



Cross Border Merger & Acquisition vs Domestic Merger & Acquisition: Which of them give greater return to the Acquirer?

In UK perspective

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**Dissertation Submitted to
National College of Ireland
For the degree of
MSc in Finance**

**Under the Supervision of Joe Naughton
Submitted on 29 August 2018**

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ABSTRACT

Mergers and Acquisitions (M&A) are one of the key strategies used by corporate entities to grow and sustain in this competing world. This dissertation studies impact of cross border and domestic M&A on share price of acquirer. This study concentrated on UK public listed companies which participated in M&A. After globalisation lot of corporates started to penetrate other markets to gain from such collaboration. So, there is a need for study on how well the strategy of M&A work on the acquirer company.

The core objective of this thesis is to investigate M&A event and compare cross border M&A and domestic M&A performed by UK public companies between 2012 to 2016. Share price analysis is performed on sample of companies and compared returns in both domestic and cross border M&A events.

Two types of models (market and mean adjusted model) are used to examine the returns due to M&A event and empirically studied the trends of M&A in United Kingdom. Market model compared the returns due to M&A to market returns while Mean adjusted model compared the returns due to M&A to returns of same company at an event free period. This study also discusses how shareholders of acquirer firms received returns at various intervals in long and short term.

After different types of data analysis this study concluded with a finding that domestic M&A gave higher or significantly more returns to shareholders of acquirer firms than cross border M&A.

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ACKNOWLEDGEMENTS

I am very grateful to God Almighty for without his grace, this study would not have been possible.

My sincere thanks to my supervisor Joe Naughton for his support and guidance not only in this dissertation but also throughout this course. Its honour to be a student of him. I would also like to thank Dr Corina Sheerin for her support in this thesis during proposal stage and as a course programme Director.

I would also express my thanks to Dr Colette Darcy and all other research methods faculty for their constant support right from starting of the course. My sincere gratitude towards all lectures of MSc finance and my colleagues who always there to support.

Last but not least I specially want to thank my Parents, family and friends for their physical, mental support and also helped and encouraged me achieve everything I need till now.

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List of Abbreviations

M&A	– Mergers and Acquisitions
UK	– United Kingdom
FTSE	– Financial Times Stock Exchange
LSE	– London Stock Exchange
AbR	– Abnormal Return
AAR	– Average Abnormal Return
R_t	– Actual return at time t
NR_t	– Normal return at time t
R_{mt}	– Return on market Index at time t

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Chapter 1 Introduction

1.1 Background

Mergers and acquisitions (M&A) have become a vital strategy for businesses in the modern competitive corporate landscape to survive (Ayoush, 2011; Goines, 1998). The efficiencies from the M&A deal and the economies scale and other synergies motivate businesses to use M&As to create competitive advantage (Ananda, 2017). However, there are arguments on whether mergers and acquisitions lead to value creation or value destruction (Sehleanu, 2015). The two main types of mergers and acquisitions examined in this research are cross border mergers and acquisition and domestic mergers and acquisition. The aim of the research is to compare the value created (return on shares) in cross border merger and acquisitions and domestic mergers and acquisitions.

There are numerous waves of M&A deals which began from the late 19th century. This first wave was the wave of horizontal mergers which was between 1893 to 1904. The second was between 1919 to 1929, the M&A wave of manufacturing and transportation mergers. The third wave was between 1955 to 1969, the M&A wave of conglomerates. The fourth wave was between 1984 to 1989 which was the M&A wave of junk bonds and hostile takeovers. The final wave in the 20th century was from 1993 to 2000 which was a M&A wave of mega deals. The last wave in the 20th century marked the beginning of the cross-border mergers and acquisitions (Ananda, 2017).

1.2 Problem Statement

Cross border mergers and acquisitions are increasingly becoming prominent in both developed and emerging markets. The rapid development in the markets and globalization has significantly increased the popularity of cross border mergers and acquisitions (Ananda, 2017). However, there are only very limited studies conducted to examine the value created in cross border and domestic M&A deals. Value creation is the ultimate goal of mergers and acquisitions. However, more than 60% of the merger and acquisition deals are

identified to be failure (Bruner, 2016). This makes it necessary to evaluate the pattern of value creation in domestic and cross border M&As and to identify whether cross border M&As or domestic M&As have higher success rates and value creation.

1.3 Research Question and Objectives

Cross Border Merger & Acquisition vs Domestic Merger & Acquisition: Which of them give greater return to the Acquirer?

What are the outcomes of share price returns in cross border and domestic mergers and acquisition? Which among the two is the most successful form of mergers and acquisition deals in relation to value creation?

The research objectives of the study are as follows:

- To identify the value created in domestic and cross border mergers and acquisitions

- To evaluate and compare domestic and cross border mergers and acquisitions in relation to returns and success.

1.4 Methodology

The performance and return to acquirer as a result of merger and acquisition is measured in relation to the pre and post acquisitions behavior of the acquirer firm (Ananda, 2017). The profitability and performance from mergers and acquisition is measured in relation to the share price of the buyer and target companies before or after the deal. A comparison of the share price before and after the deal and an examination of the share price of acquirer with deal compared with the normal returns allows to understand whether the M&A deal was successful(Bruner, 2016).Two different models are used for calculating normal returns which gives optimal comparison of value creation.

1.5 Theoretical Framework for the research

There are several theories on the motivations for mergers and acquisitions. This includes the efficiency theory, monopoly theory, valuation theory, empire building theory, process theory and disturbance theory (Ray, 2010). The monopoly theory suggests that the companies use horizontal mergers to

increase the market strength. The valuation theory suggests that the mergers and acquisitions happen to enhance the corporate value. According to the empire building theory the mergers and acquisitions serve the personal interest of the management which is to influence the target company performance (Ray, 2010). Mergers and acquisitions that result from the economic event and trends is covered under the disturbance theory (Ray, 2010).

The theoretical framework guiding the research is the efficiency theory. The efficiency theory suggests the ultimate aim of mergers and acquisitions which is to create synergy (Ray, 2011). As per the efficiency theory, mergers and acquisitions are strategies implemented to achieve economic efficiency by businesses through the synergies generated by pooling of the resources of the acquiring and target company (Sehleanu, 2015). Synergies refers to the value created from combining the companies which would not have achieved without this combination (DePamphilos, 2010). The synergies obtained with the mergers and acquisitions is one of the primary reasons for the increased mergers and acquisitions (Trautwein, 1990; Sehleanu, 2015). Mergers and acquisitions need to enhance the overall efficiency of the business operation which would not have achieved without the M& A deal (Ray, 2011). The success of mergers and acquisitions is measured in relation to the efficiency created in the performance and operation. Since the aim of the research is to evaluate the value created in cross border or domestic mergers and acquisitions the efficiency theory is considered the most suitable theoretical framework for this research.

1.6 Structure of the Dissertation

The dissertation is divided into five chapters. Chapter two critically reviews existing research on mergers and acquisitions, the main drivers of mergers and acquisition, cross border mergers and acquisitions, domestic mergers and acquisitions, comparison of domestic and cross border mergers and acquisition and the share price analysis in domestic and cross border mergers and acquisitions. Chapter three explains the methodology used to compare the value creation in domestic and cross border mergers and acquisitions.

Chapter four presents the results of the comparison of the value created in domestic and cross border mergers and acquisitions. The results of the analysis are compared and discussed in the context of the existing research and the research questions are answered. The last chapter of the dissertation presents provides recommendation for future research, practical implications of the research and conclusion.

Chapter 2 Literature Review

2.1 Introduction

Modern businesses striving to remain competitive and profitable adopt a variety of strategies. Mergers and acquisitions are an economic tool and strategy for businesses to achieve enhanced performance through expanding business operation and achieving synergies (Ananda, 2017). The main motive of mergers and acquisition is value creation and increased profitability through creating synergies or economies of scale. Cross border mergers and acquisition is the main feature of the M&A deals in the 21st century. In this context, it is crucial to compare the cross-border merger and acquisition which is mainly featured in this century to domestic merger and acquisition that has been there from the beginning of M&A wave. This literature review critically examined the concept of mergers and acquisition, the theoretical framework guiding the research, the drivers of mergers and acquisition, the concept of cross border merger and acquisition and domestic mergers and acquisition.

2.2 Mergers and Acquisitions

A merger is a "combination of two or more companies in which the assets and liabilities of the selling firms are absorbed by the buying firm (Sherman, 2011, p.2)". Mergers are widely used strategy by businesses to enter into a new market, add a new product line or increase distribution. Bruner (2016) noted that only than 20% of the mergers are successful and the remaining not only fail to achieve real financial returns but also erode shareholder wealth. Acquisition is referred to the "purchase of an asset such as a plant, a division or even an entire company (Sherman, 2011, p.3)."

Mergers and acquisitions occur for numerous reason which include the achievement of competitive advantage, create special capabilities or for other strategic benefits. Regardless of the strategic objective of mergers and acquisitions, the ultimate and fundamental objective of all mergers and acquisition needs to enhance the shareholder welfare and wealth (Bruner, 2016). The success of mergers and acquisitions is dependent on structure, conduct and outcomes (Bruner, 2004). The structural factors include positions,

constraints, resources and the strengths, weaknesses opportunities and threats (SWOT). Conduct refers to the way through which mergers and acquisition is pursued. This includes strategy, tactics and behavior. Outcomes of mergers and acquisitions include gains or losses, position, constraints and SWOT (Bruner, 2004).

2.3 Drivers of Merger and Acquisition Success

Value creation, growth and productivity are the main motivations for mergers and acquisitions. This section evaluates the main drivers of mergers and acquisitions.

2.3.1 Synergies

The synergies that result in wealth creation is an important driver for mergers (Bruner, 2016). Achieving synergy is one of the main underlying reason for many mergers and acquisition deals (Ray, 2011). The three types of synergies generated with mergers and acquisition are operational, financial and managerial synergy (Sehleanu, 2015; Ray, 2010). Financial synergy is achieved when the risk of the investment portfolio of the acquirer is reduced through the acquisition of new business (Ray, 2010). Management synergy arises when the management of acquiring company have the competencies to enhance the organizational performance of the target company and vice versa (Ray, 2010).

Operating synergy arises from the merging of two operational functions within two companies which result in the increased knowhow from combining the competences and abilities in the two functional areas (Ray, 2010). The economies of scale achieved from mergers and acquisition is a form of operating synergy. Mergers and acquisition deals allows to increase the business volumes by lower the operating cost resulting in synergetic effects (Ray, 2010). Companies that recognize the need to build a complete product or service line to remain competitive choose to adopt merger and acquisition (Sherman, 2011). Mergers and acquisition create synergies by allowing the buyer company to introduce new product lines, increase the distribution channels or to enter a new market (Sherman, 2011). An example is the acquisition of two companies which were severely hit by the subprime

mortgage crisis namely country wide financial and Merrill Lynch by the Bank of America to incorporate a broad spectrum of financial service (Sherman, 2011).

There are several studies that have identified where the share market positively responded to the wealth creation from the synergy created from mergers (Houston, James and Ryngaert, 2002; DeLong, 2003). For example, the study conducted by DeLong (2003) found that the investors respond positively to mergers and acquisition when one of the companies is inefficient as this could result in enhance performance and wealth creation through expected synergies.

2.3.2 Acquiring for Value and Acquiring for Glamour

Value oriented acquisition is when the companies with low book to market ratios acquire or merge to create value, while glamour acquisitions is when companies with high book to market value ratios acquire or merge (Bruner, 2016). The management motive is one cause for glamour acquisition. According to Ray (2010) management carry out mergers and acquisition in the hope that it increases the management status, salary and other perks. The management motive not only does not enhance the management return but also reduce the bidder firm's value. Consistently Burner (2016) noted that the management motive often leads to the acquisition of companies with high book to market value ratio results in underperformance. Underperformance after acquisition is mainly associated with mergers and acquisition that have being carried out with acquiring companies that have high book to market value ratios (Bruner, 2016). On the other hand, value-oriented acquisitions can earn significant abnormal returns unlike glamour acquisitions

2.3.3 Mergers and Acquisition to build power

Mergers and acquisition to build power is based on the monopoly theory which suggest that companies use M & A deals to increase the market strength, reduce the power of their competitors and to make the access to market difficult for the competitors (Ray, 2010). The main benefit of mergers and acquisitions to build power is obtained through reducing the competition in the

market through acquisitions. However, Bruner (2016) argued that mergers and acquisitions that occur to build market power are not profitable (Bruner, 2016).

