

BRUNEL UNIVERSITY
SCHOOL OF SOCIAL SCIENCES

Evaluating and Analyzing Firms' Investment Decisions -A Study of UK Domestic and Cross-Border Acquisitions-

A thesis submitted for the degree of Doctor of philosophy

By : Nour Adel

03/03/2011

Acknowledgments

I would like to express my sincere gratitude to many individuals for their valuable assistance during this work. Firstly, I am grateful to my supervisor, Dr. Bryan Mase, for his constant encouragement, support and direction. His own guidance allows him to provide me first-class supervision.

Secondly, I am appreciative to my father who teaches me that I should work to achieve my aims and never give up. I am thankful also to my mother who without her blessings and guidance, I could not complete this thesis. I owe my deepest gratitude to my husband Wail and my children, who supported me in many ways to finish my thesis.

It is my pleasure to thank my brothers, Ammar and Bander and their families for their support. Finally, many thanks to all my friends specially those who supported and advised me

Nour Adel

March 2011

Abstract

This thesis consists of four essays or chapters that investigate acquisitions made by UK firms. The main focus of the research is the acquirers' abnormal returns that are associated with the announcement of domestic and cross-border acquisitions. The research provides empirical evidence on some of the significant issues that have been raised in the literature, particularly focusing on measuring operating performance for domestic and cross-border acquisitions over the long-term.

The first essay investigates acquirers' announcement abnormal returns for acquisitions that have been conducted by UK firms, either domestically or internationally. The principal finding is that acquisitions of domestic firms appear to generate larger returns, whereas acquisitions classified as cross-border do not appear to add value to the acquiring firm.

The second essay examines the characteristics of the deal, and how these impact the acquirers' returns for both domestic and cross-border acquisitions. The characteristics considered are the method of payment, the industrial relationship between the acquirer and the target, the relative size of the acquirer to the target, the type of the target firm and the Book-to-Market ratio of the acquiring firm.

The third essay investigates the directors' overconfidence and its impact on the acquirers' returns. Directors' overconfidence is examined depending on the self-attribution bias by distinguishing between the abnormal returns to frequent and infrequent acquirers.

The fourth essay examines insider trading via studying the relationship between the private investment decisions of the directors and the firm's investment in respect of acquisitions it makes over the announcement date of the acquisition. Two different methods are proposed to classify directors into optimistic and neutral based on these personal portfolio trades.

The fifth empirical chapter focuses on domestic and cross-border acquisitions with public targets, and studies their synergy gains and operating performance for a 3-year period after the announcement year. The aim is to try to understand what these firms

gain from such acquisitions, given the apparent absence of a gain in value at the announcement of the investment.

It is essential to add that the importance of this thesis comes from shedding a light on the role of acquisition activity in UK market within last 10 years domestically and internationally. Furthermore, providing a significant advice to firms not to allocate their capital in acquisitions with public targets because there is not benefit from investing in these types of investment

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Chapter 1 - Introduction -

1.1 Motivations and Importance

The thesis is motivated by several factors: first, the researcher examines the acquirers' returns for both UK domestic and cross-border acquisitions to investigate whether there are any abnormal returns for acquirers that have conducted such domestic investments. In addition, the researcher investigates the major variables which may have an impact on acquirers' returns, such as, the method of payment, the relative size, the industrial relationship, the Book-To-Market ratio, and the type of the target firm. The main reason for investigating the acquirers' returns is that there are many studies that have examined acquirers' returns in the UK economy recently, and that have undertaken a comparison between acquirers' returns when acquiring either domestically or internationally.

Furthermore, the impact of directors' overconfidence on acquirers' returns is being tested and also the influence of self-attribution bias for those acquisitions is being investigated, and that is for domestic and cross-border acquisitions. The major reason which leads the researcher to investigate directors' overconfidence is to determine whether there are any significant influences of managerial behaviour on acquirers' returns of domestic and cross-border acquisitions in the UK economy, and whether these influences will differ between domestic and cross-border acquisitions.

Finally, studying abnormal returns for acquirers according to the type of the target firms leads to the further investigation of the synergy gains for those investments in relation to deals with public targets. This is in order to determine whether there are any gains which are hidden within the acquirers' abnormal returns. Moreover, the results from investigating the synergy gains has guided the approach to an examination of the operating performance for acquirers of international and domestic public targets for three years after the effective date of each deal. This can be considered as a real contribution, and provides new evidence in this thesis because measuring operating performance for these two kinds of investments will help to give a clear picture about the real gains that can be captured from them.

It will be useful for researchers to examine and investigate acquirers' returns in more detail, especially for those firms that have made deals in large and important economies

such as the UK and the USA, because studying those returns may give a good impact and clear picture about firms' recent and future activities.

In the following sections, a thorough explanation of the contribution of the thesis and a general idea about the topic will be provided.

1.2 Contribution

This research is divided into five main essays. The first is titled "UK Acquirers Returns in domestic and cross-border acquisitions" where an investigation of the acquirers' returns from the beginning of 2000 toward the end of 2009 is conducted. Furthermore, in order to calculate the acquirers' abnormal returns before and after the announcement date of the deal, the researcher depended mainly on the event study methodology, specifically the Market Model application. The results of the study strongly confirm that, after comparing the acquirers' returns for both domestic and cross-border acquisitions, those acquirers that have conducted domestic deals generate higher returns compared with acquirers of cross-border acquisitions, and that this is evident both before and after the announcement date of the deal.

The second essay is titled "The Determinants of Domestic and Cross-Border Acquisitions". This chapter investigates the major determinants that may have impacted acquirers' returns, such as, the method of payment, the industrial sector, the relative size, the Book to Market ratio, and the type of the target firm, and that is for acquirers undertaking either domestic or cross-border acquisitions. The researcher depends on the event study method to calculate the abnormal returns for acquirers around and over the period of the announcement date for each deal. The major results confirm that there are some influences from some variables on acquirers' returns, and that these appeared clearly after running the regression of acquirers' returns against the above variables.

The third essay is titled "Studying Directors' Overconfidence and its Impact on Acquirers' Returns". This essay investigates the managerial behaviour, in terms of directors' overconfidence, and its possible impact on the acquirers' returns. This chapter examines "self-attribution" and its effect on the acquirer's returns due to the fact that some studies have considered self-attribution as a basis for explaining the managerial behaviour regarding firms' investment decisions. Therefore, the researcher divides both the domestic and cross-border sample into two main sections; the first one includes frequent acquirers, which is when the acquirer makes at least two acquisitions within

one year before the announcement date of the main deal. The second section includes infrequent acquirers who have not carried out any acquisition during the year prior to the announcement day of the deal. The results confirm that infrequent acquirers have higher and better returns compared to frequent acquirers, and that is evident for both domestic and cross-border acquisitions. These results confirm other studies' results, suggesting that undertaking more than one deal within a short space of time will lower the acquirers' returns. This implies that the market recognizes the Hubris effect, which is clear in measuring the self-attribution.

The fourth essay is titled "Insider Trading and Acquirer Returns in Domestic and Cross-Border Acquisitions". The researcher examines in this chapter the relationship between the private investment decisions of directors of each firm and the firm's investment in terms of the acquisitions it makes. The link is examined via two main measures that depend on the personal portfolio of managers, i.e. the number of transactions method and the amount of transactions method. The first method depends on the difference in the number of transactions between the buys and sales which have been carried out by the directors of each firm. The director can be considered as optimistic according to this method if the number of buys is larger than the number of sales by at least two transactions; otherwise the directors are regarded as being neutral. On the other hand, the amount method relies on the difference between the sizes of the transactions which have been conducted by the directors of the firm. The directors can be considered as optimistic if the difference is positive, otherwise the directors will be considered to be neutral. Moreover, the event study methodology is relied upon to calculate the acquirers' abnormal returns. The results verify according to both methods that domestic and cross-border acquisitions which are undertaken by the directors who are classified as being optimistic generate higher returns compared to those that are conducted by directors who are classified as being neutral, and that is for the windows studied. The researcher applied the overlapping observations for deals that are carried out by optimistic directors crossways using both of the earlier methods in order to check the robustness of the results. The results confirm that optimistic directors generate higher returns estimated over a 5-day event window. It is important to add that there are no clear differences in acquires' returns between domestic and cross-border acquisitions regarding measuring directors' optimism.

The fifth essay is titled "Synergy Gains and Operating Performance for Acquisitions with Public Targets". The reason for investigating this topic comes from taking into

account the results from the earlier essays. Moreover, even though the study's results show that there are no significant returns from those investments, it has been observed that the number of acquisitions keeps increasing year after year in the UK, which leads to an investigation of whether there are any synergy gains emanating from those investments. This essay is divided into two main sections; the first part includes an examination of the synergy gains for both the acquirers and the targets. This part's results show that acquisitions with public targets have lower returns compared with deals with private targets, and also that they do not deliver any significant synergy gains.

The second part contains a test for operating performance for the same acquirers who acquire domestic, cross-border acquisitions with public targets. The researcher depends on the return on assets to calculate operating performance over the long-term. This operating performance is estimated for three years after the effective date of the deal, with the main results confirming the absence of a clear gain in operating performance, which is especially evident after the announcement year.

Furthermore, a regression has been run to examine the impact on the operating performance from several independent variables such as the method of payment, the industrial sector, the relative size, the Book to Market ratio. The major motive behind using the regression is to determine whether the operating performance of the acquirers will be affected by any particular variable. The major results demonstrate that the method of payment has an impact on domestic operating performance, while the Book-to-Market ratio has a significant impact on operating performance for the cross-border acquisitions.

It is notable that the novelty of this thesis is the presentation of new evidence via examining operating performance for both domestic and cross-border acquisitions, which is considered a real contribution.

Several obstacles had to be overcome to continue and complete this research. The main one is the lack of some information which led the researcher to drop some firms and as a result reduced the number of firms in both samples, the domestic and cross-border acquisitions. This was especially important in relation to the information that was required for the last essay on operating performance.

Generally, the results make a good contribution in developing our knowledge of the determinants of Mergers and Acquisitions behaviour, and to the researcher's

understanding of the acquirers' returns and their determinants. Essay three presents evidence regarding the managerial behaviour which outlines a good reason for making acquisitions and deals, and how these can even reduce the value of the firm. Essay four also introduces evidence that examines the effect of acquiring public targets, and the importance of calculating the synergy gains. In addition, the fourth essay introduces new evidence which concerns investigating the operating performance for cross-border and domestic acquisitions with public targets for a three-year period after the announcement year.

1.3 Background information

A basic idea about foreign direct investments should be mentioned before adding or explaining more detail about mergers and acquisitions and their influence on firms' returns. Foreign direct investments have been at the centre of interest for many years, and this interest derives from many aspects. Firstly, these kinds of investments have witnessed a very fast and significant growth within a short period of time. Secondly, these investments have been common in large economies such as the USA and the UK and have had a beneficial impact on those economies. Finally, foreign direct investments play an important role in channeling resources between countries. (See, Lizondo; 1991)

Furthermore, many studies and reports have mentioned that foreign investments include or divide into many different types of investments and there are major connections between foreign direct investments and those types of investments. For example, the report of the United Nations Conference on Trade and Developments has mentioned that there is an important relationship between foreign direct investments and cross-border mergers and acquisitions as a major type of those investments.

“A firm can undertake FDI in a host country in either one of two ways: Greenfield investment in a new facility or merging with an existing local firm. The local firm may be privately or state owned: privatization involving foreign investors count as cross-border M&As, which entails a change in the control of the merged or acquired firm. In a cross-border merger, the assets and operation of the two firms belonging to two different countries are combined to establish a new legal entity. In a cross border

acquisition, the control or assets and operations is transferred from a local to a foreign company, the former becoming an affiliate of the latter” (UNCTAD, 2000, page 99)

Moreover, foreign direct investment can be divided into five types which will be explained in more detail in the following chapter. These types can be identified as the following:

- Investing directly via licensing through a local firm.
- Investing directly via Greenfield investments.
- Investing by acquiring a local firm.
- Investing by merging with a domestic firm.
- Entering a strategic alliance with a domestic firm.

Mergers and acquisitions are considered to be a major type of foreign direct investment, and the importance of those investments comes from the substantial growth of mergers and acquisitions over the world within the last three decades, especially in the USA and the UK. Furthermore, these investments occurred in waves within a short period of time, which will be explained in more detail in the next chapter. For example, within the last wave of mergers and acquisitions, many studies and reports have mentioned that UK firms have played an important role in making or achieving mergers and acquisitions all around the world.

One can add that within the international movement and waves of mergers and acquisitions, the UK firms have played an important and vital role. In addition, one can note that the number of domestic acquisitions increased significantly between 1993 and 1994 from 526 deals to more than 670 acquisitions, and also rose from 430 deals in 2002 to 869 acquisitions in 2007. On the other hand, the number of cross-border acquisitions increased from 464 deals in 1997 to more than 590 in 1999. While the value of domestic acquisitions does not show any noticeable increase over time, the value of the cross-border acquisitions has increased considerably from £9.213 billion in 1993 to £181.285 billion in 2000, which explains the idea that by 2000, the UK was the biggest acquiring country around the world. However, the situation differs in 2004, because the report of the National Statistics Office reviews in its fourth publication in 2004 that the spending on acquisitions in the UK by UK firms increased to £31.2 billion compared with £18.7 billion in 2003. The report also states that spending on acquisitions abroad by UK firms decreased slightly from £20.8 billion in 2003 to £20.3

billion in 2004, while the number of these types of cross-border acquisitions increased from 243 deals in 2003 to 278 acquisitions in 2004.

Recently, one can add that spending on cross-border acquisitions by UK firms decreased from £2.5 billion in the third quarter of 2009 to £0.9 billion in the fourth quarter, and also that the number of cross-border acquisitions declined slightly to 25 deals compared with 26 acquisitions in the third quarter of the same year. In addition, the spending on domestic acquisitions by UK firms showed some signs of a decrease from £1.9 billion in the third quarter of 2009 to £1.3 in the fourth quarter of the same year. These changes remain small compared with the changes or decreases in spending on cross-border acquisitions. The number of domestic acquisitions showed some signs of a dramatic decrease, from almost 100 deals in the first quarter of 2009 to less than 60 acquisitions at the end of 2009.

After introducing some brief information about foreign direct investments and mergers and acquisitions, more detail about foreign direct investments and their types will be presented in the next chapter. Additionally, further information about mergers, acquisitions, their historical type and the major motives which lead many firms to acquire or purchase another firm domestically and internationally will be discussed.

