0	0
Mears Group Plc.	03/05/2007	-0.01	-0.03	22.22	0	No	UK	0	1
The Conygar Inv Co Plc.	05/29/2009	-0.05	-0.06	22.13	0	Yes	UK	0	1
Smiths News Plc.	06/07/2011	-0.01	-0.03	20.6	0	No	UK	0	0
Redhall Group Plc.	09/30/2008	-0.04	-0.07	18.32	0	No	UK	0	0
Alterian Plc.	05/16/2008	-0.16	-0.14	17.67	0	No	UK	0	1
Syndicate Ast Mgt Plc.	01/26/2006	0.02	0.04	17.35	0	No	UK	0	0
Redstone Plc.	06/22/2006	-0.03	-0.03	16.95	0	No	UK	0	0
Consort Medical Plc.	09/24/2009	0.02	0.14	16.53	0	No	UK	0	0
Networkers Int Plc.	09/29/2006	-0.07	-0.08	14.97	0	No	UK	0	0
Lighthouse Group Plc.	03/11/2008	0.05	0.03	12.82	0	No	UK	0	1
Evolve Capital Plc.	12/08/2008	-0.34	-0.07	11.73	0	No	UK	0	1
THUS Group Plc.	02/01/2006	-0.1	-0.04	11.53	0	No	UK	0	0
Redstone Plc.	11/30/2006	-0.01	0.02	11.25	0	No	UK	0	0
Inland Plc.	07/25/2007	0.02	0.05	11.1	0	No	UK	0	0

Daisy Group Plc.	02/18/2010	0.02	-0.01	10.45	0	No	UK	0	0
Netcall Plc.	06/01/2010	-0.06	-0.1	10.08	0	No	UK	0	1
Northern Petroleum Plc.	04/03/2009	0	-0.04	7.09	0	Yes	UK	0	1
Serco Group Plc.	04/24/2007	0	0.06	7.05	0	No	UK	0	0
Optimisa Plc.	09/14/2007	0	-0.06	6.39	0	No	UK	0	0
Avacta Group Plc.	01/09/2009	0.25	0.31	6.18	0	No	UK	0	1
2 Ergo Group Plc.	02/05/2009	-0.09	-0.08	4.89	0	No	UK	0	1
Brooks MacDonald Group	06/08/2010	-0.01	-0.02	3.87	0	No	UK	0	0
Volvere Plc.	09/14/2006	-0.03	0.02	3.71	0	Yes	UK	0	1
Elektron Plc.	07/30/2010	-0.09	0.19	3.63	0	Yes	UK	0	0
Proximagen Neuroscience	01/04/2010	-0.03	-0.04	3.53	0	No	UK	0	0
Ultrasix Plc.	03/15/2006	-0.09	-0.16	2.93	0	No	UK	0	1
Quindell Portfolio Plc.	11/04/2011	-0.13	0.06	1.77	0	Yes	UK	0	1
Royal Bank of Canada	10/18/2010	0.03	0	963	1	No	Canada	0	0
Canaccord Financial Inc	12/15/2011	-0.17	-0.21	238.1	1	No	Canada	0	1

First Quantum Minerals Ltd	11/23/2009	0.1	0.1	146.5	1	No	Canada	0	1
First Quantum Minerals Ltd	01/18/2006	-0.01	0.02	121.3	1	No	Canada	1	1
Lucara Diamond Corp	10/04/2010	0.04	-0.11	100.8	1	No	Canada	0	1
Fairfax Financial Holdings	07/29/2008	-0.04	0.01	50.13	1	Yes	Canada	0	0
Africa Oil Corp	11/29/2010	0.02	0.02	39.13	1	No	Canada	0	1
Western Coal Corp	12/24/2008	0.01	0.02	27.77	1	No	Canada	0	1
Western Coal Corp	06/09/2010	-0.03	-0.04	24.64	1	Yes	Canada	0	1
Quadra Mining Ltd	03/30/2007	0.21	0.29	15.13	1	No	Canada	0	1
Constellation Software Inc	03/02/2010	0.02	0.03	9.01	1	Yes	Canada	0	0
PhotoChannel Networks Inc	04/26/2007	0	-0.04	8.12	1	No	Canada	0	0
Mano River Resources Ltd	04/15/2009	-0.02	0.4	3.5	1	No	Canada	0	1
Kraft Foods Inc	09/07/2009	-0.07	-0.11	11469	1	No	USA	1	1
Thomson Corp	05/07/2007	-0.08	-0.06	8870	1	No	USA	0	1
Thomson Reuters Corp	06/22/2009	-0.02	-0.03	3021	1	No	USA	0	1
Aon Corp	08/22/2008	0.03	0.01	737.5	1	No	USA	0	0

CSG Systems Int Inc	09/24/2010	-0.13	-0.13	236.7	1	No	USA	0	0
Alere Inc	07/06/2011	0.01	0.04	235	1	No	USA	1	0
Inverness Medical Inn Inc	06/05/2009	-0.03	0.04	124.5	1	No	USA	0	1
American Capital Ltd	11/10/2008	-0.57	-0.55	100.6	1	Yes	USA	0	1
Inverness Medical Inn Inc	12/11/2007	-0.03	-0.08	73.66	1	Yes	USA	0	1
United Technologies Corp	09/20/2010	0.02	0.01	69.89	1	Yes	USA	0	0
Teledyne Technologies Inc	06/16/2010	0.01	0.04	27.96	1	No	USA	0	0
Mentor Graphics Corp	05/09/2008	0.03	0	19.54	1	Yes	USA	0	0
Glu Mobile Inc	01/23/2008	0.2	0.03	18.31	1	No	USA	0	0
Smith Micro Software Inc	02/11/2007	-0.05	-0.05	9.53	1	No	USA	0	1
Gen-Probe Inc	01/30/2009	0.04	0.08	64.78	1	No	USA	0	0
Iberdrola SA	11/28/2006	0.02	0.02	11464	1	No	EU	0	1
Linde AG	01/25/2006	0.04	-0.02	8027	1	No	EU	0	0
Akzo Nobel NV	06/18/2007	0.02	0.05	8008	1	No	EU	0	0
Banco Santander	07/14/2008	-0.01	0.03	1263	1	No	EU	0	1

L'Oreal SA	03/17/2006	-0.02	-0.05	652.9	1	No	EU	0	0
Steria SA	07/30/2007	-0.04	-0.08	472.4	1	No	EU	0	0
Wartsila Corp	11/17/2011	0	0.08	374.4	1	No	EU	0	0
Groupe Norbert Dentre SA	10/02/2007	0.15	0.13	244.1	1	No	EU	0	0
Unit 4 Agresso NV	01/14/2008	-0.01	-0.13	157.8	1	No	EU	0	0
Wienerberger Finance BV	08/17/2006	-0.01	-0.01	95	1	No	EU	0	0
Autogrill SPA	06/01/2007	0	0.01	89	1	Yes	EU	0	0
Punch International NV	12/27/2006	-0.01	-0.02	67.13	1	Yes	EU	0	0
Finmeccanica SpA	11/29/2007	-0.01	-0.05	61.56	1	No	EU	0	0
Landsbanki Islands hf	05/17/2007	0	0.03	60.27	1	No	EU	0	1
Deutsche Lufthansa AG	10/01/2010	0.01	0.06	19	1	Yes	EU	0	0
Paion AG	04/10/2008	0.02	-0.04	10.52	1	No	EU	0	1