2.3.4 Competitive Necessity

Competitive necessity is a cause of M&A deal (Sherman, 2011). Competitive necessity arises when a business is decides to be sold and the buyer realizes that there is potential for the competitor to acquire the target. The buyer evaluates whether it is better for the better to be the owner of the business to be sold or let the competitor acquire it (Sherman, 2011).

2.3.5 Key changes within the Industry

Key changes within the industry is a major factor that drives mergers and acquisition. Key changes in an industry includes rapid change in technology, fierce competition, changes in consumer preferences, reduction in demand and pressure to control costs (Sherman, 2011). Rapidly changing technology in an industry prompts organization to enter in to M& A deals with high technology organization. Many of the high technology M& A deal happen as result of rapid change in technology (Sherman, 2011). The type of changes that prompt M&A deals varies with the industry. For example, the changing customer preferences are mostly prevalent in the consumer goods industry

2.3.6 International Presence

Merger and Acquisition is one method used by companies to develop an international presence and increasing market share (Sherman, 2011). Cross border mergers and acquisition is the tool used to achieve international presence by business organization (Ananda, 2017).

2.4 Domestic Mergers and Acquisition

Domestic Mergers and Acquisition is when the merger and acquisition occurs between two domestic countries (Ananda, 2017). Stiebale and Trax (2011) examined the effects of domestic mergers and acquisition on the domestic market performance of acquirer. The study found that cross border M & As leads to increased growth and productivity in the acquiring firm's domestic market.

Studies on UK companies M&A activity in short run gave acquirer significant positive results and have small significant negative returns around announcement date (Sudarsanam, 2003). In long window periods the UK firms gave returns which are positive but does not constitute to any returns higher than normal returns which are without benefit of M&A (Ray, 2010).

2.5 Cross Border Mergers and Acquisitions

Drastic growth has been witnessed in the cross-border mergers and acquisitions over the last two decades. Cross border merger and acquisitions in developing countries constitute a major portion of the foreign direct investment (Zhu and Jog, 2012). In the year 2007, cross border mergers and acquisitions constituted 80% of the global foreign Direct investment (FDI). The study found that cross border M & As leads to increased growth and productivity in the acquiring firm's domestic market. Cross border mergers and acquisitions allows to achieve productivity improvement through cost differences in the countries or the advanced technology sharing that enables firms to remain competitive (Stiebale and Trax, 2011).

Cross border mergers and acquisitions has significant challenges mainly arising from the differences in the cultural, economic and organizational factors (Ananda, 2017). Cross border investment decisions that are made after careful consideration of the macroeconomic conditions, including the gross domestic product, inflation rate, stock market index and exchange create competitive advantage for the investor

2.6 Value Creation in Mergers and Acquisition

After M&A take place performance of the company is significant. It is always debate that whether M&A are wealth upgrader or value reducing events. Assessment of M&A process is very important, and it can be achieved in many ways. One such approach is measuring the value of M&A in respect to shareholder value. Since shareholders are the continuing owners of the company, valuing the share price will be a valid criteria (Martynova and Renneboog, 2005). Tuch and O'Sullivan, (2007) also suggests two methods of valuing M&A transaction one of it is stock market approach.

Stock market approach is study of share price movements to certain events which is M&A here. This approach can be done in short term or long term. Short term approach concentrates on reaction of share prices to pre and post M&A helping to find the reliable value of the event. Long term approach is where the movement of share price is considered in wider window period so that, the result obtained will have all reactions of M&A as well as performance after the event. This enables us to know how M&A transaction resulted as an upgrader or a reducer (Sudarsanam, 2010). Both have its own advantages and disadvantages. Short term lacks wider window which neglects capturing the impact overall. While, long term window has other challenges like financial and macro events which effects performance irrespective of M&A. So, it will be rational to consider both short term and long-term approach to value M&A.

2.7 Comparison of Domestic vs Cross border Mergers and Acquisition

Empirical studies are conducted on short term and long term individually and only few studies included both approaches. Sudarsanam and Mahate, (2003) studied short interval using UK M&A transactions. The conclusion made was that target shareholders gain more while acquirer shareholders have negative or low returns. Mueller and Yurtoglu, (2007) used long term period in UK cross border M&A which showed acquirer resulted in loss. Both the authors considered only international M&A leaving domestic transactions. Other empirical studies are conducted in different countries and results in different results for different event windows (Tuch and O'Sullivan, 2007)

Considering the studies of domestic M&A have different conclusions according to the country used as evidence. Studies which took place between 1950's and 1960's concluded in positive returns to the acquiring firms. However, studies performed during early 2000 in US and UK result in low and negative returns (Tuch and O'Sullivan, 2007). Studies in long term approach by Sudarsanam and Mahate, (2003) report the reduction in wealth to the shareholders. Few studies report domestic and cross border in different countries. Fuller, Netter and Stegemoller, (2002) findings on sample of US acquirers of both domestic and 5

Cross border resulted in Cumulative abnormal returns (CAR) of 1.77%. The sample period is from 1990 and 2000 and approach followed is short

term. Moeller and Schlingemann, (2005) examined M&A in short term and long term approach using US acquirer sample from 1980 to 2001. Findings in short run show CAR of 1.102% and in long window CAR of 1.8%. This clearly shows how different the markets react to type of M&A and approach it is valued. Sudarsanam and Mahate, (2006) again conducted study later using same UK sample resulted in short term CAR of 1.1% and long-term CAR of -0.2% to the acquirers.

2.8 Conclusion of literature review

In recent years there is increase in value of cross border M&A in UK which is nearly equal to that of domestic M&A (Conn *et al.*, (2005)). From all the above evidences we can conclude that there are many studies going on merger and acquisitions deal. But most of them concentrate on short term approach while few of them concentrate on long window strategy. Even though few of the studies consider both approach they only concentrate on either cross border or only transactions in specific country. Most of the studies are based on US M&A deals and this research fills gap taking UK as sample. There is need to study both domestic and cross border separately and finally compare them to know which is more beneficial.

Moreover, previous researches are based on data from late 90's and before 2007. Since the world economy is moving very rapidly it is appropriate to find recent outcomes of such transactions. Most of previous studies did not discriminate domestic and cross border M&A making unclear of which generates higher return to the acquirer. This research aims to fill gap with comparing Cross border and domestic M&A using recent data which is more appropriate. Research mainly concentrates on impact of M&A on share value of acquirer firm in UK from period 2012 to 2016.

Chapter 3 Research Methodology

3.1 Introduction

This section gives a detailed account of research design and methodology intended to use for this study. The important aspects which this section covers are population of companies, data collection and method in which data is analysed.

This research is conducted to find out the most preferred one of cross border and domestic M&A. Stock price analysis is used in this study to compare them (analysis of the returns to shareholders of acquirer firms). So, this research goes on quantitative study which analyse the value creation to acquirer firm. Event study methodology is followed in this study and will be discussed in detail in further subsections.

3.1.1 Research Objectives

“Cross Border M&A vs Domestic M&A: Which of them give greater return to the Acquirer? In UK perspective.”

Aims of Research

- To identify the value created in domestic and cross border mergers and acquisitions
- To investigate how share prices of acquirer firm react to events such as Mergers and acquisitions in UK.
- To find out which among domestic and cross border M&A gives significant returns to acquirer shareholders.
- To examine difference of short term and long-term price changes of acquirer shares.
- To analyse abnormal returns of Acquirer firm with normal returns obtained from different models.

3.2 Data Selection and Data Sources

This study analyses a sample of United Kingdom (UK) public acquirer firms which are involved in cross-border and domestic mergers and acquisitions. As

discussed in the literature this study tries to fill the gap by analysing outcomes of M&A after 2011. So, the time frame considered is the acquisitions announced between January 1st, 2012 to December 31st, 2016.

All the information about UK mergers and acquisitions during the considered period is obtained from website of Office of National Statistics UK. It records all M&A events which worth £1 million or more and quarterly releases are published with information of companies involved and type of M&A. It also provides the type of transaction and official releases of respective companies. Daily stock prices data of companies involved, and FTSE market index prices are obtained from Yahoo finance and returns are calculated on daily basis.

There are several mergers and acquisitions transactions announced from 2012 to 2016. But for this study companies which met following conditions are considered

- Acquirer firms are publicly traded companies from London stock exchange (LSE).
- They have stock data for at least 252 days prior to announcement date and 40 days after the announcement date.
- Target firms are UK firms for Domestic M&A transactions and non-UK firms for cross border M&A transactions.
- Merger and Acquisitions (M&A) deal value worth £1 million or more.

3.3 Sample Description

From website of Office of National Statistics UK, we can see that there are lot of M&A transactions every quarter and there is significant increase in number of deals. But there are considerably few transactions which meet above conditions. And they form part of majority value of total M&A deals. So, from all the data set 30 cross border M&A transactions and 30 Domestic M&A transactions are selected randomly (total of 60 companies). All M&A transactions with target and acquirer firm details and date of announcement are provided in appendix 3A and 3B.

3.4 Event Study Methodology

As mentioned above event study methodology is used in this study. Event study methodology is generally used to know how an event will impact a variable term. An event study tries to measure the valuation and analyse consequences of an event, including a merger or profits assertion, by analysing the response of the stock price to the announcement of the event (Tellis, 1997). The important assumption of event study is that market process information and provide results in impartial and efficient way.

History of event study methodology started long back in 1930's. James Dolly conducted study on stock splits which is considered as first published event study (MacKinlay, 1997). Later this methodology is updated with various modifications appropriate to stock price study. Brown and Warner, (1985) work on daily and monthly intervals are one of the pioneering studies.

Research on whether event study methodology is applicable for merger analysis conclude that it is relevant and captures significant factors that are to be considered (Duso, Gugler and Yurtoglu, 2010).

3.5 Data analysis structure

In this study, Mergers and Acquisitions (M&A) announcement is the event and share price performance is measured for the companies involving in this event. This helps in knowing the impact of event (M&A announcement) on share holders' wealth. Long term and short-term effect can be analysed assuming that market react unbiased as discussed above. So, event study helps in capturing information and helps in determining the stock returns which will add value to the firm (Sudarsanam, 2003).

Event window is the length of the period which we examine. Event study is majorly concentrated on announcement date which is taken as day 0 in event window. Event window around the announcement period will help in better examination of event (MacKinlay, 1997).

There are lot of studies with different window periods which are according to the type of study made (short term or long term) (Tuch and O'Sullivan, 2007). In this study we try to consider both long and short term. According to (Tuch

and O'Sullivan, 2007) short term window is appropriate as it is straight and less troublesome. But in short term stock price may be influenced temporarily and reflect investors' expectations. Longer window will capture the after effects of the event and will give the actual performance measure of share price. But there are side effects of economic and fiscal events influence as well as industry fluctuations (Tuch and O'Sullivan, 2007).

In this study total of four different event windows are taken into consideration. They are (-1, +1), (-5, +5), (-10, +10) and (-40, +40) in days and the day on which event occurred is treated as 0. Two of them are short period ranging from 11 days to 3 days. While in long event window days considered range from 21 to 81 days.

The two short event windows are taken into account based on suggestion of previous studies (Brown and Warner, 1985). Long event periods of (-10,+10), (-40,+40) are considered to capture the effects of information due to information spread all over market. Other effects like insider trading, strict regulations and information leakage also can be tackled in long event periods (Grill and Jaskow, 2007). The three day window period is considered most appropriate and widely used as it observes the immediate effect of announcement and will avoid sensitivity of market returns (Conn *et al.*, 2005).