Chapter 2: Foreign Direct Investments – Mergers and Acquisitions-

Foreign Direct Investments and Mergers and Acquisitions

2.1 Introduction

Foreign direct investments have been the centre of interest for a long time. This interest is the result of a number of reasons, including, the fast growth of these kinds of investments within a very short period of time. For example, Penings and Sluwaegen (2004) mentioned that the world in the last two decades has witnessed a massive growth in foreign direct investment and a significant increase in the number of “multinational enterprises”. Furthermore, this increase in foreign direct investment has occurred predominantly in the USA and the UK, which raises some questions regarding the results of such investments in these big economies. For example, Hood and Taggart (1997) point out that during the 1980s the UK became the most attractive place for German FDI in Europe, which placed the UK into the second position after the USA in terms of its receipt of FDI around the world. More importantly, these investments are essential for transforming wealth, not only among firms but also countries. According to Asiedu (2001) foreign direct investments have grown from \$24 billion in 1990 to \$178 billion in 2000 which was regarded as welcoming news among poor countries that do not have access to international capital markets.(Lizondo, 1991)

According to many studies, the most common type of foreign direct investment is the merger and acquisition, (Limmack, 1991. Conn et al, 1995. Sudarsanam et al, 2001). Due to the reasons mentioned earlier, the researcher will compare between domestic and cross-border acquisitions within the UK as a big and important economy, trying to analyze and evaluate their investment decisions by observing their abnormal returns, which will help to recommend their experiences to similar firms in other countries. In order to fulfill this purpose a consideration will be made of the United Kingdom’s experience in respect of both domestic and cross-border acquisitions.

In this chapter, the main information about foreign direct investments generally and mergers and acquisitions in detail will be introduced. This information will include some essential detail about foreign direct investment and its importance. Moreover it will provide a further explanation about mergers and acquisitions and their role in the economy. Furthermore, the main motivations which lead firms to make and complete these types of investment will be explored. Thus this chapter will be organized as follows. The next section will contain a general literature review. The second section

will include the history of mergers and acquisitions. The third section will introduce in more detail the major motivations for making acquisitions. The fourth section will present the importance of acquisitions. Finally, the last section will outline briefly some information about the data which has been used in the whole thesis.

2.2 Literature review:

It is obvious and clear that foreign direct investment flows have increased significantly within the last three decades. This idea has been welcomed by governments around the world, and it is noticeable that both developing and developed countries are trying hard to attract multinational enterprises to invest in their economies, which they do by offering financial and economic facilities to encourage those investments.

The past decade has witnessed a remarkable increase in foreign direct investment (FDI) to developing countries, increasing from \$24 billion in 1990 to \$178 billion in 2000. For example, in 1999, developing countries have obtained \$208 billion in FDI, and that is an increase equal to 16% compared with 1998. On the other hand, the developed countries attracted around \$636 billion in FDI in 1999, and the US and the UK had the biggest share as investors and targets. It is notable that the growth in these kinds of investments has increased mainly since the mid 1980s. Since then the world economy has witnessed a strong growth, and from that time foreign direct investments have become the most general financial resources in many markets. Furthermore, many studies have pointed out that foreign direct investments grow much faster than any other type of investments, which makes it reasonable when the UN mentions in its World Investment Report (1994) that the world of FDI has grown at very extraordinary rates to achieve around \$225 billion in 1990. This sharp increase in rates of foreign direct investments may appear as a result of many major changes in the economy, such as the combination of the global economy or what is known as “globalization” or to the increase in the number of multinational enterprises. Furthermore, the growth in the foreign direct investments flows was stable and quick since the late 1980s, and then these flows increased around six times from \$53 billion in 1985 to \$315 billion in 1996. (Asiedu, 2002; Chakrabarti, 2001; Moshirian, 2001; Gregory, McCorriston, 2003; Li, Moshirian, 2004; Penings, Sluwaegen, 2004; Barrios et. al., 2005; Brakman et al., 2006)

Furthermore, Agarwal (1980) refers to three main hypotheses on the tendencies of countries and firms to establish foreign direct investments and these hypotheses build on the imperfection of the market. The first one is the differential rate of return which

assumes that FDI can work as a function of international differences in rates of return on capital investment. Thus FDI moves from countries with low returns to those expected to achieve or give high returns per unit of capital. The second is the portfolio hypothesis which supposes that investors are usually interested not only in the rate of returns but also in the risk when choosing their portfolios. Thus the investment is a positive function for the first one and a negative one for the second. The third hypothesis consists of two sub hypotheses; the first part is the output hypothesis which refers to a positive relationship between the foreign direct investment of the firm and its output (sales) in the host country. The second part is the market size hypothesis which assumes the same idea about the relationship between investments and output but on the macro or the market level of the host country.

Although there are a number of theories that have been developed to explain the main determinants and effects of FDI, a specific theory that has become popular is called the eclectic theory. This theory states that FDI is determined by three sets of advantages or benefits. The first benefit is the ownership advantage in the host country, which means that the firm has this advantage compared with its competitors, usually regarding its product or its technological knowledge. The second advantage is the location advantage which indicates the reason why it is absolutely crucial for the firm to invest in the host country as an alternative to investing in its home country. This benefit draws from facilities or services which are introduced by the host country to those firms. The third advantage is the internalization advantage. In addition, we can find that foreign firms are interested sometimes in a specific location or a specific country in which to invest, but some obstacles may stand in the way of these investments such as, the high tariffs in the host country, the tax rates and the application of strict laws in the host country. (Gastanaga et al, 1998)

On the other hand, foreign direct investment can take many types. There are mainly five ways in which transnational companies can serve the foreign market. The first way is in the form of an indirect investment, where firms serve the market by licensing a domestic firm. The second type includes investing directly via Greenfield investments. The third and the fourth type incorporate the acquisition of or merger with a local firm. While the last type of these investments includes entering into a strategic alliance with a local firm. However, many articles consider that the most common type of FDI is the cross-border acquisitions and mergers. For example, in the UK, cross-border acquisitions form the major type of foreign investment in recent years, and in 1995, the

value of acquisition purchases by the UK was almost US\$30m but by 1999 this had increased to US\$209m. Moreover, the report of the UK Statistics Office mentions recently that the total number of acquisitions which have been conducted by UK firms abroad has increased from 365 deals in 2005 to 441 acquisitions in 2007. (E.g. Lall, 2002; Gregory and McCorrison, 2005)

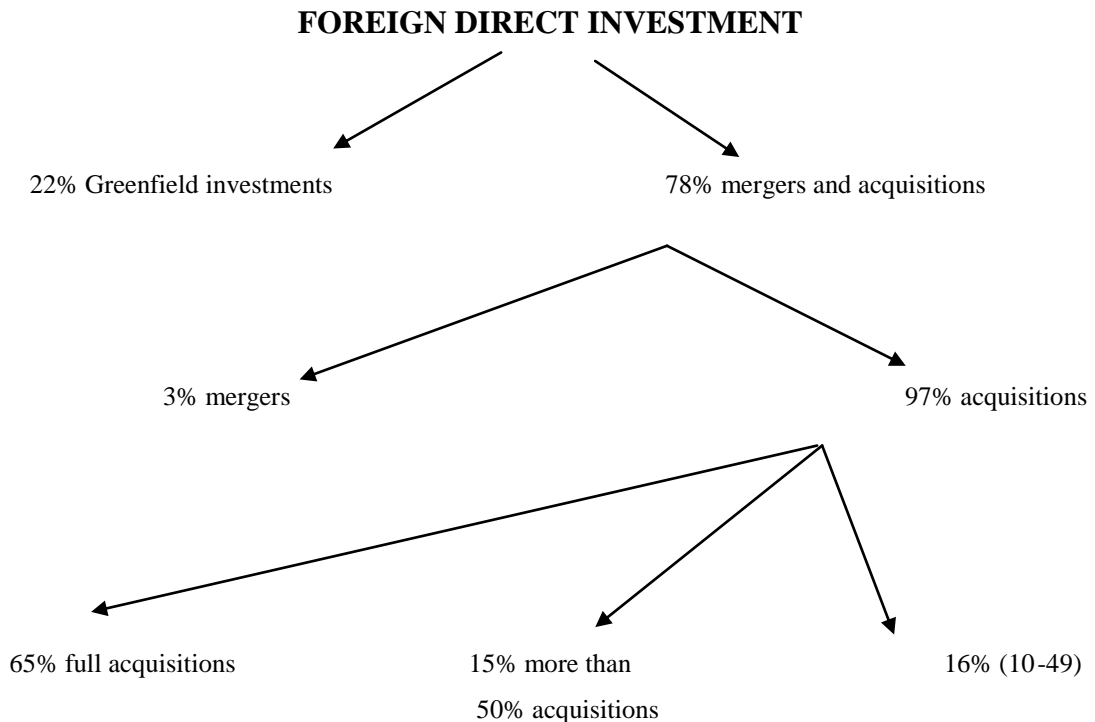
One should also mention that China has played an important role in attracting foreign direct investments within the last two decades. Gao (2005) points out that in the late 1970s China started its own policy to attract foreign direct investments by setting up the open-door policy. Since then, the actual FDI inflow increased from \$0.64 billion in 1983 to \$3.49 billion in 1990 and these net inflows reached \$52.7 billion in 2002 according to the official statistics.

Furthermore, there are many factors which play an important role in attracting foreign direct investments, such as the exchange rate. Froot and Stein (1991) assume in their paper that the decrease of the dollar has coincided with a spectacular increase in FDI in the United States, due to the weakness of the dollar which makes certain US assets less expensive to foreigners who hold their wealth in other currencies.

Thus the researcher provides a further explanation and definitions to those types of investments which will help to simplify forward explanation. According to Rossi and Volpin (2004) mergers can be defined as business combinations in which the number of companies decreases after the transaction, moreover acquisitions could also be defined as less than 50% ownership of the target company's stock by the acquirer before the deal and more than 50% ownership after the deal.

Brakman et al (2006) have distinguished between international M&A and the Greenfield investments when they explain the main difference between them. They clarified that mergers and acquisitions investments are the controlling of assets and operations which are transferred from a domestic to a foreign company, while the Greenfield investments are becoming affiliates of the M&As. In addition, the World Investment Report 2000 mentions the important difference between cross-border mergers and acquisitions and Greenfield investments which states that mergers and acquisitions as investments include a 'change of assets' from the domestic country to the foreign one, and also that mergers and acquisitions do not usually create new employment initially, whereas Greenfield investments do. Additionally, mergers and

acquisitions can relocate new technology, while Greenfield investment does not and that is especially clear at the point of entry to the foreign country.



Source: Brakman et al (2006), and the percentage associated with different forms of investment.

2.3 The history of M&A

According to Aw and Chatterjee (2004) mergers and acquisitions are widespread nowadays with companies acquiring targets all over the world. Moreover, they state that historically, most of these deals were concentrated in the USA and in the UK, but after the 1990s mergers and acquisitions deals have entered Europe, which became a major source and host location to these investments. After the golden age of M&A activity in the 1990s, that activity began to increase after an obvious deceleration from 2002-2003 following the peak activity during the ‘dot-com’ period with \$766 billion worth of acquisitions in 2004. (Dube and Glascock, 2006)

Many studies have mentioned that it is now a well recognized fact that mergers and acquisitions happen in cyclical waves. The second industrial revolution concluded in the first European merger wave (1880-1904) which aimed at creating cartels. While anti-trust regulation limited monopoly control, it also started a second merger wave (1919-29) that led to increased vertical integration.

The third European merger wave started in the 1950s, but reached its peak by the mid-1960s. Diversification and the establishment of large multinational companies were the main forces behind the global markets during this wave. The great developments in the technology field, as well as the growth in the financial markets form the main reasons for the fourth merger wave (1983-89). During the final period, a fifth wave took place between 1993 and the beginning of 2000 as the total dollar value paid for target firms in the USA and Europe increased by twice that compared with the previous years. This wave comes with an economic boom, and also it witnesses the growth of new European stock exchanges such as the European New Markets and the expansion in the Internet and telecommunications industries. During this period, and after the beginning of the fifth wave in 1993, the M&A wave grew even more with a value of \$1,574 million in 1997, \$2,634 million in 1998, and \$3,451 million in 2000. Despite many economic circumstances such as the overcapacity in the traditional sectors of many industries, which caused an unexpected decrease in merger activity acquisitions, acquisitions continue to be extraordinarily popular. For example, 1999 was extraordinary for the M&A market in Europe, because this market increased as much as the USA market and around 12% of the total value of that market was made via deals in excess of \$100 million. (See, Hayward, 2002; Goergen and Renneboog, 2004)

Furthermore, many studies have noticed that mergers and acquisitions are the most common type of FDI which have been made within the last decade compared with Greenfield investments. (Goergen and Renneboog, 2004)

Within the international movement and waves of mergers and acquisitions, UK firms have played an important and vital role. It is essential to add that by 2000, the UK was the largest acquiring country around the world. However, the situation was different in 2004 as stated in the report of the National Statistics Office. It reviews acquisitions in its fourth publication, and illustrates that in 2004 spending on acquisitions in the UK by UK firms increased to £31.2 billion compared with £18.7 billion in 2003. The report moreover states that the spending on acquisitions abroad by UK firms decreased slightly from £20.8 billion in 2003 to £20.3 billion in 2004. The total value of cross-border acquisitions increased from £18.709 billion in 2004 to £37.412 billion in 2006.

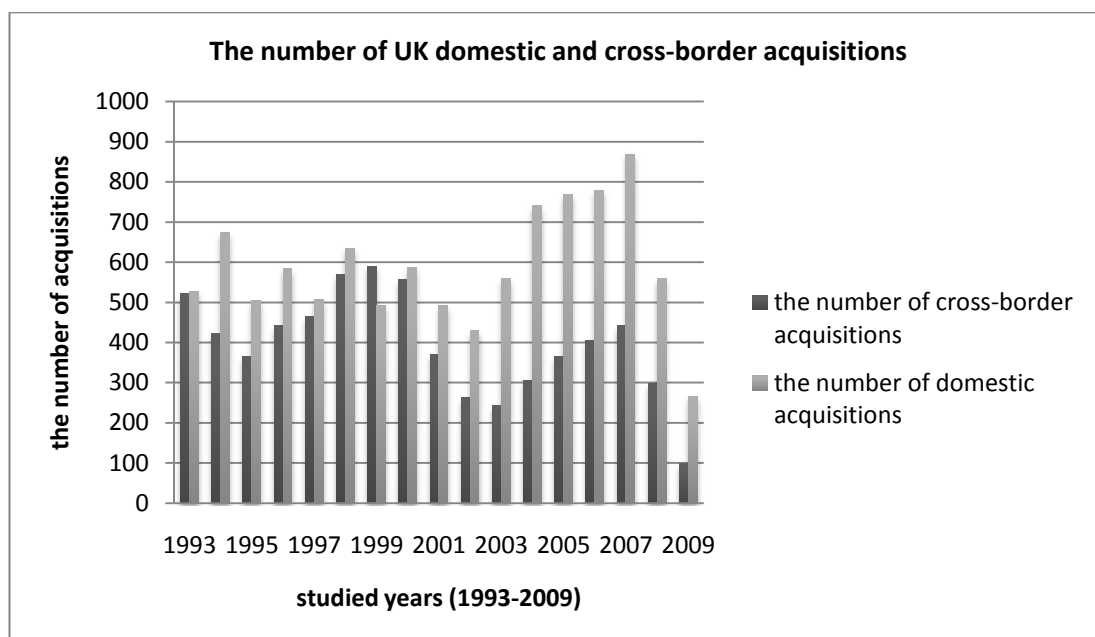
Recently, it could be noted from figures (1) and (2) that spending on cross-border acquisitions by UK firms decreased from £2.5 billion in the third quarter of 2009 to £0.9 billion in the fourth quarter. In addition, there was a slight decline in the number of cross-border acquisitions to 25 deals compared with 26 acquisitions in the third quarter

from the same year. Moreover, spending on domestic acquisitions by UK firms showed some decrease from £1.9 billion in the third quarter of 2009 to £1.3 in the fourth quarter of the same year. These changes remain small compared to the change or decrease in spending on cross-border acquisitions. The number of domestic acquisitions decreased dramatically from almost 100 deals at the first quarter of 2009 to less than 60 acquisitions at the end of 2009.