3.6 Research Design

After selection of event windows next step is calculate the effect of M&A on the share price. This can be done through calculating abnormal returns. Abnormal returns generally mean that returns excess of normal return. It is difference between the expected return of a stock or portfolio and its actual return. They can be positive or negative depending upon the event and expectations of investor. In mathematical terms

$$\begin{aligned}
 & \text{Abnormal Return (AbR)} \\
 &= \text{Actual Return for the firm at } t \text{ day (AR}_t\text{)} \\
 &\quad - \text{Expected or Normal return at } t \text{ day (NR}_t\text{)}
 \end{aligned}$$

To calculate this first returns of each stock is calculated. It can be calculated as percentage change in price of stock between two days or certain period. It can be obtained by following formula.

$$\text{Stock Return} = \frac{\text{Ending or closing stock price } (P_1) - \text{Initial Stock price } (P_0)}{\text{Initial Stock price } (P_0)}$$

Now to calculate abnormal return we need expected or normal return of that stock. It is usually benchmark return which is taken as reference. Normal return signifies the returns if there is no event (M&A transaction) occurred. So normal return is calculated for every company considered at different event windows. Few studies involving M&A transactions took pre event period as estimation for normal returns (Aw and Chatterjee, 2004). This study also considers pre-event period for normal returns in line with previous studies which studied M&A events.

To calculate normal returns two different models are used in this study. They are mean adjusted model and Market model. These two methods help to measure returns due to M&A event and refrain results not to be single model specific.

3.6.1 Mean Adjusted Return Model

In this method the assumption is that return on a security at time t is average of past time series returns. It is consistent with Capital asset pricing model (CAPM) as it assumes there is constant systematic risk which results in constant return. Returns are constant across time and different across securities (Weston *et al.*, 2004).

To calculate normal return using this model, a clean period with no M&A information influence is considered. In this study last 252 clean days in previous year and 40 days after M&A announcement are considered. It is in line with previous studies (Gregory and McCorriston, 2005) and (Sudarsanam and Mahate, 2003).

$$\begin{aligned} \text{Abnormal Return (AbR)} \\ &= \text{Actual Return at time } t (R_t) \\ &- \text{Normal average return at time } t (NR_t) \end{aligned}$$

After obtaining normal return it is subtracted from actual return during that event period to get abnormal return. Then average abnormal return (AAR) is calculated for further analysis. This method is considered as simple and consistent model by Brown and Warner, (1985).

3.6.2 Market Model

In this model expected return on stock is taken from the benchmark index. As in previous method, a clean period is considered before the event period and normal returns on that day of the benchmark index is treated as normal return or expected return (Weston *et al.*, 2004).

In this study UK firms are considered so FTSE index returns are used to calculate normal or expected returns in Market model method.

$$AbR_t = R_t - E(R_t) \text{ which is equal to } AR_t = R_t - \alpha - \beta R_{mt}$$

where: AR_t = abnormal return on day t

R_t = actual return on day t

R_{mt} = return on the market index, FTSE All Share.

α and β are market parameters which determine the price of the stock. FTSE returns of clean 252 days and 40 days after M&A announcement is used to calculate abnormal returns using market model. Average abnormal return is also calculated in this model for further analysis (Weston *et al.*, 2004).

After obtaining abnormal returns from both the methods, cross border and domestic companies results are analysed individually. Then average abnormal returns are calculated to check which gives greater return to shareholders in different event windows.

After examining the means and standard deviation, we perform t test to check. One sample t test is performed. The student t distribution is appropriate for use with a small sample assuming we can make an assumption that the underlying population is normally distributed (DeFusco *et al.*, 2015).

The t statistic is based on the characteristics outlined below along with the associated t statistic.

$$t = \frac{\bar{x} - \mu}{s/\sqrt{n}}$$

with n-1 degrees of freedom.

Where \bar{x} is sample mean, μ is the specified population mean, n is the sample size and s is sample standard deviation.

We perform t test on each window period in both cross border and domestic M&A transactions and check overall return of both. It is performed to check whether are statistically significant or they are just by fluke.

For this we considered null hypothesis as average abnormal returns are zero.

H_0 : Average abnormal returns (AAR) = 0

H_a : Average abnormal returns (AAR) \neq 0

Confidence level of 95% is taken for calculation of single sample t test.

Then empirical analysis of M&A transactions is examined. All trends of M&A deals from 2012 to 2016 is studied to know how market participation in M&A events. Then t-Test: Paired Two Sample for Means is conducted on both models (market model and mean adjusted model) to verify whether both models are connected in same way. In other terms null hypothesis is that both models means are same which says that both models are significant and can be treated equal.

Chapter 4 DATA ANALYSIS, AND RESULTS

This section will discuss about the results from data analysis. It starts with calculation of abnormal returns (AbR) and Average abnormal returns (AAR) and later examining of individual event period and its descriptive statistics. It then discusses about the results from t test of all Abnormal returns and (AbR) and Average abnormal returns (AAR).

4.1 Individual Statistics

In this analysis start with considering the announcement date which is date of the event and Abnormal returns are found out for each event window. The following tables gives empirical results conducted on both cross border and domestic M&A transactions using two different models.

Table:4A Abnormal returns of Acquirer firms in Cross Border M&A transactions using Market Model

Company Names	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
1. RPC Group Plc	2.15%	-0.62%	6.01%	20.14%
2. Unilever Plc	2.76%	5.98%	9.36%	25.41%
3. Melrose Industries Plc	3.55%	11.96%	13.22%	29.12%
4. 3I Group Plc of the UK	-0.95%	2.88%	-3.20%	50.27%
5. Micro Focus International Plc	2.12%	0.70%	-3.07%	5.00%
6. Dechra Pharmaceuticals Plc	4.60%	6.59%	2.23%	3.46%
7. BBA Aviation Plc	-2.83%	12.17%	5.54%	5.98%
8. Astra Zenca Plc	-2.24%	-9.93%	-6.59%	-47.77%
9. Smith and Nephew of the UK	3.37%	0.53%	-5.09%	0.76%
10. Benchmark Holdings Plc	-0.50%	-2.33%	-2.41%	-41.21%
11. Intertek Group PLC	3.70%	11.94%	11.16%	4.13%
12. Clinigen Group Plc	-4.26%	4.51%	-8.35%	-11.47%
13. Rentokil Initial Plc	1.28%	2.04%	8.60%	4.00%
14. Markit Group Holdings Limited	4.56%	5.72%	12.72%	8.82%
15. British American Tobacco Plc	3.26%	8.72%	10.41%	0.56%
16. GKN Plc	-5.17%	-8.69%	-17.00%	-16.42%
17. D S Smith Plc	4.65%	12.50%	2.49%	14.32%
18. Circassia Pharmaceuticals Plc	-9.59%	-8.67%	-4.74%	6.89%
19. Just Eat Plc	-11.21%	0.06%	-7.83%	7.18%
20. BTG PLC	1.95%	0.62%	-3.94%	-0.08%
21. Tullet Prebon Plc	1.99%	-3.54%	-7.17%	22.27%
22. The Weir Group PLC	-7.80%	-7.17%	-35.69%	-36.06%

23. Rolls-Royce Holdings Plc	0.83%	-2.13%	-2.40%	-25.59%
24. Man Group Plc	3.13%	16.03%	18.87%	21.62%
25. British Sky Broadcasting Group Plc	1.95%	0.62%	-3.94%	-0.08%
26. Savills Plc	1.71%	8.86%	8.92%	-13.43%
27. Pearson Plc	0.62%	-4.29%	-16.91%	-31.25%
28. Lupus Capital Plc	-2.96%	-7.33%	-6.34%	-9.16%
29. Diageo Plc	-0.10%	1.22%	7.66%	10.25%
30. GlaxoSmithKline Plc	-4.11%	-5.92%	-1.19%	14.61%

Table:4B Abnormal returns of Acquirer firms in Domestic M&A transactions using Market Model

Company Names	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
1. Phoenix Life Holdings Ltd	3.22%	-5.30%	2.63%	13.02%
2. Spectris Plc	0.78%	0.32%	4.71%	17.37%
3. RPC Group Plc	2.33%	3.05%	8.06%	29.88%
4. BCA Marketplace Plc	5.74%	10.99%	11.57%	25.59%
5. J Sainsbury Plc	-6.37%	0.12%	-6.37%	4.42%
6. Close Brothers Group Plc	2.56%	-5.78%	4.20%	7.85%
7. Centrica Plc	0.14%	-5.17%	-15.06%	3.12%
8. Non Standard Finance Plc	-0.15%	-3.27%	-10.52%	-11.33%
9. Ventura Group Plc	0.68%	2.51%	2.15%	0.37%
10. Just Retirement Group Plc	-5.81%	-9.96%	-7.26%	1.42%
11. ITV Plc	0.95%	2.74%	-11.09%	-18.54%
12. Convivality Retail Plc	-1.75%	13.31%	14.12%	1.90%
13. The Paragon Group Of Companies Plc	12.08%	10.25%	11.36%	-10.37%
14. Polypipe Group Plc	5.41%	20.07%	32.11%	20.52%
15. Greene King Plc	3.79%	3.91%	5.54%	1.96%
16. Kier Group Plc	3.22%	6.75%	11.17%	11.79%
17. Coalfield Resources Plc	8.64%	12.86%	15.87%	22.42%
18. Ophir Energy Plc	0.30%	5.66%	-16.68%	15.24%
19. BT Group Plc	2.97%	3.02%	3.14%	4.97%
20. Connect Group Plc	0.89%	-4.60%	-1.17%	-4.02%
21. Consort Medical Plc	-1.59%	-1.62%	-22.11%	-7.92%
22. Elektron Technology Plc	-0.97%	-2.61%	6.09%	-103.50%
23. Babcock International Group	-4.20%	-2.97%	0.38%	-10.76%

24. Standard Life Investments Holdings	-1.17%	3.23%	6.31%	-7.64%
25. Rentokil Initial Plc	0.67%	-2.48%	-7.96%	-8.20%
26. Oxford Instruments Plc	1.67%	-3.23%	-13.54%	-25.71%
27. Londonmetric property Plc	3.58%	1.92%	0.42%	15.45%
28. The Parkmead Group Plc	12.08%	10.25%	11.36%	-10.37%
29. Costain Group Plc	-9.90%	-5.61%	5.33%	4.06%
30. Tracsis Plc	5.46%	7.19%	1.66%	17.05%

Table:4C Abnormal returns of Acquirer firms in Cross Border M&A transactions using Mean Adjusted Model

Company Names	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
1. RPC Group Plc	4.24%	2.57%	6.80%	11.02%
2. Unilever Plc	2.21%	4.16%	0.25%	12.33%
3. Melrose Industries Plc	42.34%	49.86%	59.09%	126.05%
4. 3i Group Plc of the UK	-2.59%	-3.42%	-7.73%	47.60%
5. Micro Focus International Plc	5.07%	4.80%	-4.90%	8.50%
6. Dechra Pharmaceuticals Plc	0.41%	-1.19%	3.35%	17.19%
7. BBA Aviation Plc	-6.27%	2.05%	3.46%	18.42%
8. Astra Zenca Plc	-0.77%	-8.08%	-0.24%	-47.77%
9. Smith and Nephew of the UK	0.70%	0.46%	-0.09%	-1.04%
10. Benchmark Holdings Plc	4.07%	9.89%	15.75%	-21.81%
11. Intertek Group PLC	5.20%	8.79%	3.21%	14.15%
12. Clinigen Group Plc	-4.79%	-3.93%	-2.43%	11.02%
13. Rentokil Initial Plc	-5.45%	-6.70%	-3.38%	3.60%
14. Markit Group Holdings Limited	2.44%	2.85%	4.28%	24.69%
15. British American Tobacco Plc	1.13%	8.38%	8.62%	2.50%
16. GKN Plc	-4.39%	-3.28%	-6.36%	-17.26%
17. D S Smith Plc	3.14%	9.37%	-0.73%	26.42%
18. Circassia Pharmaceuticals Plc	-6.50%	-16.60%	-11.65%	7.91%
19. Just Eat Plc	-	-5.18%	-0.24%	-5.25%
20. BTG PLC	10.19%	3.03%	4.25%	12.24%
21. Tullet Prebon Plc	-2.31%	-7.02%	-5.46%	40.73%
22. The Weir Group PLC	-4.53%	-12.90%	-16.72%	-64.51%

23. Rolls-Royce Holdings Plc	0.49%	-0.39%	-10.55%	-49.21%
24. Man Group Plc	4.03%	15.22%	18.96%	-0.84%
25. British Sky Broadcasting Group Plc	-4.38%	-12.02%	-7.67%	-8.84%
26. Savills Plc	-6.36%	3.11%	5.42%	-29.74%
27. Pearson Plc	0.82%	-0.39%	-10.62%	-14.54%
28. Lupus Capital Plc	-5.18%	-5.37%	-5.10%	-16.11%
29. Diageo Plc	-1.18%	-0.53%	0.80%	-12.67%
30. GlaxoSmithKline Plc	-2.26%	-3.50%	-1.03%	13.61%

Table:4D Abnormal returns of Acquirer firms in Domestic M&A transactions using Market model

Company Names	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
1. Phoenix Life Holdings Ltd	4.95%	0.87%	4.95%	14.88%
2. Spectris Plc	3.10%	3.99%	2.55%	29.90%
3. RPC Group Plc	4.20%	-1.59%	2.45%	14.98%
4. BCA Marketplace Plc	4.86%	6.74%	13.12%	15.20%
5. J Sainsbury Plc	-6.22%	5.55%	6.05%	1.00%
6. Close Brothers Group Plc	-0.71%	-10.58%	-3.06%	1.61%
7. Centrica Plc	0.52%	-3.83%	-20.40%	4.43%
8. Non Standard Finance Plc	-0.82%	-2.19%	-8.58%	-8.58%
9. Ventura Group Plc	3.11%	11.52%	-1.55%	8.68%
10. Just Retirement Group Plc	-10.56%	-21.23%	-16.29%	24.33%
11. ITV Plc	1.00%	8.95%	-3.44%	-4.61%
12. Convivality Retail Plc	-2.80%	7.30%	3.41%	4.40%
13. The Paragon Group Of Companies Plc	9.66%	1.07%	-7.98%	-7.76%
14. Polypipe Group Plc	6.62%	21.62%	28.57%	27.39%
15. Greene King Plc	3.77%	6.52%	8.51%	10.42%
16. Kier Group Plc	3.43%	8.39%	14.18%	14.12%
17. Coalfield Resources Plc	46.81%	59.25%	54.38%	93.99%
18. Ophir Energy Plc	1.22%	3.41%	-17.89%	29.63%
19. BT Group Plc	5.24%	7.62%	3.55%	8.68%
20. Connect Group Plc	-0.11%	2.78%	1.93%	-14.81%

21. Consort Medical Plc	-2.36%	-2.00%	-19.87%	-1.04%
22. Elektron Technology Plc	-1.93%	-0.96%	0.78%	40.00%
23. Babcock International Group	-5.37%	-4.96%	-2.61%	-17.10%
24. Standard Life Investments Holdings	-6.23%	1.72%	4.86%	-3.09%
25. Rentokil Initial Plc	-0.95%	-4.84%	-6.56%	1.33%
26. Oxford Instruments Plc	1.19%	0.51%	-3.76%	-12.50%
27. Londonmetric property Plc	2.40%	2.65%	-3.21%	16.42%
28. The Parkmead Group Plc	-0.24%	-33.08%	-45.13%	-29.04%
29. Costain Group Plc	-10.27%	-7.92%	-10.60%	-17.24%
30. Tracsis Plc	4.33%	7.09%	-9.24%	-29.69%

From the above tables it is evident that at results are similar in both the models, but the returns to each company varied a lot from each other. In the event window of (-1, +1) returns are impacted by announcement of event and caused significant changes in domestic M&A. There are positive abnormal returns in cross border M&A, but they are suppressed by higher presence of negative abnormal returns. This is same in case of other short window (-5, +5) but caused more negative returns for firms which started to lose in (-1, +1) event window.

In the longer window of (-10, +10) of domestic M&A the returns stabilized and gave positive push to most of the M&A deals but there are significant deals which threw the share price very deep. And in cross border M&A with (-10, +10) window period mean adjusted model gave lower negative abnormal returns when compared to Market model. In the event window of (-40, +40) all the factors are captured and market reactions to event also included. This caused good upward push of share price in domestic M&A when compared to cross border M&A.

4.2 Descriptive Statistics

In the below section all descriptive statistics are performed and Mean obtained is considered as Average abnormal return (AAR). Following table give detailed description of all statistics of both cross border and domestic M&A.

Table 4E: Descriptive Statistics for Cross border M&A transactions using Market Model

	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
Mean	0.045487	0.027677	0.007443	0.037423
Standard Error	31. 0.037198	0.018469	0.026864	0.055394
Median	0.0183	0.0066	-0.02405	0.04065
Standard Deviation	0.203741	0.101162	0.147141	0.303404
Sample Variance	0.041511	0.010234	0.02165	0.092054

Table 4F: Descriptive Statistics for Domestic M&A transactions using Market Model

	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
Mean	0.075417	0.03885	0.02914	0.025013
Standard Error	0.017876	0.024004	0.027461	0.053783
Median	0.0092	0.02215	0.02885	0.0254
Standard Deviation	0.097913	0.131475	0.150411	0.294583
Sample Variance	0.009587	0.017286	0.022623	0.086779

Table 4G: Descriptive Statistics for Cross Border M&A transactions using Mean adjusted Model

	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
Mean	0.004057	0.011753	0.015777	0.031723
Standard Error	0.016286	0.021309	0.024621	0.062193
Median	-0.0018	-0.0039	-0.0024	0.0305
Standard Deviation	0.0892	0.116712	0.134857	0.340645
Sample Variance	0.007957	0.013622	0.018186	0.116039

Table 4H: Descriptive Statistics for Domestic M&A transactions using Mean adjusted Model

	(+1, -1)	(+5, -5)	(+10, -10)	(+40, -40)
Mean	0.01928	0.02479	-0.01029	0.071977
Standard Error	0.017703	0.026694	0.030661	0.043284
Median	0.01095	0.02185	-0.0208	0.04415
Standard Deviation	0.096964	0.146207	0.16794	0.237074
Sample Variance	0.009402	0.021377	0.028204	0.056204

Above tables help in providing the overall aspect of each model in M&A transactions. In Market model we see that Domestic M&A transactions gave good returns when compared to cross border in short term windows of (+1, -1) and (+5, -5). In market model Domestic AAR is around 7.5% while in Cross border AAR it is only 4.5%. The deviation of Domestic M&A returns is very low (0.097913) when compared to cross border M&A returns (0.203741).

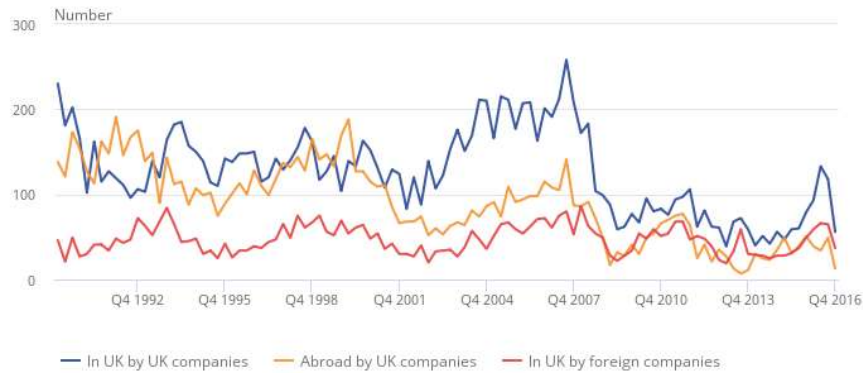
In long event windows of market model, we see that cross border M&A gave good average returns when compared to domestic. And standard deviation of both cross border and domestic are similar which makes cross border more efficient in long run. Median of returns are similar in both the types of M&A transactions.

When mean adjusted model is considered in short window periods, it also gave higher returns to Domestic M&A event when compared to cross border M&A. In event window of (+5, -5) there are similar returns in both type of events.

With mean adjusted model in long window periods the AAR is high in domestic when compared to cross border. Domestic M&A gave Aar of 7.2% while cross border gave only 3.1% which is less than half of prior. Standard deviations of returns are considerably low in domestic when compared to cross border. But, in the event window of (+10, -10) domestic gave negative returns which may be due to external factors. Median returns are also significantly similar in mean adjusted model as like in Market model.

4.3 Empirical Analysis of M&A Transactions

This section tries to examine the empirical trends of M&A events and also tries to analyse which of the both (cross border or domestic) is more conducted or participated.



Source: Office for National Statistics

Fig 4.i Number of acquisitions involving UK companies

From the above graph we can see that domestic M&A events are always preferred and conducted in more number when compared to cross border transactions. It is also evident that foreign companies M&A in UK is moving in upward trend which shows demand for UK market place.

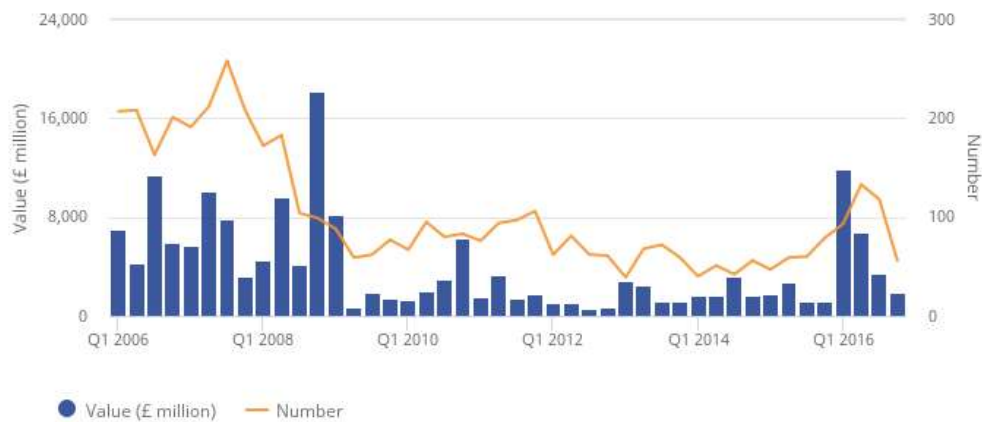
In 2016, 400 M&A deals took place domestically, 135 M&A deals are announced by UK companies abroad and 227 deals are announced by foreign countries in UK (*Mergers and acquisitions involving UK companies - Office for National Statistics, 2016*). Overall between 2013 to 2016, the number of outward M&A activities involving UK companies reduced than observed during the 2008 to 2009 financial downturn. The number of inward and domestic M&A saw a notable increase in activity during 2016 when compared with 2015, representing increase of 57% and 63% respectively.



Source: Office for National Statistics

Fig 4.ii Value and number of acquisitions cross border by UK companies, Quarter 1 (Jan to Mar) 2006 to Quarter 4 (Oct to Dec) 2016

In the above figure we can see that there is phenomenal decrease in M&A transactions also decrease in value of M&A which signifies that cross border M&A events are not much participated as before. There were 135 successful outward M&A in 2016. This shows a decrease of 35 while it is 170 in 2015. With the exception of 2015, the levels of outward M&A activity have continued to fall since 2011 when 286 completed outward acquisitions were reported (*Mergers and acquisitions involving UK companies - Office for National Statistics, 2016*).



Source: Office for National Statistics

Fig 4.ii Value and number of Domestic acquisitions of UK companies by other UK companies

From the above figure it is clear that number of M&A deals domestically significantly reduced but are more compared to cross border M&A.

4.4 Statistical Tests

In this section, one sample t test is performed for all event windows for two models to verify whether taken 30 samples have no abnormal return of zero. Following tables show outcomes of one sample t test.

Table 4I: Single T test for Domestic, Cross border and overall abnormal returns in market model.

Market Model						
Event Window	AAR Cross Border		AAR Domestic		AAR Overall	
	test static	Critical value	test static	critical value	test static	critical value
(-1, +1)	1.223	0.2312	1.5896	0.1228	1.2752	0.2124
(-5, +5)	1.4985	0.1448	1.6185	0.1164	1.5647	0.1285
(-10, +10)	0.2771	0.7837	1.0611	0.2974	0.6773	0.5036
(-40, +40)	0.4756	0.5047	0.4651	0.6454	0.5566	0.5687

Table 4J: Single T test for Domestic, Cross border and overall abnormal returns in mean adjusted model.