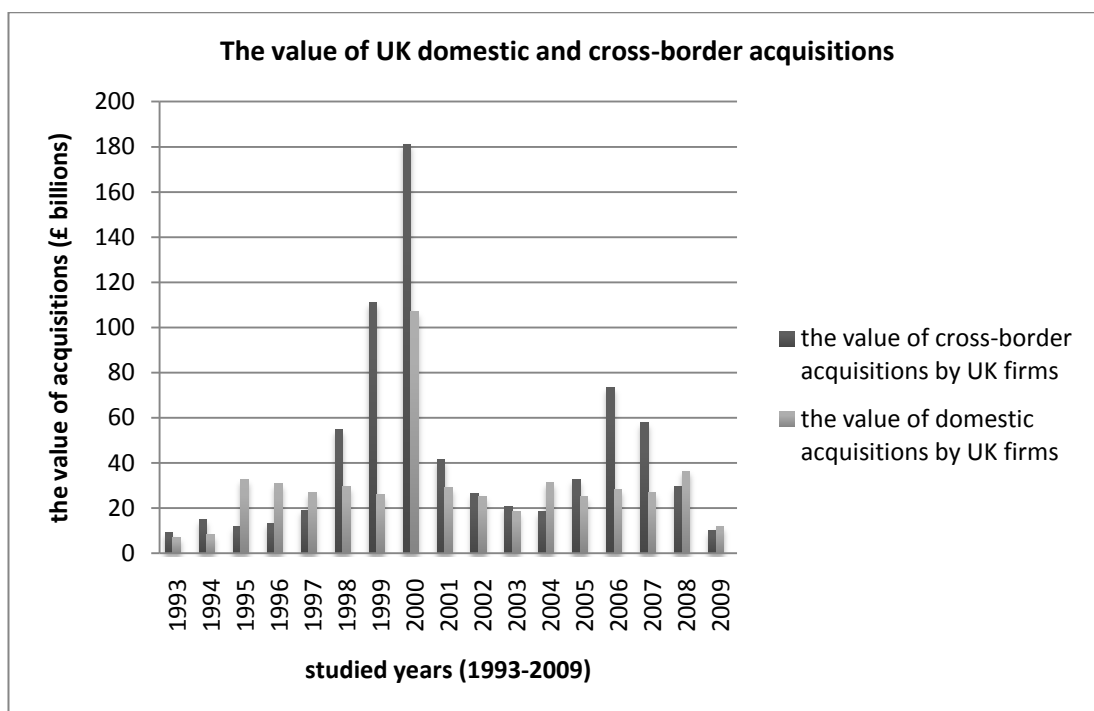
According to the report that has been published by the National Statistics Office, the United States of America was the main destination for the UK firms' investment abroad in 2009. The report mentions that spending was around £4.9 billion compared with £7.6 billion in 2008. On the other hand, Europe comes second as the destination for UK firms' acquisitions, with a total value of £1.9 billion in 2009 compared with £15.3 billion in 2008.

Figure 2. 1. The value and the number of domestic and cross-border acquisitions via UK firms (1993 – 2009)

Panel A: introduces the number of UK domestic and cross-border acquisitions.



Panel B: introduces the value of UK domestic and cross-border acquisitions



Notes:

Panel A introduces the total number of UK domestic and cross-border acquisitions within (1993-2009). Panel B includes the total value of UK domestic and cross-border acquisitions within (1993-2009). The value is expressed in sterling pound (billions)

The source for this information is the National Statistics Office in the UK.

As a result of the high importance of the mergers and acquisitions topic, a discussion of the major reasons and motives behind making such transactions will be conducted in the following section.

Mergers generally can be divided into the major two types as follows. i.e. The horizontal, and the vertical or conglomerate. Horizontal mergers include firms which are operating in the same business. Alternatively, vertical or conglomerate mergers involve firms which are not in the same business field, even though vertical mergers take place among related firms that operate at different stages of the production process. They can make use of each other's business in some way, possibly as a supplier or as a recipient for goods produced. The conglomerate merger aims to benefit from non-specific synergies, whether financial or managerial. The offer itself can be a tender offer or aggressive one. The tender offer can be conditional or unconditional, and in processing this offer, an agreement of around 50 percent of shareholders of the target firm can be under the bidding firm's control. Also the shareholders of the target firm have around 20-days during which period they can give their decision and vote, and if

another acquirer makes an alternative offer they have another 10-days to review the new offer. (Weston, Weaver, 2004)

2.4 Motivations for making acquisitions

Commonly, there are three main motives for takeovers, i.e. the synergy motive, the agency motive and hubris. The first motive supposes that the managers of both the target and the acquirer firm aim to develop the shareholders' wealth, and they will conduct the takeover only if it achieves benefits for both sides. The second motive proposes that takeovers generally take place because they improve the acquirer management's wealth at the expense of shareholders. Finally, the hubris motive suggests that takeovers occur as a result of managers' mistakes in evaluating the target firm, even if there is no gain from the acquisition. (Berkovitch and Narayanan, 1993)

There are a number of major theories which may seek to explain some of the motives that lead any company to acquire another company. The first one, according to Firth (1980), is the neoclassical profit maximization theory. This theory assumes that competitive market forces lead firms to maximize shareholder wealth. Moreover firms will be involved in investing in case it facilitates an increase in the shareholder wealth of the acquiring company, which resembles the case of the increased profitability of the acquiring company by means of the creation of the monopoly power. The second theory is the maximizing management utility. This theory assumes that for achieving a certain level of profits, many managers will try to increase their own interests, which does not coexist with the increase in the shareholder wealth.

In addition, Cassiman and Colombo (2006) mention that there are some classic motives which lead firms to combine into (or purchase) one firm. The first motive is financial economics which suggests that mergers and acquisitions sometimes happen to correct internal inefficiencies, agency problems, and capital market imperfections. The second one is the industrial organization motive, which proposes that doing mergers and acquisitions occurs as a result of a desire to strengthen the market power and the search for efficiency profits. Furthermore, Chapman (2003) points out that motivations for making mergers and acquisitions have been found in many articles and different studies, but they can be classified into four main motives. The first one supposes that mergers and acquisitions can be undertaken as a result of the managers' desires to increase their personal power. The second one suggests that shareholders' interest should be considered more than the managers' desire or interest. The third motive proposes that

mergers and acquisitions can be considered as a result of the supposed economic benefits to the acquiring firm drawing from a reduction of the costs or an increase in the size of the whole enterprise. Finally, the fourth motive supposes that the firm's long term strategic goals may be considered while making the deal, such as a desire for market control.

Acquisitions and mergers can be the result of many different reasons according to Hayward (2003). He mentions that many firms acquire new resources which help them to enter new markets, such as AT&T's acquisitions at the beginning of the 1990s. These acquisitions allowed the firm to obtain good access to the computing and wireless telephony markets.

On the other hand, according to earlier discussions about M&A investments, the cultural issues cannot be ignored, which may be caused by this kind of deal and may form a great barrier to these investments.

These cultural problems can be attributed to many aspects such as the decrease in performance, the loss of highly skilled employees, and a reduction in loyalty to that company. Furthermore, they can form a break factor if the company does not deal with them. For example, dealing with employees' reactions to mergers or acquisitions integration is an essential issue because this problem plays an important role in the success or failure of the integration (See e.g. Bourantas, Nicandrou, 1998; Pineda, Kummer, 2007).

In addition, one needs to consider the major motives which lead some firms to make cross-border deals as part of their mergers and acquisitions strategy. Many studies assume that there are different theories, which are based on industrial organization, and propose an influential motive for these kinds of cross-border deals. For example, entering foreign markets for many firms may help them to get some benefits, such as the differential tax systems between nations which can have an impact on the marginal productivity of foreign direct investments through acquisitions. Furthermore, some studies apply this idea to cross-border acquisitions when they mention that there are many reasons for cross-border acquisitions such as, imperfections and costs in product or factor markets, biases in government and regulatory policies and imperfections and information asymmetries in capital markets. These imperfections and costs help multinational enterprises, which in turn may encourage foreign acquisitions to take advantage from monopoly rents or internalize actions that are expensive to perform

through their market. (See, for instance, Harris and Ravenscraft 1990; Goergen, Renneboog, 2004).

In the following section of this chapter, more information about the role and the importance of both acquisitions and mergers will be introduced.

2.5 The importance of acquisitions

Mergers and acquisitions activity has been one of the most studied topics within the last two decades. Historically, a large number of these investments have been carried out by firms in the USA as well as in the UK. For example, over the late 1980s, the UK was the most important player as an acquiring nation in cross-border acquisitions with over 30% of international corporate investments during that time. Moreover, recently the total number of domestic acquisitions by UK firms increased from 492 deals in 2004 to 869 acquisitions in 2007. (Gregory, McCorriston, 2005)

Cross-border investments can be considered as the most outstanding feature of recent economic trends and many countries are attracting these kinds of investments and consider them to be a crucial element in their development strategy due to regarding the importance of cross-border investments as a combination of capital, technology and marketing. Other studies mention that cross-border mergers and acquisitions take place as a result of many factors such as the global competition, privatization and the single European market (See e.g. Aw, Chatterjee, 2004; Cheng, Kwan, 2000).

Furthermore, many studies document a sharp increase in cross border mergers and acquisitions. For example, Brakman et al (2006) point out that there were 2,154 cross-borders M&As in 2005 with a total value of about \$774 billion, and the US tops the list with the UK in second place as the largest acquiring country with 286 deals. The UK was also second with 262 deals as a target country. On the other hand, they also confirm in their paper that while local M&As in banking have witnessed a reasonable increase in the last two decades, international mergers and acquisitions have stayed relatively uncommon, and between 1980 and 2000 around one sixth of all bank mergers engaged partners with head quarters in two different countries or regions. (See for instance Buch, Delong, 2001).

It is notable that the number and the value of acquisitions in the UK that have been carried out by UK firms are higher than the cross-border acquisitions which have also been made by UK firms from 2002 to 2004. By 2005, one can note that both the number and the value of cross-border acquisitions have become higher compared with domestic acquisitions for the same period, but within the last two years, domestic acquisitions have returned to their position as higher in value compared to international deals. These changes in the number and the value of both domestic and cross-border acquisitions are a result of international changes and improvements over the world. For example, by 2008 and 2009, most firms try to make domestic acquisitions instead of cross-border deals; possibly because of the credit crisis which has limited the sources of funds for many firms around the world.

Investigating mergers and acquisitions and their impact on firms' returns has been studied and researched all across the world. Many studies have investigated the changes in shareholders' wealth for both acquiring and target firms. For example, concentrating on the impact of acquisitions in the UK, Firth (1979) found that the acquiring firms experienced losses of 6% around the announcement date of the deal. On the other hand, Franks and Harris (1989) found after studying around 1800 UK acquisitions that the shareholders of the acquiring firms get some gains instead of losing or generating any abnormal losses. In addition, Limmack (1991) found also that the acquiring firms generate some abnormal returns and that is one month before the announcement date.

Furthermore, a number of studies have analyzed and tested the abnormal returns for US acquiring firms. For example, according to Danbolt (1995), Tessema (1985) investigated US abnormal returns for both the target and acquiring firms following domestic and cross-border acquisitions. He observed that acquiring firms did not lose as a result of the acquisition, and there is not much difference in the abnormal returns between domestic and cross-border acquisitions.

In the following chapter, the researcher is going to examine acquirers' returns to domestic and cross-border acquisitions. These returns have been investigated for a 5-day window which begins two days before the announcement day and ends two days after the announcement day and also includes the announcement day. It is important to add that the Market Model has been applied to calculate the acquirers' returns.

Chapter 3: UK Acquirers' Returns in Domestic and Cross-Border Acquisitions

UK Acquirers' Returns in Domestic and Cross-Border Acquisitions

3.1 Introduction

This paper makes several contributions. First, an investigation of acquirers' returns around and over the announcement date of each deal has been conducted. Second, a comparison is made between acquirers' returns in relation to domestic deals and cross-border acquisitions. Third, UK acquirers' returns are an interesting area to study, particularly in view of the sharp increase in the number of acquisitions conducted in the UK within the past two decades.

The intention of this study is to explore the difference in acquirers' returns between those that carry out domestic deals and acquirers that conduct cross-border deals, and which are measured around and over the announcement date of each deal. Thus, due to the importance of this topic in relation to the UK market, the performance of the bidder firm after and around the announcement date is studied here.