Mean adjusted model						
Event Window	AAR Cross Border		AAR Domestic		AAR Overall	
	test static	Critical value	test static	critical value	test static	critical value
(-1, +1)	1.2491	0.8050	1.0891	0.2851	0.6895	0.4960
(-5, +5)	0.6516	0.5855	0.9287	0.3607	0.7621	0.4522
(-10,+10)	0.6408	0.5267	0.3357	0.7395	0.0991	0.9218
(-40,+40)	0.5101	0.6139	0.0629	0.1071	0.1737	0.3383

From the above table 4I, results of single T test can be examined. In market model both cross border, domestic and overall abnormal returns resulted that they are statistically insignificant which means the abnormal return is not equal to zero. But in long window period of 81 days they accept null hypothesis that there is no abnormal return due to M&A.

From the table 4J, results of single t test for mean adjusted model can be examined. when the mean-adjusted model is used, the results show that all cross border and domestic event window returns are not statistically significant which means there are abnormal return due to M&A except for longer window of 81 days. The test for overall sample in mean adjusted model signify that there are abnormal returns only for short event window, where are returns are normal statistically in long window period.

After single t test we performed two sample t test for each window period taking samples from market model and mean adjusted model to check whether there is significant difference between two models. Null hypothesis is that there is no difference of means. Following tables illustrates the outcomes.

Table 4K: Two sample t test for different event windows in Cross Border M&A

Cross border M&A		
Event Window	Test Static	Critical Value
(-1, +1)	1.158601271	2.04522964
(-5, +5)	1.523860367	2.04522964
(-10,+10)	-0.56969205	2.04522964
(-40,+40)	0.224479833	2.04522964

Table 4L: Two sample t test for different event windows in Domestic M&A

Domestic M&A		
Event Window	Test Static	Critical Value
(-1, +1)	1.768821	2.04523
(-5, +5)	0.832702	2.04523
(-10 ,+10)	1.78925	2.04523
(-40 ,+40)	-0.87405	2.04523

From both the above tables we can see that there is no significant difference of means (average abnormal return) for both market model and mean adjusted model. There are insignificant negative returns in 21-day window in market model and 81-day window in mean adjusted model.

Chapter 5 Conclusion and Limitations

5.1 Conclusion

From the taken sample of 30 companies participated in cross border M&A and 30 companies in domestic M&A returns to shareholders of acquired companies are analysed. Considering different window periods, the results in individual sample show significant higher results in domestic M&A (7%) compared to cross border (4%) M&A events. There are considerably negative returns to few shareholders of acquirer companies in cross border M&A.

Impact of M&A event is moderate in long term window period but generated positive returns to acquirer in both domestic and cross border M&A. Standard deviation of returns is higher in case of companies in cross border M&A when compared to domestic which makes Domestic M&A preferable.

Looking into empirical trends of M&A deals in UK, results show that there is indicative decrease in number of cross border M&A when compared to domestic M&A. But there is also year on year decrease in domestic M&A events which signify that M&A participation is less considerable by corporates because of risk and time involved in it.

On performing equality tests (t tests), the results show that sample considered in appropriate and results in both models are significant. In case of cross border M&A in long window the results show that returns are normal. This indirectly means that returns are not above the markets performance. Domestic M&A in market model showed significant positive returns in long and short window period. When overall sample is considered the equality, test say that in short term there are significant abnormal returns but in long window returns doesn't pass the normal results. This say that impact of M&A event on share price in long run is not as short window.

In case of mean adjusted model, considering short window there are positive abnormal returns in case all three (cross border , domestic and overall). And hypothesis of no abnormal returns is accepted in case of long window of 81 days.

So, from all the above, conclusion is that domestic M&A is preferable than cross border M&A. And the returns are significantly higher than normal in short run than in long period which suggests that shareholders gain more if shares are purchased before M&A and sell it in short period after M&A event. But buy and hold strategy is also preferred as it gave positive results in long run. Study proves that cross border M&A puts burden on acquirer and needs time to provide returns to acquirer. This may be due to various external factors which needs further study.

5.2 Limitations and further study

Due to time constraint this study only concentrated on return to shareholders which is only one aspect. But, there are also other aspects like operating profit which are impacted by M&A event which needs further study.

There are also other factors which influence returns to shareholders of acquirer firm. M&A deal size, country of target, type of payment, deal value to size of company etc. So, regression analysis performed on this factor help to study the M&A more precisely.

APPENDICES

Appendix 3A: List of Companies used for Cross border M&A sample

Company Names of UK	Year
31. RPC Group Plc	It acquired Global Closure Systems of France in 1 st October, 2016
32. Unilever Plc	It acquired Dollar Shave Club Inc of the USA in August 10, 2016
33. Melrose Industries Plc	Which acquired Nortek Inc of the USA in July 5, 2016
34. 3i Group Plc of the UK	It acquired Schlemmer GmbH of Germany and SIB Immobiliere of France in May 31, 2016
35. Micro Focus International Plc	It acquired Spartacus Acquisition Holding Corp of the USA in 3 rd May, 2016
36. Dechra Pharmaceuticals Plc	It acquired Putney Inc of the USA in March 15, 2016
37. BBA Aviation Plc	It acquired Landmark Aviation of the USA in February 10, 2016
38. Astra Zenca Plc	It acquired majority stake in Acerta Pharma of the Netherlands in 02 February, 2016
39. Smith and Nephew of the UK	It acquired Bluebelt Holdings Inc of the USA in 5 th January, 2016
40. Benchmark Holdings Plc	It acquired INVE Aquaculture Holding B.V. of the Netherlands in 15 December, 2015
41. Intertek Group PLC	It acquired Professional Service Industries Acquisitions Inc of the USA in November 30, 2015
42. Clinigen Group Plc	It acquired Link Healthcare Private Ltd of Singapore in 4 th October, 2015
43. Rentokil Initial Plc	It acquired The Steritech Group Inc of the USA in 2 nd October, 2015
44. Markit Group Holdings Limited	It acquired Coreone Technologies Holdings LLC of the USA in 1 st October, 2015
45. British American Tobacco Plc	It acquired TDR D.O.O. of Croatia in 30 September, 2015
46. GKN Plc	It acquired Fokker Technologies Group B.V. of the Netherlands in 28 August, 2015
47. D S Smith Plc	It acquired Grupo Lantero's Corrugated Business of Spain in 31 July, 2015
48. Circassia Pharmaceuticals Plc	It acquired Aerocrine AB of Sweden in 15 th May, 2015
49. Just Eat Plc	It acquired Menulog Group Ltd of Australia in 8 th May, 2015

50. BTG PLC	It acquired PneumRx Inc of the USA in 8 th January, 2015
51. Tullet Prebon Plc	It acquired PvM Associates Ltd of Bermuda in 26 th November, 2014
52. The Weir Group PLC	It acquired Trio Engineered Products of China in October 15, 2014
53. Rolls-Royce Holdings Plc	It acquired Rolls-Royce Power Systems (Tognum AG) of Germany in 26 August, 2014
54. Man Group Plc	It acquired Numeric Holdings LLC of the USA in 31 May, 2014
55. British Sky Broadcasting Group Plc	It acquired Sky Deutschland AG of Germany in 25 July, 2014
56. Savills Plc	It acquired Studley Inc of the USA in 29 th May, 2014
57. Pearson Plc	It acquired Grupo Multi of Brazil in 10 th January, 2014
58. Lupus Capital Plc	It acquired Truth Hardware Corporation of the USA in 18 September, 2013
59. Diageo Plc	It acquired United Spirits Limited of India in July 16, 2013
60. GlaxoSmithKline Plc	It acquired Okairos AG of Switzerland in May 29, 2013

Appendix 3B: List of companies used for Domestic M&A sample

Company Names of UK	Years
31. Phoenix Life Holdings Ltd	It acquired Abbey Life Assurance Company of the UK in September 28, 2016
32. Spectris Plc	It acquired Millbrook Group Ltd of the UK in September 2 nd , 2016
33. RPC Group Plc	It acquired British Polythene Industries Plc of the UK in August 5, 2016
34. BCA Marketplace Plc	It acquired Paragon Automotive Ltd of the UK in July 19 th , 2016
35. J Sainsbury Plc	The acquisition of the entire ordinary share ownership of Home Retail Group Plc of the UK in July 5, 2016
36. Close Brothers Group Plc	It acquired Eos Wealth Management Ltd of the UK in June 6, 2016
37. Centrica Plc	It acquired ENER-G Cogen International Ltd of the UK in May 16, 2016
38. Non Standard Finance Plc	It acquired Everyday Loans Group of the UK in April 13, 2016
39. Ventura Group Plc	It acquired Skyepharma Plc of the UK in March 17, 2016

40. Just Retirement Group Plc	It acquired Partnership Assurance Group Plc of the UK in April 4, 2016
41. ITV Plc	It acquired UTV Ltd of the UK in February 19 th , 2016
42. Convivality Retail Plc	It acquired Matthew Clark (Holdings) Ltd of the UK in 4 th October, 2015
43. The Paragon Group Of Companies Plc	It acquired Five Arrows Leasing Group Limited of the UK in 2 nd October, 2015.
44. Polypipe Group Plc	It acquired Nu-Oval Acquisitions 1 Ltd (Nuaire) of the UK in 5 th August, 2015
45. Greene King Plc	It acquired Spirit Pub Company Plc of the UK in 23 June, 2015
46. Kier Group Plc	It acquired MRBL Ltd of the UK in 8 June, 2015
47. Coalfield Resources Plc	It acquired Harworth Estates Property Group Ltd of the UK in 3 rd March, 2015
48. Ophir Energy Plc	It acquired Salamander Energy Plc of the UK in 2 March, 2015
49. BT Group Plc	It acquired EE Ltd of the UK in 5 th February, 2015
50. Connect Group Plc	It acquired Tuffnells Parcels Express of the UK in 19 th December, 2014
51. Consort Medical Plc	It acquired Aesica Holdco Ltd of the UK in 30 September, 2014
52. Elektron Technology Plc	It acquired by Microgen Plc 27 May, 2014
53. Babcock International Group	It acquired Avincis Mission Critical Services Topco Ltd of the UK in May 16, 2014
54. Standard Life Investments Holdings	It acquired Ignis Asset Management Ltd of the UK in 26 March, 2014
55. Rentokil Initial Plc	It acquired Initial Facilities of the UK in March 18, 2014
56. Oxford Instruments Plc	It acquired Andor Technology Plc of the UK in 15 January, 2014
57. Londonmetric property Plc	It acquired Odeon Multiplex Manchester in 14 November, 2013
58. The Parkmead Group Plc	It acquired Lochard Energy Group Plc in May 23, 2013
59. Costain Group Plc	It acquired May Gurney Integrated Services Plc in 27 March, 2013
60. Tracsis Plc	It acquired Sky High Plc March 26, 2013

Appendix 3C: Calculations of abnormal returns for Domestic M&A samples considered in two Models

BAB.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-3.76%	1.61%	-5.37%
(+5,-5)	-1.39%	3.57%	-4.96%
(-10,+10)	2.43%	5.04%	-2.61%
(-40,+40)	-9.41%	7.68%	-17.10%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-3.76%	0.44%	-4.20%
(+5,-5)	-1.39%	1.58%	-2.97%
(-10,+10)	2.43%	2.04%	0.38%
(-40,+40)	-9.41%	1.35%	-10.76%

BCA.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	5.65%	0.79%	4.86%
(+5,-5)	7.53%	0.79%	6.74%
(-10,+10)	13.91%	0.79%	13.12%
(-40,+40)	12.87%	-2.33%	15.20%

Event per	Actual	FTSE	Abnormal
(+1,-1)	5.65%	-0.09%	5.74%
(+5,-5)	7.53%	-3.46%	10.99%
(-10,+10)	13.91%	2.34%	11.57%
(-40,+40)	12.87%	-12.72%	25.59%