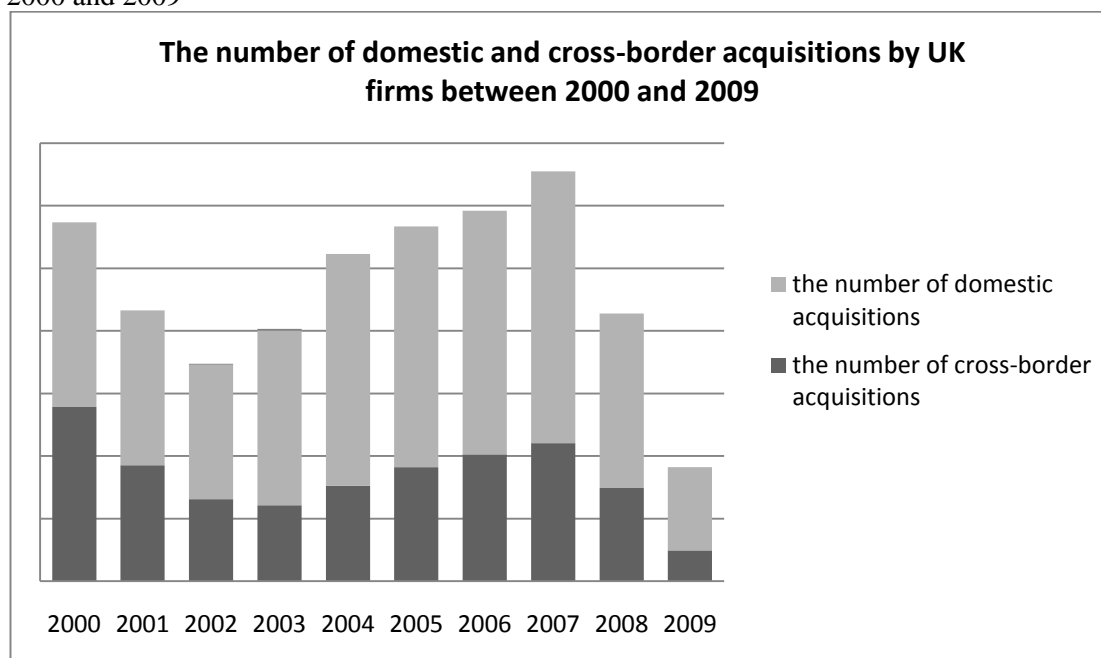
3.2 Literature review

Studying mergers and acquisitions' activity is one of the most commonly studied topics in corporate finance; which is not only due to the importance of the topic itself, but also to its great impact on the economy of each country. Furthermore, over the past 10 years investments via mergers and acquisitions in the UK, US, and Europe have far outstripped any other kind of investment, such as Greenfield (see, for example, Baker, Limmack, 2001; Goergen, Renneboog, 2004).

Within the last merger wave, the UK played a very significant role. For example, the value and the number of cross-border acquisitions made by UK firms increased significantly between the mid 1980s and 1990s. Thus by 2000, the UK became the largest acquiring country in the world. For example, the total number of domestic acquisitions in the UK in 2000 was 587 with a total value of £106916 million. (Conn et al, 2005). Moreover, the total number of cross-border acquisitions by UK firms increased from 365 deals with a total value of £11967 million in 1995 to 405 acquisitions with a total value of £37412 million in 2006.

The most popular area of study in this field is whether mergers and acquisitions as an activity generate any returns (positive, negative or even zero). This topic has been researched not only from the point of view of the target firm but also from that of the bidder firm. Many researchers have considered studying the performance of the target firm after or over the announcement period, while others have examined the bidder's return and whether the bidder firm achieved any returns as a result of that investment. Here, the researcher investigates acquirers' returns for UK domestic and cross-border acquisitions from the beginning of 2000 until the end of 2009. The main motivation behind investigating acquirers' returns for these years is due to the fact that the UK has witnessed an incredible increase in acquisitions activity after 2000 which witnessed the end of the fifth merger wave. For example, the total number of domestic and cross-border acquisitions in 1999 rose from 1083 with a total value of £137356 deals to 1144 with a total value of £288201 in 2000. On the other hand, the researcher also wanted to compare acquirers' returns in order to ascertain whether any of these types of acquisitions achieved any abnormal returns for acquiring firms. The following figure will explain more about the dramatic increase in the total number of domestic and cross-border acquisitions in UK from 2000-2009.

Figure 3. 1. Panel A: the number of domestic and cross-border acquisitions by UK firms between 2000 and 2009



Notes:

This panel reports the number of domestic and cross-border acquisitions by UK firms between 2000 and 2009. The source is UK Office for National Statistics.

This chapter is organized as follows: the first section which is the literature review includes two parts. The first part introduces general information about the main motives for making acquisitions, while the second part reports details about the role of acquisitions in the UK and US markets. The second section introduces information about the data used in this chapter. The following section presents some details about the methodology required and used. The later section includes the main results for both cross-border and domestic acquisitions. The final section concludes the whole chapter with a summary of its results and main findings.

3.2.1 Major motives for making acquisitions

There are two major theories which may explain why many firms are involved in acquisitions or mergers according to Firth (1980). The first one is called ‘the neoclassical profit maximization theory’. The author adds that this theory depends on the idea that ‘competitive market forces encourage the firm to maximize shareholder wealth’. This may motivate a firm to make acquisitions or mergers as a way of increasing its shareholders’ wealth, because shareholders’ wealth will increase as a result of increases in the acquiring firm’s profitability which will rise because of the acquisition bid. The author mentions that it is important to appreciate that profitability may increase either as a result of monopoly power, synergy or by inserting better management into the target firm.

The second theory is called ‘maximizing management utility’. It supports the idea that managers will attempt to maximise their own wealth, which may not lead to increases in shareholders’ wealth. Managers usually enter into acquisition or merger deals as a way of increasing their own interests such as, increasing their salaries or enhancing their position in the firm and these are referred to as “management self-interests”. In addition achieving any benefit from earlier goals sometimes requires a growth in the size of the firm, which may not be achievable as quickly without making these kinds of investments. The first theory which is the ‘shareholder wealth maximization’ involves according to Firth (1980), the concept that the takeover may lead to an increase in the profitability of the acquiring firm, while the second theory which is - the management utility theory - states that the acquisition is designed to increase the size of the firm and in turn, the managers’ benefits more than increasing the firm’s profitability.

Mandelker (1974) introduces this idea when he mentions that because of the separation between control and ownership in the corporations, managers will try hard to achieve their own goals which can range from reducing the risk of losing their own positions to increasing their salaries, which differ from the firm's goals. This may lead to an increase only in the size of the corporation, because it does not necessarily increase or affect the profitability of the firm or shareholders' wealth.

Additionally, Mueller (1969) mentions that if firms exploit returns, mergers will take place only when they are likely to increase the firm's market power or when they are expected to generate technological or managerial economies of scale, which is more probable in cross-border deals. Measuring the profitability of acquisitions and mergers can be achieved using two main methods. The first method is to test financial data and this is based on considering some accounting numbers of the bidder and the target, while the second method is to test the returns that accrue to the shareholders of the firm.

The first method shows that firms sometimes acquire weak companies to restructure them or to increase their size. The second method of testing "the profitability of acquisitions" has been used more extensively in the literature. It depends on the concept of efficient markets as a way of measuring shareholders' returns. Hence depending on this method will allow researchers to test the share price around a specific time or around specific days, such as the announcement day of any merger or acquisition (Firth, 1980).

Mandelker (1974) states that there are two main hypotheses regarding acquisitions, the first one is the Perfectly Competitive Acquisition Market hypothesis (PCAM). This hypothesis supposes that in a perfectly competitive market, the competition will associate the expected rates of return on assets of similar risk. For example, if the market of acquisition introduces higher or larger expected returns of profits than equal activities, many resources will be directed to the acquiring firm to this activity until the expected rates come back to its competitive level. In addition, this hypothesis entails that there are no monopolistic sources of gains to acquiring firms if they consider merging or acquiring firms as a method of having or achieving "productive capacity". The second hypothesis is based on "efficiency of capital markets" which suggests that stock prices will be influenced and changed as a reaction to the new information. Therefore these stock prices will act as an impartial indicator for efficient resources

allocation. As a result, if the market is efficient when the merger activity takes place, then stock prices will respond immediately to this activity and incorporate the new information. This hypothesis does not imply any monopolistic elements as compared to the earlier one, and mergers and acquisitions gains or profits can be involved for acquiring or acquired firms.

Furthermore, the author mentions that there are several reasons for making acquisitions. Among these is “the growth maximization” hypothesis which proposes that if firms merge not for the sake of increasing their profits or gains, but in order to increase their sizes or obtain certain managerial goals, their rate of returns will be abnormally small because achieving managers’ goals will result in increasing firm’s physical, size not its profits. Alternatively, the “abnormal gains hypothesis” assumes that information in relation to forthcoming acquisitions is considered ‘good’ news for stockholders in the bidder firm. There are many sources of gains from mergers including financial benefits, tax reductions, and improvements or developments in the marketability of the stocks.

3.2.2 The role of acquisitions in the UK and the US markets

Studying mergers and acquisitions in the UK has been one of the most interesting topics over the past two decades due to the sharp increase in the number of these investments within the UK and between the UK and the rest of the world. (See, for instance. Lall, 2002; Gregory and McCorriston, 2003)

There are many significant studies in this area which are relevant to this paper. For example, Firth’s (1980) study, which studies UK acquisitions depending on the effect of the acquisition on stock prices. Firth’s paper used the Market Model to examine takeovers which occurred in the UK between 1969 and 1975. Firth (1980) was interested in the offeree and offeror which made successful and unsuccessful bids measured over 48 months (prior to the announcement month which is considered month 0 and 36 months subsequent to the announcement month).

Firth (1980) obtained a negative cumulative average residual of around -0.007 at month -48, and positive CAR for the following months -2, -1, +1, +2 and +3 including the announcement month (0) for offerees that were taken over. On the other hand, Firth (1980) tested offerees that were not taken over. These had insignificant CAR for the

following months which are before the announcement month -48, -3, -2 and -1 of 0.006, 0.003, 0.011, and 0.095. And obtaining these positive CARs continue from month (0) until month 36 after the announcement date. In addition, the author also examined the returns for offerors that made successful takeovers compared to those that made unsuccessful ones. He found that they generate a negative CAR of -0.049 for the former comparing with -0.045 for the latter one at the announcement month. Their CAR at -48 month are both positive of around 0.001, and these positive CARs continue for both samples from month 48 prior to the announcement month until one month before the announcement month (0). This indicates that there is no difference between offeror's returns whether they are involved in a successful takeover or not. Furthermore, the author concluded that the acquired or the target firms' shareholders achieve or benefit from large gains as a result of the takeovers, while the acquiring firms' shareholders suffer or realise losses which cannot be counteracted or balanced by the gains to the shareholders of the target firms.

Doukas and Travlos (1988) studied the effect of foreign acquisitions on stock prices of US firms over nine years from 1975 to 1983. Following Fama and using the Market Model applied to 301 acquisitions, they showed important results for 10 days before and 10 days after the "zero day" which is the announcement day. The main result of their analysis is that most of the returns for these 21 days are insignificant at any conventional level. For example, the returns for days -10, -5 are -0.11%, -0.69%, and one can notice almost identical results for days after the announcement day +10, +5 that are -0.59% and 0.12%. This implies that there is no real difference in returns before and after the announcement day.

Franks and Harris (1989) examined the effects of UK acquisitions on shareholder wealth from 1955 to 1985. They depended mainly on three major models to test the acquisitions' impact to measure the effects of the mergers on the share price.

They use the market model where α_i and β_i are estimated depending on the firm and market returns. In addition, they apply the market adjusted model where $\alpha_{i=0}$ and $\beta_{i=1}$ for all firms. Finally, they used the Capital Asset Pricing Model (CAPM). Their findings are based on the simplest market adjusted model where $\alpha_{i=0}$ and $\beta_{i=1}$, and their results are reported on both an equally weighted and a value-weighted basis. In the month 0, the shareholders of the target firms have positive and significant returns of

23.3%. They also examined the targets' returns over the six months from -4 month to +1 month and they found that the targets' returns had increased to 29.7% while the bidders have positive abnormal returns of 1% at month 0, and they have positive abnormal returns for (-4, +1) of around 7.9% which are less than the targets' returns. Additionally, they find that shareholders of both the targets and the bidders have positive returns according to the value-weighted measure, which supports the hypothesis that there are positive gains for shareholders from takeovers. They conclude that mergers generally produce a value for shareholders around and over the announcement date, and the shareholders of both the target and acquiring firms achieve profits, but the shareholders of the target firms have higher and better returns compared with the bidders' shareholders.

Limmack (1991) studied the returns of shareholders of UK companies that were involved in acquisitions between 1977 and 1986. The author used three models to identify the abnormal returns for the companies. The first model is the Market Model, and to estimate the parameters for each firm, the author used the share price for month -67 through to month -7 (he considered that month 0 is the month where the announcement had been made). The second model is the Adjusted Betas Model. He used this model to test any possible bias that may appear because of the first model. The third model is the Index Model that assumes alpha is zero and beta is one for all shares, and is equivalent to the market adjusted model used by Franks and Harris (1989).

The full set of data was divided into two main sections, those with completed acquisitions, and those with abandoned ones. Limmack calculated the abnormal returns for three periods. The first one was the pre-bid period which was between month -6 and month -1. The second one was the bid period and this period included the bid month. The third period was the post-outcome period, and this period was between +1 month and +24 months.

Regarding the abnormal returns for the pre-bid period, the author found that the acquirers of the completed acquisitions achieved positive and significant returns for months -6 and -5 of 1.27% and 1.37%, significant at a 5% level, and they had returns that were different from zero for months -4 and -3 of 0.32% and 0.22%, and for month -1 they had positive and not significant returns of 0.22%. For the abandoned bids, acquirers had positive and significant returns for month -6 of 2.11%, and positive but

not significant returns for month -5, -4, and -3 of 1.61%, 1.69% and 1.55% respectively. Also they obtained negative and insignificant returns for month -1 of -0.59%. Limmack (1991) noted that acquirers of completed acquisitions had experienced at the bid period negative and not significant returns of -0.20%, while the acquirers of abandoned acquisitions experienced negative and significant returns of -6.02%. Finally, the returns for the third period were not different from zero for acquirers of completed acquisitions of 0.15%, and negative but significant returns for acquirers of abandoned acquisitions of -1.28%. The author concluded that no obvious or large gains were made by acquirers' shareholders for completed acquisitions over and around the announcement date.

Parkingson and Dobbins (1993) investigated the abnormal returns for UK acquisitions between 1975 and 1984. They depended mainly on three models to calculate the abnormal returns for both acquirer and target firms. The first model was the Market Model, the second one was the Index Model and the third one was the CAPM. Additionally, they divided the study period into four periods, month -6, month 0, month +12 and month +24 month. They found that acquirers had positive and not significant returns for month -6 of 1.70%, 1.73% and 1.67% for the respective models.

Regarding the announcement month, acquirers had positive significant returns according to the Market Model of 2.02%, and not significant returns according to the Index model and the CAPM of 1.83%, and 1.97%. Finally, for the third and fourth periods (month+12 and month +24), the acquirers experienced positive and insignificant returns, and that was the same for all the three models. For example, the acquirers generated abnormal returns of 1.7% at month +12 according to the Index Model.

Comparing the results for Parkingson and Dobbins (1993) with Limmack (1991), it may be noted that both are similar in their results regarding the pre-bid period returns. Both articles show positive and not significant returns for the acquirers. For example, Parkingson and Dobbins found that acquirers experienced returns of 1.70% according to the Market Model for month -6, and Limmack also found that the acquirers for completed acquisitions had returns of 1.27% for the same period.