BT-A.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	4.73%	-0.51%	5.24%
(+5,-5)	4.87%	-2.75%	7.62%
(-10,+10)	3.73%	0.18%	3.55%
(-40,+40)	6.34%	-2.34%	8.68%

Event per	Actual	FTSE	Abnormal
(+1,-1)	4.73%	1.76%	2.97%
(+5,-5)	4.87%	1.85%	3.02%
(-10,+10)	3.73%	0.59%	3.14%
(-40,+40)	6.34%	1.37%	4.97%

CBG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.46%	1.17%	-0.71%
(+5,-5)	-8.54%	2.04%	-10.58%
(-10,+10)	-0.08%	2.99%	-3.06%
(-40,+40)	3.65%	2.04%	1.61%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.46%	-2.10%	2.56%
(+5,-5)	-8.54%	-2.76%	-5.78%
(-10,+10)	-0.08%	-4.27%	4.20%
(-40,+40)	3.65%	-4.21%	7.85%

CNA.L			
Event per	Actual	Normal	ActualRet
(+1,-1)	0.30%	-0.22%	0.52%
(+5,-5)	-3.33%	0.50%	-3.83%
(-10,+10)	-14.51%	5.88%	-20.40%
(-40,+40)	1.20%	-3.23%	4.43%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.30%	0.16%	0.14%
(+5,-5)	-3.33%	1.84%	-5.17%
(-10,+10)	-14.51%	0.55%	-15.06%
(-40,+40)	1.20%	-1.92%	3.12%

CNCT.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	2.65%	2.76%	-0.11%
(+5,-5)	-0.16%	-2.94%	2.78%
(-10,+10)	2.78%	0.85%	1.93%
(-40,+40)	-2.78%	12.03%	-14.81%

Event per	Actual	FTSE	Abnormal
(+1,-1)	2.65%	1.76%	0.89%
(+5,-5)	-0.16%	4.44%	-4.60%
(-10,+10)	2.78%	3.96%	-1.17%
(-40,+40)	-2.78%	1.24%	-4.02%

CONVIVTALITY			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.07%	2.87%	-2.80%
(+5,-5)	8.65%	1.35%	7.30%
(-10,+10)	6.40%	3.00%	3.41%
(-40,+40)	3.80%	-0.60%	4.40%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.07%	1.82%	-1.75%
(+5,-5)	8.65%	-4.65%	13.31%
(-10,+10)	6.40%	-7.72%	14.12%
(-40,+40)	3.80%	1.90%	1.90%

COST.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-9.65%	0.62%	-10.27%
(+5,-5)	-7.06%	0.86%	-7.92%
(-10,+10)	0.95%	11.55%	-10.60%
(-40,+40)	-1.60%	15.64%	-17.24%

Event per	Actua	FTSE	Abnormal
(+1,-1)	-9.65%	0.25%	-9.90%
(+5,-5)	-7.06%	-1.45%	-5.61%
(-10,+10)	0.95%	-4.38%	5.33%
(-40,+40)	-1.60%	-5.66%	4.06%

CSRT.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-1.97%	0.39%	-2.36%
(+5,-5)	-4.75%	-2.75%	-2.00%
(-10,+10)	-22.43%	-2.56%	-19.87%
(-40,+40)	-7.67%	-6.63%	-1.04%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-1.97%	-0.38%	-1.59%
(+5,-5)	-4.75%	-3.13%	-1.62%
(-10,+10)	-22.43%	-0.32%	-22.11%
(-40,+40)	-7.67%	0.25%	-7.92%

EKT.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-0.11%	1.82%	-1.93%
(+5,-5)	-2.70%	-1.74%	-0.96%
(-10,+10)	-2.86%	-3.64%	0.78%
(-40,+40)	0.00%	-40.00%	40.00%

Event per	Actual	FTSE	AbnormalIR
(+1,-1)	0.00%	0.97%	-0.97%
(+5,-5)	-5.56%	-2.94%	-2.61%
(-10,+10)	2.70%	-3.39%	6.09%
(-40,+40)	-100.00%	3.50%	-103.50%

GNK.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	3.23%	-0.54%	3.77%
(+5,-5)	3.75%	-2.77%	6.52%
(-10,+10)	4.79%	-3.71%	8.51%
(-40,+40)	2.53%	-7.89%	10.42%

Event per	Actual	FTSE	Abnormal
(+1,-1)	3.23%	-0.56%	3.79%
(+5,-5)	3.75%	-0.16%	3.91%
(-10,+10)	4.79%	-0.75%	5.54%
(-40,+40)	2.53%	0.57%	1.96%

HWG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	48.85%	2.04%	46.81%
(+5,-5)	61.29%	2.04%	59.25%
(-10,+10)	54.38%	0.00%	54.38%
(-40,+40)	98.16%	4.17%	93.99%

Event per	Actual	FTSE	Abnormal
(+1,-1)	48.85%	0.21%	48.64%
(+5,-5)	61.29%	-2.57%	63.86%
(-10,+10)	54.38%	-2.49%	56.87%
(-40,+40)	98.16%	0.73%	97.42%

ITV.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.20%	0.20%	1.00%
(+5,-5)	4.52%	-4.43%	8.95%
(-10,+10)	-9.71%	-6.27%	-3.44%
(-40,+40)	-11.31%	-6.70%	-4.61%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.20%	0.25%	0.95%
(+5,-5)	4.52%	1.78%	2.74%
(-10,+10)	-9.71%	1.39%	-11.09%
(-40,+40)	-11.31%	7.23%	-18.54%

JUST.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-4.92%	5.65%	-10.56%
(+5,-5)	-8.55%	12.68%	-21.23%
(-10,+10)	-6.55%	9.74%	-16.29%
(-40,+40)	2.41%	-21.91%	24.33%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-4.92%	0.89%	-5.81%
(+5,-5)	-8.55%	1.41%	-9.96%
(-10,+10)	-6.55%	0.71%	-7.26%
(-40,+40)	2.41%	0.99%	1.42%

KIE.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	2.69%	-0.73%	3.43%
(+5,-5)	5.74%	-2.66%	8.39%
(-10,+10)	10.33%	-3.85%	14.18%
(-40,+40)	12.50%	-1.62%	14.12%

Event per	Actual	FTSE	Abnormal
(+1,-1)	2.69%	-0.53%	3.22%
(+5,-5)	5.74%	-1.02%	6.75%
(-10,+10)	10.33%	-0.85%	11.17%
(-40,+40)	12.50%	0.71%	11.79%

LMP.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.70%	-0.70%	2.40%
(+5,-5)	1.24%	-1.41%	2.65%
(-10,+10)	0.78%	3.99%	-3.21%
(-40,+40)	19.17%	2.75%	16.42%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.70%	-1.88%	3.58%
(+5,-5)	1.24%	-0.68%	1.92%
(-10,+10)	0.78%	0.36%	0.42%
(-40,+40)	19.17%	3.73%	15.45%

NSF.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-0.36%	0.46%	-0.82%
(+5,-5)	-1.96%	0.23%	-2.19%
(-10,+10)	-9.72%	-1.14%	-8.58%
(-40,+40)	-12.38%	3.75%	-16.13%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-0.36%	-0.21%	-0.15%
(+5,-5)	-1.96%	1.31%	-3.27%
(-10,+10)	-9.72%	0.80%	-10.52%
(-40,+40)	-12.38%	-1.05%	-11.33%

OPHR.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.50%	-0.72%	1.22%
(+5,-5)	3.09%	-0.32%	3.41%
(-10,+10)	-19.17%	-1.28%	-17.89%
(-40,+40)	15.97%	-13.66%	29.63%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.50%	0.21%	0.30%
(+5,-5)	3.09%	-2.57%	5.66%
(-10,+10)	-19.17%	-2.49%	-16.68%
(-40,+40)	15.97%	0.73%	15.24%

OXIG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.60%	0.41%	1.19%
(+5,-5)	-1.16%	-1.67%	0.51%
(-10,+10)	-6.06%	-2.30%	-3.76%
(-40,+40)	-11.04%	1.47%	-12.50%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.60%	-0.06%	1.67%
(+5,-5)	-1.16%	2.07%	-3.23%
(-10,+10)	-6.06%	7.48%	-13.54%
(-40,+40)	-11.04%	14.67%	-25.71%

PAG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	11.63%	1.97%	9.66%
(+5,-5)	7.12%	6.05%	1.07%
(-10,+10)	2.22%	10.20%	-7.98%
(-40,+40)	-9.05%	-1.29%	-7.76%

Event per	Actual	FTSE	Abnormal
(+1,-1)	11.63%	-0.45%	12.08%
(+5,-5)	7.12%	-3.13%	10.25%
(-10,+10)	2.22%	-9.14%	11.36%
(-40,+40)	-9.05%	1.31%	-10.37%

PHNX.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	4.95%	0.00%	4.95%
(+5,-5)	1.27%	0.40%	0.87%
(-10,+10)	5.97%	1.02%	4.95%
(-40,+40)	6.87%	-8.01%	14.88%

Event per	Actual	FTSE	Abnormal
(+1,-1)	4.95%	1.72%	3.22%
(+5,-5)	1.27%	6.58%	-5.30%
(-10,+10)	5.97%	3.33%	2.63%
(-40,+40)	6.87%	-6.15%	13.02%

PLP.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	5.70%	-0.91%	6.62%
(+5,-5)	19.22%	-2.40%	21.62%
(-10,+10)	24.77%	-3.80%	28.57%
(-40,+40)	24.28%	-3.10%	27.39%

Event per	Actual	FTSE	Abnormal
(+1,-1)	5.70%	0.29%	5.41%
(+5,-5)	19.22%	-0.86%	20.07%
(-10,+10)	24.77%	-7.33%	32.11%
(-40,+40)	24.28%	3.76%	20.52%

PMG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.98%	2.22%	-0.24%
(+5,-5)	-3.81%	29.27%	-33.08%
(-10,+10)	-6.67%	38.46%	-45.13%
(-40,+40)	-1.92%	27.12%	-29.04%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.98%	1.62%	0.36%
(+5,-5)	-3.81%	-0.59%	-3.22%
(-10,+10)	-6.67%	-2.01%	-4.65%
(-40,+40)	-1.92%	-6.25%	4.33%

RPC.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	3.24%	-0.96%	4.20%
(+5,-5)	2.14%	3.74%	-1.59%
(-10,+10)	4.10%	1.65%	2.45%
(-40,+40)	18.79%	3.81%	14.98%

Event per	Actual	FTSE	Abnormal
(+1,-1)	3.24%	0.91%	2.33%
(+5,-5)	2.14%	-0.90%	3.05%
(-10,+10)	4.10%	-3.96%	8.06%
(-40,+40)	18.79%	-11.09%	29.88%

RTO.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-0.08%	0.87%	-0.95%
(+5,-5)	-4.40%	0.44%	-4.84%
(-10,+10)	-6.78%	-0.22%	-6.56%
(-40,+40)	0.00%	-1.33%	1.33%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-0.08%	-0.74%	0.67%
(+5,-5)	-4.40%	-1.93%	-2.48%
(-10,+10)	-6.78%	1.18%	-7.96%
(-40,+40)	0.00%	8.20%	-8.20%

SBRY.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-7.06%	-0.84%	-6.22%
(+5,-5)	3.69%	-1.85%	5.55%
(-10,+10)	-7.33%	-13.38%	6.05%
(-40,+40)	-9.05%	-10.04%	1.00%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-7.06%	-0.69%	-6.37%
(+5,-5)	3.69%	3.57%	0.12%
(-10,+10)	-7.33%	-0.96%	-6.37%
(-40,+40)	-9.05%	-13.46%	4.42%

SLI.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-1.03%	5.20%	-6.23%
(+5,-5)	1.72%	0.00%	1.72%
(-10,+10)	4.86%	0.00%	4.86%
(-40,+40)	-2.67%	0.42%	-3.09%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-1.03%	0.14%	-1.17%
(+5,-5)	1.72%	-1.51%	3.23%
(-10,+10)	4.86%	-1.45%	6.31%
(-40,+40)	-2.67%	4.97%	-7.64%

SXS.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	3.02%	-0.08%	3.10%
(+5,-5)	2.75%	-1.24%	3.99%
(-10,+10)	0.15%	-2.40%	2.55%
(-40,+40)	17.46%	-12.44%	29.90%

Event per	Actual	FTSE	Abnormal
(+1,-1)	3.02%	2.24%	0.78%
(+5,-5)	2.75%	2.43%	0.32%
(-10,+10)	0.15%	-4.55%	4.71%
(-40,+40)	17.46%	0.09%	17.37%

TRCS.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	5.71%	1.38%	4.33%
(+5,-5)	5.75%	-1.34%	7.09%
(-10,+10)	-2.72%	6.52%	-9.24%
(-40,+40)	11.38%	41.07%	-29.69%

Event per	Actual	FTSE	Abnormal
(+1,-1)	5.71%	0.25%	5.46%
(+5,-5)	5.75%	-1.45%	7.19%
(-10,+10)	-2.72%	-4.38%	1.66%
(-40,+40)	11.38%	-5.66%	17.05%

VEC.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	2.50%	-0.61%	3.11%
(+5,-5)	6.52%	-5.00%	11.52%
(-10,+10)	0.56%	2.11%	-1.55%
(-40,+40)	3.95%	-4.73%	8.68%

Event per	Actual	FTSE	Abnormal
(+1,-1)	2.50%	1.82%	0.68%
(+5,-5)	6.52%	4.01%	2.51%
(-10,+10)	0.56%	-1.59%	2.15%
(-40,+40)	3.95%	3.58%	0.37%

Appendix 3D: Calculations of abnormal returns for Cross border M&A samples considered in two Models

AZN.L			
Event period	Actual	Normal	Abnormal
(+1,-1)	-0.43%	0.34%	-0.77%
(+5,-5)	-10.15%	-2.07%	-8.08%
(-10,+10)	-2.47%	-2.23%	-0.24%
(-40,+40)	-16.12%	31.65%	-47.77%

Event period	Actual	FTSE	Abnormal
(+1,-1)	-0.43%	1.81%	-2.24%
(+5,-5)	-10.15%	-0.22%	-9.93%
(-10,+10)	-2.47%	4.12%	-6.59%
(-40,+40)	-16.12%	2.60%	-18.72%

BATS.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.92%	0.79%	1.13%
(+5,-5)	6.02%	-2.36%	8.38%
(-10,+10)	4.53%	-4.09%	8.62%
(-40,+40)	1.36%	-1.14%	2.50%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.92%	-1.34%	3.26%
(+5,-5)	6.02%	-2.70%	8.72%
(-10,+10)	4.53%	-5.88%	10.41%
(-40,+40)	1.36%	0.80%	0.56%

BBA.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-3.11%	3.16%	-6.27%
(+5,-5)	12.56%	10.50%	2.05%
(-10,+10)	7.57%	4.11%	3.46%
(-40,+40)	14.55%	-3.87%	18.42%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-3.11%	-0.28%	-2.83%
(+5,-5)	12.56%	0.38%	12.17%
(-10,+10)	7.57%	2.03%	5.54%
(-40,+40)	14.55%	8.57%	5.98%

BMK.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.00%	-4.07%	4.07%
(+5,-5)	-3.76%	-13.65%	9.89%
(-10,+10)	-3.76%	-19.51%	15.75%
(-40,+40)	-32.26%	-10.45%	-21.81%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.00%	0.50%	-0.50%
(+5,-5)	-3.76%	-1.43%	-2.33%
(-10,+10)	-3.76%	-1.36%	-2.41%
(-40,+40)	-32.26%	8.95%	-41.21%

BTG.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	2.22%	-0.82%	3.03%
(+5,-5)	2.08%	-2.18%	4.25%
(-10,+10)	-2.52%	-14.76%	12.24%
(-40,+40)	0.81%	1.79%	-0.98%

CIR.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-9.92%	-3.42%	-6.50%
(+5,-5)	-8.94%	7.66%	-16.60%
(-10,+10)	-3.79%	7.86%	-11.65%
(-40,+40)	8.75%	0.83%	7.91%

Event per	Actual	FTSE	Abnormal
(+1,-1)	2.22%	0.27%	1.95%
(+5,-5)	2.08%	1.45%	0.62%
(-10,+10)	-2.52%	1.42%	-3.94%
(-40,+40)	0.81%	0.89%	-0.08%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-9.92%	-0.33%	-9.59%
(+5,-5)	-8.94%	-0.27%	-8.67%
(-10,+10)	-3.79%	0.95%	-4.74%
(-40,+40)	8.75%	1.85%	6.89%

CLIN.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-2.44%	2.35%	-4.79%
(+5,-5)	9.16%	13.10%	-3.93%
(-10,+10)	-16.07%	-13.64%	-2.43%
(-40,+40)	-9.57%	-20.59%	11.02%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-2.44%	1.82%	-4.26%
(+5,-5)	9.16%	4.65%	4.51%
(-10,+10)	-16.07%	-7.72%	-8.35%
(-40,+40)	-9.57%	1.90%	-11.47%

DGE.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-1.02%	0.17%	-1.18%
(+5,-5)	1.15%	1.69%	-0.53%
(-10,+10)	3.62%	2.82%	0.80%
(-40,+40)	-2.76%	9.91%	-12.67%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-1.02%	-0.92%	-0.10%
(+5,-5)	1.15%	-0.07%	1.22%
(-10,+10)	3.62%	-4.04%	7.66%
(-40,+40)	-2.76%	-13.02%	10.25%

DPH.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.63%	1.22%	0.41%
(+5,-5)	3.63%	4.82%	-1.19%
(-10,+10)	3.79%	0.44%	3.35%
(-40,+40)	10.11%	-7.08%	17.19%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.63%	-2.97%	4.60%
(+5,-5)	3.63%	-2.97%	6.59%
(-10,+10)	3.79%	1.55%	2.23%
(-40,+40)	10.11%	6.65%	3.46%

GKNLY			
Event per	Actual	Normal	Abnormal
(+1,-1)	-5.57%	-1.17%	-4.39%
(+5,-5)	-9.50%	-6.22%	-3.28%
(-10,+10)	-15.10%	-8.74%	-6.36%
(-40,+40)	-12.74%	4.52%	-17.26%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-5.57%	-0.40%	-5.17%
(+5,-5)	-9.50%	-0.81%	-8.69%
(-10,+10)	-15.10%	1.90%	-17.00%
(-40,+40)	-12.74%	3.68%	-16.42%

GSK.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-3.37%	-1.11%	-2.26%
(+5,-5)	-4.42%	-0.92%	-3.50%
(-10,+10)	-0.86%	0.17%	-1.03%
(-40,+40)	9.26%	-4.34%	13.61%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-3.37%	0.74%	-4.11%
(+5,-5)	-4.42%	1.50%	-5.92%
(-10,+10)	-0.86%	0.33%	-1.19%
(-40,+40)	9.26%	-5.35%	14.61%

III.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-1.00%	1.59%	-2.59%
(+5,-5)	0.07%	3.49%	-3.42%
(-10,+10)	-6.91%	0.82%	-7.73%
(-40,+40)	46.53%	-1.07%	47.60%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-1.00%	-0.04%	-0.95%
(+5,-5)	0.07%	-2.81%	2.88%
(-10,+10)	-6.91%	-3.71%	-3.20%
(-40,+40)	46.53%	-3.73%	50.27%

ITRK.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	3.99%	-1.21%	5.20%
(+5,-5)	11.08%	2.29%	8.79%
(-10,+10)	3.82%	0.62%	3.21%
(-40,+40)	7.89%	-6.26%	14.15%

Event per	Actual	FTSE	Abnormal
(+1,-1)	3.99%	0.29%	3.70%
(+5,-5)	11.08%	-0.86%	11.94%
(-10,+10)	3.82%	-7.33%	11.16%
(-40,+40)	7.89%	3.76%	4.13%

JE.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-10.95%	-0.75%	-10.19%
(+5,-5)	0.96%	6.13%	-5.18%
(-10,+10)	-5.65%	-5.41%	-0.24%
(-40,+40)	9.82%	15.07%	-5.25%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-10.95%	0.27%	-11.21%
(+5,-5)	0.96%	0.90%	0.06%
(-10,+10)	-5.65%	2.18%	-7.83%
(-40,+40)	9.82%	2.64%	7.18%

MAN			
Event per	Actual	Normal	Abnormal
(+1,-1)	2.46%	-1.57%	4.03%
(+5,-5)	8.66%	-6.57%	15.22%
(-10,+10)	13.06%	-5.89%	18.96%
(-40,+40)	23.12%	23.96%	-0.84%

Event per	Actual	FTSE	Abnormal
(+1,-1)	2.46%	-0.67%	3.13%
(+5,-5)	8.66%	-7.37%	16.03%
(-10,+10)	13.06%	-5.81%	18.87%
(-40,+40)	23.12%	1.50%	21.62%

MARKIT			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.90%	-0.55%	2.44%
(+5,-5)	2.38%	-0.47%	2.85%
(-10,+10)	4.32%	0.04%	4.28%
(-40,+40)	9.52%	-15.17%	24.69%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.90%	-2.66%	4.56%
(+5,-5)	2.38%	-3.34%	5.72%
(-10,+10)	4.32%	-8.40%	12.72%
(-40,+40)	9.52%	0.70%	8.82%

MCRO.L			
Event perio	Actual	Normal	Abnormal
(+1,-1)	3.01%	-2.06%	5.07%
(+5,-5)	2.11%	-2.69%	4.80%
(-10,+10)	-2.35%	2.54%	-4.90%
(-40,+40)	5.99%	-2.50%	8.50%

Event perio	Actual	FTSE	Abnormal
(+1,-1)	3.01%	0.89%	2.12%
(+5,-5)	2.11%	1.41%	0.70%
(-10,+10)	-2.35%	0.71%	-3.07%
(-40,+40)	5.99%	0.99%	5.00%

PERSON.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.00%	0.17%	0.82%
(+5,-5)	-2.88%	-2.49%	-0.39%
(-10,+10)	-11.69%	-1.07%	-10.62%
(-40,+40)	-19.60%	-5.06%	-14.54%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.00%	0.38%	0.62%
(+5,-5)	-2.88%	1.41%	-4.29%
(-10,+10)	-11.69%	5.22%	-16.91%
(-40,+40)	-19.60%	11.65%	-31.25%

RPC.L			
Event period	Actual	Normal	Abnormal
(+1,-1)	3.28%	-0.96%	4.24%
(+5,-5)	6.31%	3.74%	2.57%
(-10,+10)	8.46%	1.65%	6.80%
(-40,+40)	14.82%	3.81%	11.02%

Event period	Actual	FTSE	Abnormal
(+1,-1)	3.28%	1.13%	2.15%
(+5,-5)	6.31%	6.93%	-0.62%
(-10,+10)	8.46%	2.45%	6.01%
(-40,+40)	14.82%	-5.32%	20.14%

RR.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.08%	0.59%	0.49%
(+5,-5)	-2.18%	-1.79%	-0.39%
(-10,+10)	-2.58%	7.97%	-10.55%
(-40,+40)	-24.88%	24.33%	-49.21%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.08%	0.25%	0.83%
(+5,-5)	-2.18%	-0.05%	-2.13%
(-10,+10)	-2.58%	-0.18%	-2.40%
(-40,+40)	-24.88%	0.71%	-25.59%

RTO.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.28%	6.74%	-5.45%
(+5,-5)	-1.09%	5.61%	-6.70%
(-10,+10)	-0.55%	2.84%	-3.38%
(-40,+40)	5.32%	1.72%	3.60%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.28%	0.61%	0.68%
(+5,-5)	-1.09%	-3.13%	2.04%
(-10,+10)	-0.55%	-9.14%	8.60%
(-40,+40)	5.32%	1.31%	4.00%