On the other hand, it is noticeable that both articles differ in their results for the bid period. For example, Parkingson and Dobbins mentioned that acquirers had positive and significant returns for month 0 of 2.02%, while Limmack stated that acquirers for

completed acquisitions had negative and not significant returns of -0.20%. Moreover, concerning the post-bid period, both articles showed that acquirers had experienced positive and not significant returns. This difference may come from using different models to calculate the acquirers' returns. Also this difference in results at the announcement month may be due to them considering completed and incomplete acquisitions in both samples.

Danbolt (1995) studied the gains and losses for shareholders of foreign companies that had made takeover bids for UK companies during the period 1986-1991. In Danbolt's study, the sample included 174 foreign firms that had acquired UK companies. The author applied two common models in the previous sample; the first model was the Market Model, the second one was the Index Model. He found that for the eight months period prior to the announcement month CAR was negative and not significant for foreign acquiring firms of -0.54% according to the Market Model, and an average abnormal return of -1.10% according to the Index Model. At the announcement month the abnormal returns are insignificant but they became positive for both the applied models.

Eckbo and Thorburn (2000) studied domestic and cross-border US acquisitions that acquired Canadian targets. With a sample of 1846 successful acquisitions between 1964 and 1982, they used the Market Model to calculate the CAR for (-12, +12) months around the announcement month. Instead of testing the total sample, the authors selected some firms and calculated their CAR and then divided them into two groups according to the market value of total equity in month -12. The first group includes firms that have an average of their market value of equity around CAD\$69 million at -12 month, while the second group includes firms that have an average of around CAD\$450 million. Their results showed some interesting findings about the cross-border acquisitions that this chapter focuses on. The CARs are positive for bidder firms in both groups at the announcement month and also the same for five months after the announcement date. Later, the CARs stay positive for the first group after the announcement month, but they become negative for the second group. This implies that there is a relationship between the acquisitions' returns and the average of the market equity of the firm. It is notable that the lower the average of the market equity of the firm, the more positive the returns of the acquirer around and over the announcement period.

Tse and Soufani (2001) studied the major effects of UK takeover acquisitions (friendly and hostile) between 1990 and 1996. The authors explained that they were interested in studying the relationship between the takeover activities and merger eras between 1990 and 1996, and they divide the period into two main eras according to the merger activity. This is because they noticed that between 1990 and 1993 merger activity was low compared with the period between 1994 and 1996, during which merger activity was very high. As a result of the major influence of the general economic performance on all investment decisions of firms as well as on acquisitions performance, the authors argue that it is important to find out more about this relationship. The first period is between 1990 and 1993; which is called the low merger activity era (LMAE), while the second period is considered a high merger activity era (HMAE) and is located between 1994 and 1996.

Focusing on full transaction acquisitions which are not partial deals, and beginning at 12 months before the announcement date and ending three months after that date, they found that friendly bidders have significant positive CAR of 4.85% for the month before the announcement date in LMAE, while they have CAR of 1.76% for the same month at HMAE. On the other hand, hostile bidders have high returns at the announcement month for both HMAE and LMAE of around 4.56% for the first period and 3.28% for the latter one. The authors mentioned that these results assume that the bidder's shareholders may prefer friendly transactions to hostile ones. This is because of the low premium which is associated with friendly acquisitions.

Sudarsanam and Mahate (2003) investigated the shareholders' gains from the point of the relationship between the financial status value or glamour of acquirers against a set of given variables. They investigated this for successfully completed UK acquisitions between 1983 and 1995. They studied these gains according to their relationship with many factors, such as, the Share Price to Earnings Ratio (PER), and the Market to Book Value (MTBV). They defined PER as Brealey and Myers (1995) defined it as "a measure of the esteem in which the company is held by investors". The authors assumed that "shareholders of low PER acquirers (value acquirers) experience larger post-acquisition wealth gains compared to shareholders with high PER acquirers (glamour acquirers)". Secondly, with regards to the MTBV ratio, they assumed that "shareholders of low MTBV acquirers (value acquirers) experience larger post-acquisitions wealth

gains compared to acquirers with high MTBV (glamour acquirers)". To test these hypotheses they divided the event window into three sections. The first section is from day -1 to day +1 (including the announcement day), the second one is from day +2 to day +40, and finally, the last section includes days +41 until day+750. Then the authors used the buy and hold method to calculate the abnormal returns, depending on four benchmark models, the mean-adjusted model, the market-adjusted model, the size-adjusted model and the market to book value-adjusted model. The authors found that acquirers have negative and significant returns for the first period (from day -1 to day +1) of -1.39%, -1.47%, -1.43% and -1.39%, and these returns are significant at the 1% level for all models.

For the second period, the size-adjusted model and the market-adjusted model give insignificant returns of 0.52% and 0.14%, but for the other two models the returns remain insignificant for the MTBV model of -0.53% and significant for the mean-adjusted model -1.89%. This implies that acquirers have returns that are not different from zero and also these results are consistent with Gregory's (1997) result.

Moeller and Schlingmann (2005) investigated whether there is any difference in the stock performance for domestic and cross-border US acquisitions. Using the Market-Adjusted return model and for a period of over 10 years (1985-1995), they analyzed around 383 US cross-border acquisitions and 4046 domestic deals. They found that for the years 1985-1995, the cross-border deals have positive CARs that are not different from zero of 0.307 % for a three-day period (-1, 0, +1). For the domestic deals, they found that cumulative abnormal returns for these acquisitions are positive and significant of 1.173% for the same 3-day period.

More recently, Gregory and McCorriston (2005) studied foreign acquisitions made by UK firms for the short and long-run between 1985 and 1994. Firstly, they focused on studying the abnormal returns for UK acquiring firms over the short-run. As a result they choose two event windows, and used the Market Model to calculate the abnormal returns. The first one is for five days, beginning at three days before the announcement date and ending at the first day after that date. The second window is longer than the earlier one; it begins at day 10 before the announcement date and ends at day ten after the announcement date. After applying cumulative abnormal returns to 343 acquisitions, their findings include for the short-run (for the first window) insignificant abnormal

returns for all UK acquiring firms; and this result includes UK acquiring firms which have invested in all countries. When they divided their sample according to the investment region, they found negative CARs for firms which invest in the EU, and positive CARs for those that invest in the US and the rest of the world. The authors also tested their sample according to the sector. They found that acquiring firms have negative CAR of around -0.134% when the bidder and the target are sharing the same sector, and they have positive CAR of 0.168% in conglomerate deals. They stated that there is not a big difference in earlier results for the second window, which means that the acquirers' returns are still the same, and the only difference that they found was for the returns of firms which invested in the US and for conglomerate deals. The authors also used the buy-and-hold method for testing the firms' long-run performance. They considered three windows (one, three and five years) for the period post acquisitions, their findings include insignificant returns for year one of 0.65% and also insignificant returns for year three and year five of -3.9% for the former and -9.2% for the latter. This implies that acquirers have insignificant returns, and if one considers acquisitions according to location it may give different results according to the region's impact which may differ from the US and Europe.

Conn et al (2005) discussed this idea from a different perspective. In their paper, they studied the impact on UK acquirers of domestic, cross-border, public and private acquisitions. Following Brown and Warner's (1985) study, the authors used a three-day period around the announcement day to calculate the CAR. They used the Market-Adjusted Model to estimate the abnormal returns. They found positive abnormal returns for deals with private targets but not for public ones. They find negative returns of -0.99% for domestic mergers which acquired public targets, while the CAR was -0.09% for cross-border mergers which acquired public targets. According to those results, they obtained significant positive returns for the private firms in both cross-border acquisitions of 0.38% and domestic acquisitions of 1.05%, while for acquisitions that acquired public targets, the returns were significantly negative.

The authors not only studied the impact of acquisitions, but also examined the major determinants of acquisition returns, such as, the method of payment, the relative size, the value and glamour status of acquisitions, and the high-tech status of the acquirer and the target. With regard to the method of payment, they note that non-cash deals are better than cash deals, because the non-cash deals produce better abnormal returns than

the cash deals do, except for domestic acquisitions, where cash deals give positive and not significant returns that are better than domestic noncash deals. They defined the relative size by the ratio of the value of the deal to the market value of the acquirer. The authors did not show clear results on this factor. For the effect of the glamour or value status of the acquirers, first they defined glamour acquirers as firms with high Market-to-Book ratios. The value acquirers are firms with low Market-to-Book ratios. Secondly, they considered the Market-to-Book ratio at the beginning of the year of the acquisitions and then after calculating these ratios, they divided them into five groups of equal size in terms of number. As a result, they considered acquirers in group one to have the lowest MTBV and those in group five to have the highest MTBV. Finally, their results show that returns for private targets are larger than those for public ones. For example, glamour acquirers of cross-border public targets give significant negative returns of -1.48%, while the result for private targets is an insignificant return of 0.29%.

In respect of the impact of the high-tech status on announcement returns, the authors first of all define high-tech status using Butchart's (1987) definition - which identifies sectors with high-tech status as those which have higher than average expenditures on R&D relative to sales, or which employ more experienced engineers and scientists than other sectors (Storey and Tether, 1998). The authors found that there is no major difference for the announcement returns of domestic acquisitions between high-tech and non high-tech deals, while for the cross-border acquisitions the announcement returns are positive and significant at the 1% level of 0.90% for the high-tech compared with not significant returns of 0.07% for the non high-tech ones. (Conn et al, 2005)

With regards to the acquirer's returns for US firms from 1990 to 2000, and depending on the Market Model for a five-day period (-2,+2) including the announcement day, Fuller et al (2002) found that multiple acquirer firms have positive returns of around 1.77%. Dividing them into two sections on the basis of whether they acquire public or private targets, they obtained significant differences in their results. They explained that the acquirer of a public target obtains a significant negative return of -1.00% on average, while the acquirer of a private firm will get a significant positive return of 2.08%. As to the method of payment, the authors declare that if the target is a public firm, then the acquirer's returns will be insignificantly positive if the bidder uses cash as a method of payment, and significantly negative around -1.86% if the firm uses equity. The situation is different when the target is a private firm. In that case, the firm's returns

will be significantly positive whatever the method of payment chosen. Further, the authors considered the target size and its impact on the bidder's returns, because the size of public firms is, on average, bigger than private firms. Thus they considered that the bidder's returns might be larger when the target is a public firm, but the results showed otherwise. First, when the target is a public firm, the larger the target is relative to the bidder, so the more negative the acquirer's returns. Second, when the target is a private firm, they found that the larger the target, the more positive the returns.

It is noticeable that this study shares some important results with Conn et al (2005). Both studies found that domestic mergers and acquisitions that acquired public targets have negative returns and positive returns for firms that acquired private targets. The importance of these results appears because each study has been conducted in a different market, Fuller et al (2002) investigated the US market, while Conn et al (2005) studied the UK market. It implies also that the market's reaction to an acquisition announcement is influenced by the type of firm being acquired. One possible reason for these results is that the acquirer is less likely to pay too much for a private firm as opposed to a public firm.

Recently, Petmezas (2009) investigated acquirer returns and their relation to market valuation. The author classified each calendar month as high, low or neutral valuation depending on the P/E ratio of the value-weighted market index (TOTMKUK). He studied UK acquisitions between 1984 and 2003 undertaken by UK public firms that acquire both public and private UK firms. The main methodology in his paper was the Market-adjusted Model to estimate short term abnormal returns. Using a five-day period around the announcement date (-2, +2) for acquirers, he found that acquirers with a high valuation have significant returns of 1.66% while acquirers with a low market valuation have insignificant returns of 0.41%. Firms that acquire public targets generate significant losses of -1.35%, while firms with private targets have significant positive returns of 1.42%. Additionally, Petmezas considered the payment method (pure cash, pure stock and others) and its impact on the acquirers' returns. He found that acquirers who finance their deals with a pure cash payment and other kinds of payments have significant returns of 0.93% for the first kind of payment and 1.67% for the latter kind significant at a 1% level. The situation is different for acquirers who use stock as a payment for their acquisitions; they have insignificant returns of 0.22%. Petmezas' (2009) results are similar to those of Conn et al (2005) regarding acquirers' returns.

They found that acquirers who acquire public targets have negative returns, while acquirers with private targets have positive returns.

It is possible to sum up some points after considering the above literature and its findings.

- Many studies found that acquirers had returns that are not significantly different from zero.
- There is a relationship between acquirers' returns and the method of payment and the relative size.
- Acquirers' returns will differ when the target is a public or a private firm.
- Acquirers' returns of cross-border acquisitions will differ according to region.

Following the earlier discussion, this paper investigates whether UK acquirers who make domestic or cross-border acquisitions achieve any abnormal returns. Also, an examination is carried out to establish whether there are any differences in returns between acquirers who make domestic acquisitions and those who acquire international firms. The next sections will be arranged as follows: The first section will discuss the data and the sample that has been used. The second section will outline the methodology that has been applied in this paper.

3.3 Data

The researcher examines a sample of 1133 acquisitions in the UK from the 1 January 2000 until the 31st December 2009. The main reason which leads me to investigate acquirers' returns within these years is that the fifth merger wave ended by the beginning of 2000, and this wave witnessed very important economic improvements such as a significant growth of European Stock markets. Furthermore, by 2000 the UK became the largest acquiring country around the world. Thus the researcher wants to find the real situation of these investments and how they may be influenced after 2000, and also studying acquirers' returns will provide an overall image of the recent and future activities of those firms after that important period. This sample is collected from the Thomson Database. The selection criteria are as follows:

- 1- the acquirer must be a publicly traded UK firm, and the acquirer should have at least five days of return data around the announcement date to be included in the sample.

- 2- the firm must be listed on the London Stock Exchange (LSE).
- 3- 3-the deal can be a domestic or cross-border one.
- 4- deals with values less than £1 million have been excluded to avoid results which can be produced by deals with very small values.
- 5- the method of payment of each deal must be available.
- 6- the sector of the acquirer and the target firm must be available as well. Deals with financial and utility acquirers/targets have been excluded.
- 7- the target can be a public or a private firm.

The total number of domestic acquisitions is 654, while the total number of cross-border deals is 479. Regarding the number of deals according to the type of the target firm, it is important to add that the total deals with private targets are 970 acquisitions (551 domestic deals and 419 cross-border acquisitions) and that compared with just 163 deals with public targets. This confirms that the majority of targets in this sample consist of private firms. Furthermore, with respect to the method of payment, the sample is subdivided into three sections according to the method of payment. The first section is cash payment. This section includes firms that finance their acquisitions with cash, profit-related payment and liabilities. The second section is equity payment. Firms in this section finance their deals with common shares, any other kind of share, or they make a stock swap transaction. The final section is the mixed section. Many firms belong in this section because they use cash and equity together to pay for their deals. For example, firm X pays for its acquisition of £A in cash and up to £B issuance of new shares and £C in liabilities. In addition, it is important to add that a combination between the second and the third sections has conducted under non-cash section and that is due to the small number of deals in each section. The total number of deals in the first section which uses cash as a method of payment is 806 (420 domestic deals and 386 cross-border deals). The total number of acquisitions which used non-cash as a method of payment is 327 deals (234 domestic deals and 93 cross-border deals). Considering the industrial sector of acquirers and target firms, the sample is also separated into two main sections according to the industrial sector of the firm. The researcher compares the essential activity of the acquiring and the target firms, which is based on Standard Industrial Codes for 2007. This will enable the researcher to determine whether both the acquiring and target firms belong to the same sector, as determined by the fact that they share the same two digits SIC code. Otherwise they are regarded as being in different sectors. It is important to note that the total number of deals within which the acquirer and the target share the same industrial sector is 693 deals (393 domestic deals and 300

cross-border deals), while the total number of acquisitions within which the acquirer and the target firm do not share the same industrial sector is 440 acquisitions (261 domestic deals and 179 cross-border deals). Furthermore, acquirers who carried out cross-border acquisitions acquire around 270 targets from the US and Canada, and the rest of the targets are from Europe and other countries around the world.

The following table presents the mean, median, minimum and maximum of the deal for domestic acquisitions. For the whole sample, the mean value of the deal is £58.09 million and the median value of the deal is £9.5 million, with a total value of deals of £39952.1 million. With respect to the above details, it is notable that the majority of deals are conducted with private target firms with a total value of deals around £27108.180 million compared with around 15% of acquisitions conducted with public targets with a total value of £12834.99 million.

Table 3. 1.The Mean, Median, Min, and Max for domestic acquisitions

Domestic acquisitions	Number of acquisitions	Mean (£million)	Median (£million)	Max (£million)	Min (£million)	Total value of deal (£ million)
All	654	58.09	9.5	1926	1.11	39952.17
Cash Payment	420	53.85	9.4	1926	1.25	22351.13
Non-cash payment	234	65.77	9.8	1724	1.11	17601.04
Same industrial sector	393	69.23	9.1	1724	1.11	27210.46
Different industrial sector	261	28.06	10	1926	1.25	12741.71
Private target firms	551	49.64	8.0	1926	1.11	27108.18
Public target firms	103	112.46	26	1069	1.12	12843.99
High B/M ratio	319	50.46	8.1	1724	1.11	16098.12
Low B/M ratio	292	64.96	10.6	1926	1.12	23854.05

Notes:

This table shows the number of acquisitions, the mean, median, min, and max of the value of the deals for domestic deals which were conducted between 2000 and 2009. The first column includes the number of deals for the whole sample and accordingly the method of payment, the industrial sector and the type of the target firm. The last column presents the total value of the deals in £ million. It is necessary to add that the acquirers must be a public firm listed on the London Stock Exchange.

The following table displays the mean, median, minimum and maximum of the deal for cross-border acquisitions. For the whole sample, the mean value of the deal is £232.29 million and the median value of the deal is £22.9 million, with a total value of deals of £111267.2 million. With respect to the above details, it is notable that the majority of deals were conducted with private target firms with a total value of deals of £71450.52

million compared with around 10% of acquisitions with public targets with a total value of £39817.08 million.

Table 3. 2. The Mean, Median, Min, and Max for cross-border acquisitions

	Number of acquisitions	Mean (£million)	Median (£million)	Max (£million)	Min (£million)	Total value of deal (£ million)
All	479	232.29	22.9	15500	1.02	111267.6
Cash Payment	386	198.86	24	15500	1.02	76760.63
Non-cash payment	93	365.34	16	15107	1.11	34506.97
Same industrial sector	300	331.75	26	15500	1.02	99193.67
Different industrial sector	179	65.92	16	15107	1.11	12073.93
Private target firms	419	167.36	19	15107	1.02	71450.52
Public target firms	60	845	142.88	15500	1.7	39817.08
High B/M ratio	240	232.36	26.69	15107	1.11	80097.78
Low B/M ratio	219	155.84	11.5	15500	1.02	31169.82

Notes:

This table shows the number of acquisitions, the mean, median, min, and max of the value of the deals for cross-border deals which were conducted between 2000 and 2009. The first column includes the number of deals for the whole sample and accordingly the method of payment, the industrial sector and the type of the target firm. The last column presents the total value of the deals in £ million. It is necessary to add that the acquirers must be a public firm listed on the London Stock Exchange.

The following table introduces the distribution of the sample by year. The sample includes domestic and cross-border acquisitions between 2000 till 2009 that were conducted by UK acquirers.

Table 3. 3.The sample distribution by year

Year	Domestic acquisitions	Cross-border acquisitions
2000	70	80
2001	85	60
2002	86	50
2003	75	47
2004	65	35
2005	55	40
2006	45	41
2007	70	55
2008	60	38
2009	43	33
Total number	654	479

Notes

This table shows the sample distribution by year. The sample includes domestic and cross-border acquisitions that were conducted by UK acquirers between 2000 and 2009.

3.4 Methodology

Many studies have been mentioned that have studied the effect of firm-specific events on the prices of those firms' securities. The interest in the event studies research is to determine the extent to which the price of the firm's securities has been abnormal over the event date. In addition, the value of event studies comes from the idea that the influence of important events in the history of the firm may be reflected directly on the price of the security of that firm. Thus the measure of event studies depends on monitoring the firm's stock price over a period of time. Event studies have been applied to many events that are important to firms and their investors, such as mergers and acquisitions, earnings' announcements, and issue of new debt and new equity. According to McKinlay (1997) event studies have a long history, and Dolley (1933) was the first who mentioned this kind of study in his paper. Dolley (1933) studied the price impacts of stock splits around the time of splits, depending on a sample of 95 splits between 1921 and 1931. The author found that the price increased in 57 cases and declined in the rest of them. Later, many other studies have considered this subject such as Myers and Bakay (1948), Barker (1956, 1957, and 1958) and Ashley (1962), which are all good examples of such studies during that time. But the most important study was that of Brown and Warner (1980), which studied all the complications and adjustments required when conducting event studies.

The major goal of performing an event study is to determine the event and recognise the period during which the security price of the firm may be involved in the event, referred to as 'the event window'. The event study usually includes the period of interest which is expanded to include some days before and after the day of the event that allows obtaining the price effects of the event after the market closes on the day of the event. The additional days prior to the event ensure that any leakages of information into the market are also captured by the event study. Including days immediately after the event ensures that any delays or frictions in the price adjustment process are also captured by the study. After determining the event, it is important to recognise 'the selection criteria for the inclusion of a given firm'. These criteria may have some restrictions imposed by the availability of the data such as restrictions that may involve a certain type of classification, a certain market size or membership of an industry. In this case, it is important to sum up the sample characteristics. An event study requires the researcher to measure the abnormal returns which are defined as the actual ex post returns of the security over the event window relative to the returns that would be expected of that security. Moreover, a normal performance model should be chosen, from which can be estimated the expected returns of the security during the event window. After selecting the model the estimation window must be recognised which is usually a period before the event window. It is important that the event period is not included in the estimation window in order to avoid the event affecting the normal performance model parameter evaluates. After calculating the abnormal returns, the empirical results will help to provide an understanding of the reasons for the effects of the event. It is also worth noting that the empirical results with a limited number of event observations might be deeply affected by the results of one or two firms. Understanding this fact according to MacKinlay (1997) is essential for estimating the significance of the results. For example, Brown and Warner (1985) calculated the returns for two samples, the first one consisting of five securities and the second one consisting of 20. They found that the average returns for the first sample is 0.05% while the average returns for the second one is 0.07%.

There are many approaches to calculating the normal returns for a given security. These approaches can be divided into two major categories. The first category consists of statistical approaches which depend on statistical hypotheses and do not involve any economic arguments. The second category which includes the economic approaches

depends on the investor's behaviour without being concerned with any statistical assumptions. On the other hand, statistical approaches are sufficient for the market model, thus this hypothesis is strong and gives reasonable results and conclusions using normal return models which tend to be robust to variations from the assumption.

It is important to add that choosing the model is critically important because results that may lead to market inefficiency could be credited via a bad model. Usually, two major groups of models are used; statistical models and economic models. The first group depends on statistical hypotheses regarding the asset's returns, while the economic models depend on economic hypotheses regarding the behaviour of the assets. (Mackinlay, 1997), Thus, in this research, the researcher used the Market Model to calculate the acquirers' abnormal returns. In the following section more detail about the Market Model will be introduced.

3.4.1 The market model

According to Mackinlay (1997), the market model is the statistical model 'which relates the return of any security with the return of the market portfolio'. For any given security the market model is

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}$$

Where R_{it} and R_{mt} are the returns for the given security and the market portfolio, and α_i and β_i are the parameters of the market model. The advantage of using the market model comes from R_{mt} of the market model regression, this means that the higher β_i the greater the variance.

To understand an event study well, it is necessary to know more about measuring and analysing the abnormal returns. Returns will be indexed in event time depending on t , identifying $t=0$ as an event date, $t = +1$ and $t = -1$ as the event window and $t = -1$ to $t = +1$ as the estimation window. One can consider that $t = -1$ and $t = +1$ the length of the estimation window and the event window. In addition, if the event is considered as an announcement on a given date, the event window length will be bigger than one. The post-event window will extend from $t = +1$ to $t = 0$. Thus the following time line will sum up the earlier idea.

(Estimation window)

(Event window)

(Post- event window)

0

Furthermore, after estimating the market model parameters, the abnormal returns will be calculated depending on the following equation.

$$= - -$$

The abnormal return is a disturbance term of the market model on an out of sample basis. These returns must be combined to help finishing the assumption of the event study. Thus the concept of the cumulative abnormal returns is important to accommodate a multiple period event window. The cumulative abnormal returns (,) can be defined as “the sample cumulative abnormal return (CAR) from to ” and these returns will be given as follows.

$$(,) =$$

The t-stat is calculated as following

$$\frac{\text{---}}{\text{---}}$$

Finally, according to Brown and Warner (1985) one should add that there are issues which will have occurred while performing an event study. Those issues consist of inferences with event-date uncertainty, non-normality and other possible bias. First of all, regarding inferences with event-date uncertainty, this issue suggests that the event date can be classified with certainty but in some studies it is difficult to recognise the event date and that trend to appear especially when these dates can be collected from financial publications such as the “*Wall Street Journal*”. When the announcement date appears in the paper, sometimes it is not certain that the market has been updated before the close of day prior to the trading date. If this happens the prior date will be considered as the event date otherwise the present date will be the event date. Ball and Torous (1988) studied this issue and they improved an estimation method which accommodates event date uncertainty and they examined the results of their particular

explicit method against an informal method of extending the event window. They found that the informal method works satisfactorily.

Second, regarding non-normality, the daily stock return for a given security shows considerable departure from normality which is not experiential with the monthly data. The evidence proposes that the distribution of daily returns is ‘fat-tailed’ compared with normal returns. Here it is worth mentioning that there is a theory ‘the Central Limit Theorem’ which tries to solve this issue when it suggests that if the excess returns in the cross section of securities are independent and identically distributed drawings from variance distributions, the distribution of the sample mean excess return converges to normality as the number of the sample increases. Thus providing the sample size is reasonable, normality can be assumed.

Event study methodology has been applied and the Market Model to this research; the researcher supposes the announcement date of the acquisition as the event day, and considers the five-day window before and after the announcement day as the event window, while the estimation window extends from day -150 to day -20 prior to the announcement day. The researcher depends on the FTALL-Share as an Index Market which allows applying the Market Model to calculate acquirers’ returns.

The following section presents the main results regarding the acquirers’ returns for both domestic and cross-border acquisitions and that depends on the event study and after applying the Market Model for a five-day window before, over and after the announcement date.

3.5 Results

3.5.1 Results for acquirers that have made cross-border acquisitions

Abnormal returns for each acquirer have been calculated, depending on the Market Model for a five-day window. The following tables introduce the average of the acquirer’s returns and t-stats for the cross-border sample. It is necessary to add that a three-day window has been included in the studied period to check the robustness of the results.

Table 3. 4.Abnormal returns for acquirers of cross-border acquisitions

Window	CAR	t-stat
-2 to +2	0.50	1.62
-1 to +1	0.41	1.57

Notes:

This table shows the acquirers' returns for UK cross-border acquisitions from the beginning of 2000 until the end of 2009. The number of cross-border deals is 479, and the researcher depends on the Market Model.

It is notable from table 3.4 that includes the CAR for UK acquiring firms which have been involved in cross-border acquisitions that acquirers' returns are not different from zero for all the studied windows. It is essential to compare these results with the results of some studies which test or examine international deals or acquisitions which have been conducted in the UK or by UK firms overseas in their samples. Comparing these results with Gregory and McCorriston's (2005) results, it is notable that both results show that acquirers have insignificant returns for the same estimated windows around the announcement. Furthermore, the results in the table share with Conn et al. (2005)'s results because they found that CARs for acquirers which conducted cross-border acquisitions were around 0.33% with a t-stat of 1.99 for a three-day window over the announcement date.

3.5.2 Results for acquirers that have carried out domestic acquisitions

The abnormal returns for acquirers of domestic deals have been calculated, and that is depending on the Market Model to estimate these abnormal returns for a five-day window. It is necessary to add that a three-day window has been included in the studied period, and that is to check the robustness of the results.

Table 3. 5.Abnormal returns for acquirers of domestic acquisitions

Window	CAR	t-stat
-2 to +2	1.20	3.25
-1 to +1	1.03	3.14

Notes:

This table presents the acquirers' returns for domestic deals from 2000 till the end of 2009. The number of domestic deals is 654 deals; the cumulative abnormal returns have been calculated depending on the Market Model for a five- day window before and after the announcement day

Comparing these results with other articles' results will be divided into two main sections. The first section will include the articles which depend on the same methodology and on the same application as this chapter, because comparing these results with others' results that have been found depending on another model will affect the comparison negatively, and that also will provide an opportunity to avoid any effect which may be generated because of the other models used. The second section will contain a comparison between these results and those which depend on the same window in their analysis, which means that long-run studies will be ignored, because it would not be fair to compare these results on the short-run with those on the long-run.

First of all, comparing the results in table 3.4 with Firth's (1980) who used the same model in his study, it is clear that the earlier results are shared with Firth's result, which is that both articles have insignificant CAR for UK acquisitions before and after the announcement date. Additionally, these results are consistent with those observed by Franks and Harris (1989) in one respect. They found that at the announcement date, the CARs were insignificant, and the acquirers according to these findings had insignificant returns.

Comparing the results with Limmack (1991), it is noticeable that there is a common finding in that both results have insignificant CAR in all periods. However the situation differs in the comparison with Parkingson and Dobbins (1993), because they had a significant and positive CAR at the announcement date when depending on the Market Model, while here there are insignificant and positive CARs in all periods depending on the Market Model.