SKY.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-2.22%	2.16%	-4.38%
(+5,-5)	-4.52%	7.50%	-12.02%
(-10,+10)	-4.20%	3.47%	-7.67%
(-40,+40)	0.62%	9.46%	-8.84%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-0.12%	-0.99%	0.87%
(+5,-5)	-3.03%	0.72%	-3.74%
(-10,+10)	-1.43%	-0.21%	-1.22%
(-40,+40)	-100.00%	-0.91%	-99.09%

SMBS.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	3.26%	0.11%	3.14%
(+5,-5)	9.22%	-0.15%	9.37%
(-10,+10)	1.70%	2.43%	-0.73%
(-40,+40)	11.91%	-14.50%	26.42%

Event per	Actual	FTSE	Abnormal
(+1,-1)	3.26%	-1.39%	4.65%
(+5,-5)	9.22%	-3.29%	12.50%
(-10,+10)	1.70%	-0.79%	2.49%
(-40,+40)	11.91%	-2.41%	14.32%

SN.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.60%	-0.10%	0.70%
(+5,-5)	-1.11%	-1.56%	0.46%
(-10,+10)	-1.16%	-1.07%	-0.09%
(-40,+40)	6.90%	7.94%	-1.04%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.60%	-2.77%	3.37%
(+5,-5)	-1.11%	-1.64%	0.53%
(-10,+10)	-1.16%	3.93%	-5.09%
(-40,+40)	6.90%	6.14%	0.76%

SVS.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	0.16%	6.52%	-6.36%
(+5,-5)	3.21%	0.09%	3.11%
(-10,+10)	3.14%	-2.29%	5.42%
(-40,+40)	-10.17%	19.57%	-29.74%

Event per	Actual	FTSE	Abnormal
(+1,-1)	0.16%	-1.55%	1.71%
(+5,-5)	3.21%	-5.65%	8.86%
(-10,+10)	3.14%	-5.78%	8.92%
(-40,+40)	-10.17%	3.25%	-13.43%

TCAP.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.31%	3.62%	-2.31%
(+5,-5)	-6.01%	1.01%	-7.02%
(-10,+10)	-10.20%	-4.73%	-5.46%
(-40,+40)	25.43%	-15.30%	40.73%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.31%	-0.67%	1.99%
(+5,-5)	-6.01%	-2.47%	-3.54%
(-10,+10)	-10.20%	-3.02%	-7.17%
(-40,+40)	25.43%	3.15%	22.27%

TYMN.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-3.04%	2.14%	-5.18%
(+5,-5)	-6.17%	-0.80%	-5.37%
(-10,+10)	-3.92%	1.19%	-5.10%
(-40,+40)	-4.60%	11.50%	-16.11%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-3.04%	-0.09%	-2.96%
(+5,-5)	-6.17%	1.17%	-7.33%
(-10,+10)	-3.92%	2.42%	-6.34%
(-40,+40)	-4.60%	4.56%	-9.16%

ULVR.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	1.96%	-0.25%	2.21%
(+5,-5)	3.91%	-0.25%	4.16%
(-10,+10)	0.04%	-0.21%	0.25%
(-40,+40)	19.68%	7.35%	12.33%

Event per	Actual	FTSE	Abnormal
(+1,-1)	1.96%	-0.80%	2.76%
(+5,-5)	3.91%	-2.07%	5.98%
(-10,+10)	0.04%	-9.32%	9.36%
(-40,+40)	19.68%	-5.73%	25.41%

WEIR.L			
Event per	Actual	Normal	Abnormal
(+1,-1)	-2.62%	1.91%	-4.53%
(+5,-5)	-2.29%	10.61%	-12.90%
(-10,+10)	-7.24%	9.48%	-16.72%
(-40,+40)	-36.06%	28.45%	-64.51%

Event per	Actual	FTSE	Abnormal
(+1,-1)	-2.62%	0.98%	-7.80%
(+5,-5)	-2.29%	5.18%	-7.17%
(-10,+10)	-7.24%	4.87%	-8.13%
(-40,+40)	-36.06%	0.89%	-36.06%

Bibliography

- Amihud, Y. and Lev, B. (1981) 'Risk reduction as a managerial motive for conglomerate mergers', *The bell journal of economics*, pp. 605–617.
- Andrade, G., Mitchell, M. and Stafford, E. (2001) 'New evidence and perspectives on mergers', *Journal of economic perspectives*, 15(2), pp. 103–120.
- Aw, M. S. B. and Chatterjee, R. A. (2004) 'The performance of UK firms acquiring large cross-border and domestic takeover targets', *Applied Financial Economics*, 14(5), pp. 337–349.
- Ayoush, M. D. (2011) *Are cross-border mergers and acquisitions better or worse than domestic mergers and acquisitions? The UK evidence*. University of Birmingham.
- Berkovitch, E. and Narayanan, M. P. (1993) 'Motives for takeovers: An empirical investigation', *Journal of Financial and Quantitative analysis*, 28(3), pp. 347–362.
- Brown, S. J. and Warner, J. B. (1980) 'Measuring security price performance', *Journal of financial economics*, 8(3), pp. 205–258.
- Brown, S. J. and Warner, J. B. (1985) 'Using daily stock returns: The case of event studies', *Journal of financial economics*, 14(1), pp. 3–31.
- Bruner, R. F. and Perella, J. R. (2004) *Applied mergers and acquisitions*. John Wiley & Sons.
- Conn, R. L. et al. (2005a) 'The impact on UK acquirers of domestic, cross-border, public and private acquisitions', *Journal of Business Finance & Accounting*, 32(5-6), pp. 815–870.
- Conn, R. L. et al. (2005b) 'The impact on UK acquirers of domestic, cross-border, public and private acquisitions', *Journal of Business Finance & Accounting*, 32(5-6), pp. 815–870.
- DeFusco, R. A. et al. (2015) *Quantitative investment analysis*. John Wiley & Sons.
- DeLong, G. (2003) 'Does long-term performance of mergers match market expectations? Evidence from the US banking industry', *Financial Management*, pp. 5–25.

DePamphilis, D. M. (2010) *Mergers, acquisitions, and other restructuring activities: an integrated approach to process, tools, cases, and solutions*. 5th ed. Burlington, MA: Academic Press (Academic Press advanced finance series).

Duso, T., Gugler, K. and Yurtoglu, B. (2010) 'Is the event study methodology useful for merger analysis? A comparison of stock market and accounting data', *International Review of Law and Economics*, 30(2), pp. 186–192. doi: [10.1016/j.irl.2010.02.001](https://doi.org/10.1016/j.irl.2010.02.001).

Erel, I., Liao, R. C. and Weisbach, M. S. (2012) 'Determinants of cross-border mergers and acquisitions', *The Journal of Finance*, 67(3), pp. 1045–1082.

Fuller, K., Netter, J. and Stegemoller, M. (2002) 'What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions', *The Journal of Finance*, 57(4), pp. 1763–1793.

Gaughan, P. A. (2010) *Mergers, acquisitions, and corporate restructurings*. John Wiley & Sons.

Goergen, M. and Renneboog, L. (2004) 'Shareholder wealth effects of European domestic and cross-border takeover bids', *European Financial Management*, 10(1), pp. 9–45.

Goines, J. T. (1999) 'Institutional constraints and opportunities: An examination of domestic and cross-border mergers and acquisitions of large manufacturing firms in Europe (1985-1994).'

Gregory, A. and McCorriston, S. (2005) 'Foreign acquisitions by UK limited companies: short-and long-run performance', *Journal of Empirical Finance*, 12(1), pp. 99–125.

Grill, S. and Jaskow, P. (2007) *Bidder Returns: A Study on Share Price Reactions Following Takeover Announcements 2000-2006*. Master's Thesis in Accounting and Financial Management.

Hitt, M. A. et al. (2012) 'Creating value through mergers and acquisitions', *The handbook of mergers and acquisitions*, 71.

House, R. et al. (2002) 'Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE', *Journal of world business*, 37(1), pp. 3–10.

Houston, J. F., James, C. M. and Ryngaert, M. D. (2001) 'Where do merger gains come from? Bank merger from the perspective of insiders and outsiders', *Journal of financial economics*, 60(2–3), pp. 285–331.

MacKinlay, A. C. (1997) 'Event studies in economics and finance', *Journal of economic literature*, 35(1), pp. 13–39.

Martynova, M., Oosting, S. and Renneboog, L. (2006) 'The long-term operating performance of European mergers and acquisitions'.

Martynova, M. and Renneboog, L. (2005) 'A century of corporate takeovers: what have we learned and where do we stand?(Previous title: The history of M&A activity around the world: A survey of literature)'.

Mergers and acquisitions involving UK companies - Office for National Statistics (no date). Available at:<https://www.ons.gov.uk/businessindustryandtrade/changetobusiness/mergersandacquisitions/bulletins/mergersandacquisitionsinvolvingukcompanies/octtodec2016> (Accessed: 28 August 2018).

Moeller, S. B. and Schlingemann, F. P. (2005) 'Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions', *Journal of Banking & Finance*, 29(3), pp. 533–564.

Mueller, D. C. and Yurtoglu, B. B. (2007) 'Corporate governance and the returns to acquiring firms' shareholders: an international comparison', *Managerial and Decision Economics*, 28(8), pp. 879–896.

Mukherjee, T., Kiymaz, H. and Baker, H. (2004) 'Merger motives and target valuation: A survey of evidence from CFOs'.

Seth, A., Song, K. P. and Pettit, R. R. (2002) 'Value creation and destruction in cross-border acquisitions: an empirical analysis of foreign acquisitions of US firms', *Strategic management journal*, 23(10), pp. 921–940.

Shimizu, K. et al. (2004) 'Theoretical foundations of cross-border mergers and acquisitions: A review of current research and recommendations for the future', *Journal of international management*, 10(3), pp. 307–353.

Sudarsanam, P. S. (2010) *Creating value from mergers and acquisitions: the challenges*. 2nd ed. Harlow: Financial Times Prentice Hall.

Sudarsanam, S. (2003a) *Creating value from mergers and acquisitions: The challenges: An integrated and international perspective*. Pearson Education.

Sudarsanam, S. (2003b) *Creating value from mergers and acquisitions: The challenges: An integrated and*

international perspective. Pearson Education.

Sudarsanam, S., Holl, P. and Salami, A. (1996) 'Shareholder wealth gains in mergers: effect of synergy and ownership structure', *Journal of Business Finance & Accounting*, 23(5-6), pp. 673–698.

Sudarsanam, S. and Mahate, A. A. (2003) 'Glamour acquirers, method of payment and post-acquisition performance: the UK evidence', *Journal of Business Finance & Accounting*, 30(1-2), pp. 299–342.

Sudarsanam, S. and Mahate, A. A. (2006) 'Are Friendly Acquisitions Too Bad for Shareholders and Managers? Long-Term Value Creation and Top Management Turnover in Hostile and Friendly Acquirers', *British Journal of Management*, 17(S1).

Tellis, W. (1997) 'Application of a Case Study Methodology', *The Qualitative Report*, 3(3), pp. 1–19.

Tran, L. T. (2015) 'Domestic versus cross-border mergers and acquisitions: An investigation of the operating performance of acquiring firms from BRICS countries'.

Trautwein, F. (2013) 'Merger motives and merger prescriptions', in *Mergers & Acquisitions*. Routledge, pp. 14–26.

Tuch, C. and O'Sullivan, N. (2007a) 'The impact of acquisitions on firm performance: A review of the evidence', *International Journal of Management Reviews*, 9(2), pp. 141–170.

unctad.org | WORLD INVESTMENT REPORT 2000 (no date). Available at: <http://unctad.org/en/pages/PublicationArchive.aspx?publicationid=654> (Accessed: 30 March 2018).

Weston, J. F. et al. (2004) 'Takeovers, restructuring, and corporate governance'.

Zhu, P. and Jog, V. (2012a) 'Impact on target firm risk-return characteristics of domestic and cross-border mergers and acquisitions in emerging markets', *Emerging Markets Finance and Trade*, 48(4), pp. 79–101.

Zhu, P. and Jog, V. (2012b) 'Impact on target firm risk-return characteristics of domestic and cross-border mergers and acquisitions in emerging markets', *Emerging Markets Finance and Trade*, 48(4), pp. 79–101.