Comparing these results with articles that belong to the second section (they shared a short-run period), it is important to begin with Sudarsanam and Mahate's (2003) study. They calculated the abnormal returns for three periods. As a result of the interest in short-run studies, the researcher concentrates on the first two periods in their study. The earlier results are not consistent with theirs in any respect, because they find negative and significant returns, while here the returns are insignificant for the same period. Additionally, the returns for the second period (+2, +40) cannot be compared with earlier results and that is because they include a longer period than those in this paper.

Following that study, Conn et al (2005) produced a very important study in this area. Depending on a different model Conn et al (2005), one can observe that both papers present insignificant returns for the same period for cross-border acquisitions. Finally, comparing these results with one of the most recent articles on this topic which is that of Petmezas (2009), it is clear that both papers obtain the same results in one respect. Petmezas found that acquirers that conducted domestic acquisitions had returns of 1.17% and acquirers that made domestic acquisitions in this paper achieved CARs of around 1.20% for the same studied window. Following the above discussion, one can detect that these results share a number of similarities with articles that belong to the first section to a greater extent compared to articles in the second section. It is possible that this is because the articles in the first section use a similar model in calculating the abnormal returns.

With respect to the above discussion, it is important to add that results in tables 3.4 and 3.5 confirm the idea that gains from making international investment may be lost because of many types of "market failures", such as transferring new knowledge and asymmetry information that may prevent the acquirer from evaluating the target firm. A cultural gap between the acquirer and the host country may play an important role in lower acquirers' returns. Conn et al (2005)

3.6 Summary

In this chapter, the researcher investigates in this chapter the acquirers' returns for domestic and cross-border acquisitions from the beginning of 2000 until the end of 2009. Many earlier studies have discussed this topic over the past three or four decades, due to the importance of these kinds of investments and their impact on the economy.

An examination of the acquirers' returns for a 5-day window around and over the announcement date of the deal has been conducted using an event study and the Market Model. Many studies found that acquirers have insignificant returns or even not different from zero.

These results show that acquirers who carried out cross-border and domestic acquisitions do not generate abnormal returns, and acquirers who conducted cross-border acquisitions gain lower returns compared with those who made domestic acquisitions, and that is the case for almost all the studied windows.

The previous literature has highlighted the fact that there are some determinants that may affect these investments and have an impact on acquirers' returns, such as using the specific method of payment which may have its own effect on acquirers' returns. Also acquiring large or small target firms may produce abnormal returns or even acquiring a target firm that is not from the same industrial sector as the acquirer. As a result, the researcher considers in the next chapter some variables and their impact on the acquirers' returns, to determine whether acquirers' returns are affected by these variables.

Chapter 4: The Determinants of Domestic and Cross-Border Acquisitions-

The Determinants of Domestic and Cross-Border Acquisitions

4.1 Introduction

This chapter makes a contribution for several reasons. First of all, this chapter investigates the main determinants of acquirers' returns of domestic and cross-border acquisitions. Second, the impact of some major variables has been considered, such as the method of payment, the relative size, the industrial relationship, the Book-To-Market ratio and the type of the target firm. Third, many studies suggested that these variables are the most important determinants that may have an impact on acquirers' returns. Finally, a regression of acquirers' returns against those determinants has been run for domestic acquisitions, cross-border acquisitions and the whole sample that includes all acquisitions. The reason for studying those variables is results that have been estimated in the previous chapter. It is important to identify whether there are variables that may affect acquirers' returns and have an important impact on those returns.

4.2 The determinants of acquirers' returns

There are many variables which may affect the bidder's returns such as the method of payment, the relative size of the bidder and the target, the industrial relationship between acquirer and target, Book-to-Market ratio and the type of the target firms. In this paper, the researcher summarized some of that literature concerning each variable which is believed to have an important effect on the bidder's returns. Thus this chapter is organized as follows; the current section includes more details about the major determinants of acquirers' returns, such as the method of payment, the industrial relationship, the relative size, the Book-to-Market ratio and the type of the target firm. After introducing some information about each variable, the main results for each determinant and that is for both domestic and cross-border acquisitions will be presented.

4.2.1 The method of payment

Recently, a number of studies on mergers and acquisitions report that the method of payment plays a major role in explaining the stock returns of bidding firms (Chang, 1998). Furthermore, Travlos (1987) mentioned that different methods of payment have various effects on the bidding firm's equity. Firstly, in a world of asymmetric information the method of payment may indicate important information to the market. If the acquirer's manager has valuable information about his/her firm, this manager will depend on the most profitable way for stockholders to finance his/her firm's acquisition. In addition, managers will prefer generally to finance acquisitions via cash if they think that their firms are undervalued, otherwise they will depend on stock. The author also explained that the market usually considers a cash offer as good news and an equity offer as bad news about the actual value of the bidding firm. Secondly, cash offers and equity offers have various tax implications. For example, cash offers usually have tax obligations for the target firm, while equity offers are tax-free deals. As a result, the author assumed that the bidding firm should pay a high acquisition price for a cash offer to balance the tax trouble or complication for the selling firm (the target firm).

Moreover, Loughran and Vigh (1997) highlighted that the method of payment is usually endogenous to the type or the mode of the deal and that the acquirer who depends mainly on stock is likely to be a growth firm, which makes managers and the market quite optimistic about their future. The research summarized the major studies that have studied the method of payment as an important factor which may affect abnormal returns of acquirers. The first study is by Barnes (1984). The author studied in this paper all mergers which are listed in the London Stock Exchange for the period from June 1974 until February 1976. Depending on the market model he divided the acquirers according to the method of payment. His major findings for 39 firms were that the abnormal returns for acquirers who used cash were -0.056% for the 60 months following the announcement date, and -0.054% for acquirers who depended on equity to finance their acquisitions.

Travlos (1987) presented an important empirical study for 167 acquisitions between 1972 and 1981. First of all, the author divided the sample into three major sections according to the method of payment. The first section included offers which were financed by stock, the second section consisted of offers that were financed by cash, and finally the third section contains offers which were financed by a combination of

common stock and cash. Depending on the Market Model, for ten days before the announcement day and ten days after the announcement day, he found that acquirers generated negative significant returns of -1.03% at the announcement date if they used stock as a method of payment, and positive returns which were not different from zero of 0.26% if they depend on cash as a method to finance their deal.

Danbolt (1995) studied in his paper the returns to shareholders of foreign acquiring firms that conduct cross-border acquisitions into the UK between the beginning of 1986 and the end of 1991. The author analysed as well the effect of the method of payment on the bidder's returns. The author found that the majority of firms tend to be financed by cash, and that bidders who financed their deals with equity had insignificant returns.

Furthermore, Loughran and Vijh (1997) studied the relationship between the post acquisition returns and the mode of acquisition (merger and tender offer) and the method of payment for the period between 1970 and 1989. They considered in their findings comparing between acquirers' returns of their sample and returns of matching firms. Thus their results showed that the difference between acquirers' abnormal returns and the matching firms of those acquires for post acquisition over five years was -1.18% for tender offers which have been financed by stock, and -2.94% for mergers which depended on stock as the method to finance. Acquirers that are involved in mergers and paid by cash for their deals have insignificant and negative difference of their returns of -0.32%, while acquirers who financed their tender deals by cash had a significant and positive abnormal difference in their returns of 2.03%. Furthermore, the authors noted that acquirers who depended on cash and stock together as a method of payment had a negative and insignificant difference in their returns for both mergers and tender offers.

Additionally, Chang (1998) studied the acquirers' returns according to the method of payment and the type of target firm for USA firms. The author depended mainly on the Market Model for a 2-day period (the day before the announcement day through to the announcement day) to calculate the abnormal returns. The findings presented insignificant average abnormal returns for acquirers who hold private targets and used cash as a method of payment of 0.09% ($t=0.34$), while acquirers who also hold private targets but offered to pay by stock had significant and positive average abnormal returns of 2.64% ($t=7.49$).

On the other hand, the acquirers who hold public targets had insignificant average abnormal returns of -0.02% ($t=-0.06$) when they paid by cash, and significant, negative average abnormal returns of -2.46% ($t=-9.85$) when they offered to pay by stock. This implies that acquirers that depended on cash to finance their deals had small returns compared with those that used stock to pay for their acquisitions.

Later, Fuller et al (2002) explained that Myers and Majluf (1984) stated in their study that the acquirer will depend on stock as a method of payment, if its board thinks that its shares are overvalued. But the authors mentioned that this earlier idea has been developed in more recent articles. Fishman (1989) and Eckbo, Giammarino and Heinkel (1990) stated that the higher-valued bidders will depend mainly on cash or they will use cash more than any other method to indicate their value in the market. On the other hand, the bidders usually will not offer cash as a payment for their acquisitions when there is a very high uncertainty in respect of the value of the target firm.

Sudarsanam and Mahate (2003) stated in their paper that many investors in the perfect market will differ in choosing any method of payment to finance their deals. On the other hand, in the actual market, there are many limits which bound the partiality of each method of payment, such as the level of information asymmetry which may play an important role in determining the choice of the method of payment in any deal. For example, any confidential information that may be held by the target firm creates an incorrect estimation in the value of the target firm that may lead to uncertainty in that estimation. As a result the acquirer may offer equity instead of cash.

Recently, Goergen and Renneboog (2003) stated that choosing between each method may be strictly related to the stock price of the bidding firm. For example, if the manager of the acquiring firm recognizes that the stock price of his/her company is worth more than its current market price, he/she will choose cash as a method to pay for the deal; otherwise he/she will depend on equity to pay for an acquisition.

Following the above discussion, the authors studied European acquisitions and they found that over the short and long term, cash offers generated higher abnormal returns for the target firms compared with the total equity offers, of 9.89% and 6.65% respectively at the announcement month. On the other hand, the situation was completely different for acquiring firms. Their results showed that for the short term,

bidders that offered equity as a method of payment received 0.98% returns at the announcement month, while the bidders that financed their deal with cash, received returns of 0.37%. Moreover, bidders who used cash as a method of payment received losses of -1.18% up to month -40, while the bidder with an equity offer received positive returns over the long-term.

Conn et al. (2005) distinguished in their paper between the public, private, domestic and cross-border acquisitions. They mentioned that the choice of the method of payment is likely to differ between the domestic and cross-border deals and also between the public and private ones. However, the cash offers are better and more preferable than equity offers for the acquirer's shareholders, because financing any deal with cash can be considered in the market as a good sign for bidder's expectations of future gains. However this idea according to the authors cannot be applied for cross-border acquisitions, because there are many variables that may limit the method of payment in cross-border deals. These included the difficulties which may appear by using foreign currency, and also the uncertainty that was related to information and investment abroad. The bidder will prefer to offer equity instead of cash in those kinds of deals. Conn et al. (2005)

Conn et al.'s (2005) results showed that almost in all deals for the three day period -1, +1, those acquirers who financed their deals via cash, had worse returns than acquirers who depended on noncash as a method to finance their deals. Moreover, the returns of the acquisitions of public targets (for the announcement period) which were financed by cash were an insignificant 0.07% and this turned into a negative and significant return of -1.12% for acquisitions that used noncash as a method to finance their deals.

More recently, Petmezas (2009) studied the effect of the method of payment generally and with it the relationship with the market valuation. The author investigated the relationship between the merger activity and the market valuation because he assumed that testing the market reactions to mergers in high- low market valuation periods can assist in drawing attention to the importance of market-wide valuation on the acquiring firm's stock performance, and have a good idea about the incomplete debate of merger activity. Thus the author found that acquirers who used cash as a method of payment gained CAR of 0.93% for the 5-day study (-2, +2) and acquirers who financed their deals via stock had CARs that were not different from zero of 0.22%. Acquirers who

used both cash and stock had significant returns of 1.67%. Furthermore, the author considered the relationship between the method of payment and the market valuation, and presents an interesting finding. Acquirers who used cash or a mixed method had significant returns for high valuation periods of 1.29% and 2.32%, and insignificant returns for low valuation periods of 0.39% and 0.69% for a 5-day study. On the other hand, acquirers who paid for their acquisitions via stock had insignificant returns for the high valuation period of 1.00%, and negative returns for the low valuation period of -1.71% also for the (-2, +2) studied period.

As regards the method of payment, the researcher is going to find out whether there are abnormal returns for domestic and cross-border UK acquisitions and that is for the period from the beginning of 2000 until the end of 2009. The effect of the method of payment on returns of these acquisitions has been tested. To achieve that, the sample has been divided (654 domestic acquisitions, 479 cross-border acquisitions) into three main parts according to the method of payment. The first part includes acquisitions that have been financed by cash, the profit-related payment, cash loans and liabilities. The second part includes acquisitions that depend on equity, common stock and preferred stock as the method of payment. The third part includes deals that depend on both cash and equity together as the method to be financed. The major problem that appears after the earlier separation is that there is an unbalanced number across the three previous parts. The first part that contains the cash as a method of payment is bigger than the second and the third parts, and that for both domestic and cross-border deals. Thus to solve this problem, a combination between the second and the third parts has been done, that includes acquisitions which have been financed by a non-cash method.

The following section presents the major results for acquirers according to the method of payment's impact for domestic and cross-border acquisitions for a 5-day window.

4.2.1.1 Results

Using an event study methodology, and for 5 days (-2, +2) including the announcement day, abnormal returns for domestic and cross-border deals according to their method of payment have been calculated. The sample is sub-divided according to the method of payment into two main sections. The first section includes deals which are financed by pure cash, liabilities, loan notice, and relative-profit payment. The second section

includes acquisitions that are financed by non-cash such as common stock, equity and preferred stock. The following table introduces the average of abnormal returns for domestic deals after considering the method of payment for each one. The domestic deals have been divided according to the method of payment into 420 deals which are financed via cash and 234 acquisitions that are financed by non-cash.

Table 4. 1. Acquires' returns for domestic deals in relation to the method of payment

Window	Cash Deals		Non-cash Deals		Differential between CAR	t-stat of Differential
	CAR	t-stat	CAR	t-stat	Cash-Noncash	Cash-Noncash
All bidders						
-2 to +2	1.26	3.74	1.05	1.30	0.21	0.23
-1 to +1	1.17	3.88	0.83	1.16	0.34	0.43
Bidders with private targets						
-2 to +2	1.31	3.62	1.23	1.62	0.08	0.10
-1 to +1	1.19	3.66	0.72	1.65	0.47	0.65
Bidders with public targets						
-2 to +2	0.85	0.95	0.48	0.19	0.37	0.08
-1 to +1	1.04	1.26	1.20	0.52	-0.16	-0.04

Notes:

This table presents acquirers' returns for UK domestic deals from the beginning of 2000 until the end of 2009 according to the method of payment. The sample is sub-divided according to the method of payment into two sections. The first section includes deals which have been financed by pure cash, liabilities, loan notices, and relative-profit payment. The second section is a non-cash section which comprises acquisitions which have been financed depending on common stock, equity, and preferred stock; an event study methodology has been used to calculate the acquirer's abnormal returns for a 5-day window. Thus the number of domestic deals is 654 acquisitions; according to the method of payment the sample includes 420 cash deals and 234 non-cash deals. The total number of bidders with public target which used cash to finance their deals with cash is 45 one, while the total number of bidders with public target which depend on non-cash is 58 acquirers.

One can notice that domestic deals that have been financed by cash have higher returns for the studied period compared to non-cash deals that have lower returns. These results are similar to those of Petemzas (2009). The author also found that acquirers who depend on stock as a method of payment have lower returns of 0.22% compared with those who use cash as a method of payment with returns of 0.93%. On the other hand, these results are not similar to these of Conn et al (2005) in one respect, which is that

cash deals do worse than noncash deals regarding their abnormal returns. It is notable from the fifth column that there are insignificant differences between the CAR of the previous two sections, but there are significant t-statistics which confirms that there is a significant impact on the bidder's returns according to the method of payment .

Table 4.2 introduces the average and t-stat of abnormal returns for acquirers regarding the method of payment for cross-border deals. The cross-border sample has been divided into two sections according to the method of payment. The first section includes 386 deals which have been financed by using cash which includes pure cash, liabilities, and loan notice and relative-profit payment. The second section consists of 93 deals which have been financed depending on a non-cash method which includes common stock, equity and preferred stock. One can observe that there is a big difference in the number of both sections, and this is because cross-border acquirers tend to finance their deals depending on cash more than non-cash, and that is because the targets are sometimes unwilling to accept foreign stock.

Table 4. 2.Acquirers' returns for cross-border acquisitions according to the method of payment

	Cash Deals		Non-cash Deals		Differential between CAR	t-stat of Differential between CAR
Window	CAR	t-stat	CAR	t-stat	Cash- Noncash	Cash- Noncash
All bidders						
-2 to +2	0.58	1.83	0.35	0.38	0.23	0.39
-1 to +1	0.57	2.18	-0.17	-0.20	0.74	2.42
Bidders with private targets						
-2 to +2	0.52	1.53	1.20	1.15	-0.68	-1.92
-1 to +1	0.57	1.99	0.72	0.80	-0.15	-0.53
Bidders with public targets						
-2 to +2	0.18	0.21	-3.31	-1.63	3.49	3.34
-1 to +1	-0.06	-0.09	-4.09	-2.00	4.03	4.50

Notes:

This table shows the acquirers' returns for UK cross-border acquisitions from the beginning of 2000 till the end of 2009 according to the method of payment. The sample has been divided according to the method of payment into two sections. The first section consists of deals which have been financed via cash, liabilities, loan notice, and relative-profit payment. The second section includes acquisitions which have been financed depending on common stock, equity, and preferred stock. The total number of the cross-border sample is 479 deals; this sample is divided into 386 cash deals and 93 non-cash acquisitions. Abnormal returns have been calculated depending on an event study methodology and the market model for a 5-day window.

One can observe from the previous table that acquirers that are involved in cross-border deals which have been financed by cash, have higher returns for the studied period compared with acquirers who used non-cash as a method of payment. Acquirers who used a non-cash method to fund their deals have lower returns which are not different from zero. These results share with Conn et al' s (2005) study in one respect, which is that both studies have insignificant returns for non-cash cross-border deals for days (-1,+1), and that of -0.17% for these results and 0.24% for Conn et al' s (2005) results. It is notable from the earlier table that there are significant differences between both sections according to the t-stat; this confirms that there is a marked impact for the method of payment on acquirers' returns around the announcement date. Explaining these results, it is possible I can depend on Conn et al.'s (2005) argument. The authors

mention that there are several reasons which can explain differences in the method of payment's influence between domestic and cross-border deals and particularly according to the type of the target firm. First of all, acquirers who used cash to finance their deals generate better returns because the market usually considers using cash as a good sign of "positive expectations" of potential returns. This idea may not be considered in financing cross-border acquisitions, because of many factors that play an important role in using the method of payment in these deals, such as the uncertainty problem regarding overseas information. Applying this idea on earlier results confirms that domestic deals that have been financed with cash do better compared with non-cash deals, while acquirers with private targets in cross-border deals produce better returns when they use non-cash. It is notable that clearly for acquirers with cross-border deals, for those who depended on non-cash as a method to finance their deals, they have returns which are not different from zero for the whole studied period, while acquirers who depended on cash have higher returns over the announcement date. Also acquirers of domestic acquisitions that finance their deals via cash have higher returns compared with acquirers who depend on non-cash to finance their acquisitions over the announcement date.

In the next section, more detail about the second determinant which is the relative size of the bidder to the target firm will be reviewed.

4.2.2 The relative size of the target firm to the bidder

The second variable is the relative size of the target firm to the bidder. There are many studies which have mentioned this variable as an important one, but one can notice that each article defines it in different way. Travlos (1987) pointed out that the relative size of the acquisition can be measured by two main ratios. The first one can be defined as the market value of the equity of the target firm divided by the market value of the bidding firm. The second ratio can be defined as the value of the transaction divided by the market value of equity of the acquiring firm. Furthermore, Travlos (1987) added that acquisitions which are financed by equity experience mostly lower returns compared with deals that are financed via cash. Secondly, the authors assumed that the Hubris Theory may have a role in the impact of a size effect on acquirers, and that is because large firms mainly make many acquisitions in a short period of time. This may affect their announcement returns badly or negatively, while the situation will differ for the

small firms which cannot achieve many acquisitions due to their more limited resources, and that significantly does affect their announcement returns.

Danbolt (1995) stated that the relative size can be defined as the ratio of the pre-bid market value of the target firm to the pre-bid market value of the bidder firm. The author examined this variable depending on two factors, the first one was the market capitalization of the target firm in relation to the market value of the bidder firm, and the second one was the natural log of the market capitalization of the bidder firm. It is notable according to the author that this variable did not show any significant impact without considering the impact of the earlier two factors. Depending on this idea, and using two models for calculating the abnormal returns the Market Model, and the Index Model, he stated that over the pre-bid period (which is the period from month eight prior to the announcement month to the second month before the announcement month) the relative size has significant effects according to both models at a 5% significance level. Furthermore, over the announcement bid period which includes the first month prior to the announcement month and the announcement month, the author found that this variable had some effects on the cumulative abnormal returns of the bidders according to the Index model of 1.57%, while it had a significant effect for the same period according to the Market Model of 2.21%, and large bidders perform better than small bidders over this period.

Tuch and O'Sullivan (2007) mentioned in their article that many researchers stated some reasons which may be related to this important variable, such as many acquiring firms prefer to acquire a large target because this will give them a strong impact on the post-bid performance of the combined firm.

The authors also summed up some main studies which have considered these variables, such as the article written by Asquith et al (1983). They were the first researchers who mentioned the size effect in their study. They found the relative size had an essential impact on the bidder's gains during the announcement period. They also mentioned that Dong et al. (2005) assumed that there were negative gains in the short run but positive gains in the long term from acquiring large targets.

More recently, Petmezas (2009) studied the effect of the relative size of the target. First, the author defined the relative size as the deal value divided by the market value of the

acquirer one month prior to the announcement date. The author considered the relationship between the relative size of the target and the market valuation (the author classified as high and low valuation depending on the P/E ratio of the value-weighted market index “TOTMKUK”). One should add that the author examined the relationship between the merger activity and the market valuation because he believed that testing the market reaction to merger in high and low market valuation periods can assist into drawing attention to the importance of market-wide valuation on the acquiring firm’s stock performance, and therefore provided a good idea about regarding the incomplete debate of merger activity. The author found that acquirers with a small size relative to the target had positive and significant returns of 1.23% for high valuation periods, and returns that are not different from zero for the low valuation periods of 0.21%. In addition, bidders with a high size relative to the target had positive and significant returns of 2.07% for high valuation periods, and 0.61% for low valuation periods. This implies that the small size effect on acquirers’ returns appears more in the high valuation periods compared with low valuation periods.

Regarding this research, the researcher is going to investigate the impact of the relative size on acquirers’ returns and that will be done for both domestic and cross-border acquisitions. An event study method and the Market Model for a 5-day event window have been applied. The following section reports the major results regarding the effect of the relative size of the target to the bidder.

4.2.2.2 Results

Regarding this variable, the researcher divides the value of the deal on the market value of the acquirer one month prior the announcement date of the deal. The sample of domestic acquisitions has been divided into two sections according to that variable. The first section includes deals with a large relative size and the second section comprises of deals with a small relative size. The following table presents the average of abnormal returns and t-stat of domestic deals after considering the relative size of the target.

Table 4. 3.Acquirers' returns for domestic acquisitions according to the relative size

	Large Relative Size		Small Relative Size		Differential between CAR	t-stat of Differential between CAR
Window	CAR	t-stat	CAR	t-stat	Large –Small	Large- Small
All bidders						
-2 to +2	1.88	2.95	0.61	1.62	1.27	2.00
-1 to +1	1.53	2.69	0.60	1.81	0.93	1.63
Bidders with private targets						
-2 to +2	2.19	3.69	0.52	1.30	1.67	2.82
-1 to +1	1.56	3.13	0.55	1.56	1.01	2.03
Bidders with public targets						
-2 to +2	0.44	0.19	1.15	1.05	-0.71	-0.30
-1 to +1	1.36	0.61	0.92	0.95	0.44	0.19

Notes:

This table shows the impact of the relative size on acquirers' abnormal returns for UK domestic deals from the beginning of 2000 till the end of 2009. The abnormal returns have been calculated depending on the Market Model for a 5-day window. The sample has been divided according the relative size into two sections. The first section includes the large relative size which consists of 330 acquisitions. The second section includes the small relative size which consists of 324 acquisitions. The researcher defined the relative size of the target to the bidder as the deal value divided by the market value of the acquirer one month prior the announcement date, and then the median has been calculated. Later, the sample has been divided according to the relative size impact depending on that median into two sections.

One can notice from table 4.3 that deals with a large relative size have significant and higher returns compared with acquirers with a small relative size, and that is for the complete 5-day window. It is important to add that earlier results confirm that the larger the relative size of the target to the bidder the lower the bidder returns in acquisitions with public targets and the higher the bidder returns in deals with private targets.

Moreover, these results are similar to Petmezas' (2009) results, the acquirers in both studies that are involved in bigger relative size deals have better returns of 2.07% for Petmezas's study and 1.88% for these study, and that is for the (-2, + 2) window. Secondly, acquirers in both studies that engage in smaller relative size deals have smaller returns of 1.23% for Petmezas' study and 0.61% for this study, also for the (-

2,+2) studied period. It is necessary to add that according to Travlos (1987) that Hubris Theory may also have its impact on small and large firms' returns. Moreover, Asquith et al. (1983) mentioned that acquirers' returns may be affected by the type of the target firms, and after considering this idea, the researcher finds that the large relative size the higher the bidder returns in acquisitions with private targets.

Furthermore, the following table introduces the average of abnormal returns and t-statistics for cross-border acquisitions and again for a 5-day period after considering the impact of the relative size. The researcher calculates the value of the deal on the market value of the acquirer one month prior the announcement date, the sample of cross-border acquisitions has been divided into two sections regarding the median. The first section with a large relative size includes 240 deals, while the second section with a small relative size includes 239 deals. It is important to add that the total number of deals with large relative size of target to bidder with public targets is 35 acquisitions, and the number of deals with public targets and large relative size is 25.

Table 4. 4. Acquirers' returns for cross-border acquisitions in relation to the relative size

	Large Relative Size		Small Relative Size		Differential between CAR	t-stat of Differential between CAR
Window	CAR	t-stat	CAR	t-stat	Large –Small	Large-Small
All Bidders						
-2 to +2	0.90	1.70	0.21	0.31	0.69	1.76
-1 to +1	0.82	1.76	0.11	0.39	0.71	1.99
Bidders with private targets						
-2 to +2	1.04	1.95	-0.08	-0.22	1.12	2.14
-1 to +1	0.97	2.09	-0.07	-0.24	1.04	2.29
Bidders with public targets						
-2 to +2	-1.58	-0.55	0.57	0.26	-2.15	-0.77
-1 to +1	-1.66	-0.65	-0.52	-0.24	-1.14	-0.45

Notes:

This table introduces acquirers' abnormal returns for UK cross-border acquisitions between the beginnings of 2000 till the end of 2009 after considering the impact of the relative size. Acquirers' returns have been calculated depending on the Market Model for a 5-day window. The researcher defined the relative size of the target to the bidder as the deal value divided by the market value of the acquirer one month prior the announcement date, and then the median has been calculated. Later, the sample has been divided according to the relative size impact depending on that median into two sections. Later, the cross-border sample has been divided into two sections depending on the median into two sections. The first section includes large relative size acquisitions which consist of 240 deals. The second section which includes deals with a smaller relative size comprises of 239 acquisitions.

One can notice that both sections have insignificant returns, but the returns for the large relative size section are higher compared with a small relative size for the same windows. Additionally, one can note that the results from table 4.4 are consistent with Danbolt (1995), who found that for the pre-bid period foreign firms with large targets perform better when compared with firms with small targets. The author also added that after making the takeovers, firms with large targets also still experience higher returns. This means that both studies show almost the same results regarding the impact of the relative size on returns for acquirers which conducted cross-border acquisitions. It is important to add that there are no significant differences between the CAR as shown in the fifth column. Comparing the results of domestic and cross-border acquisitions according to their relationship with the relative size, one can note that acquirers of domestic and cross-border acquisitions with a large size have higher returns and that is

because of the strong relationship between the size and the method of payment, and applying that to both domestic and cross-border acquisitions, the researcher finds that the majority of acquirers that used non-cash as a method of payment acquire small targets which has its own effect on acquirers' returns and lowers them (Travlos, 1987). It is important to add that these results are affected by the type of the target firm, because the researcher finds that acquirers with large relative size acquire private targets, and this confirms what Asquith et al (1983) and Fuller et al (2002) found.

The next section presents more details on the industrial relationship between the bidder and the target that explains and introduces the importance of this variable and its effect on acquirers' returns.

4.2.3 The industrial relationship between the bidder and the target

Regarding the industrial relationship between the bidder and the target firm, Morck et al (1990) mentioned that there are many models which assume that managers will make unrelated diversification even when it affects shareholders negatively. This is for a number of reasons, such as, managers will diversify and enter new kinds of business to guarantee the survival and continuity of the firm in the case of a lack of liquidity. Also they may try to enter a new business area in the case of the poor performance of the firm, because that may strengthen their positions.

Hubbard and Palia (1999) explained in their paper about the conglomerate merger wave that took place during the 1960s. According to Matsusaka (1993) who studied the announcement effects of mergers in his paper, the bidder who diversifies will derive positive abnormal returns. This idea clarifies and gives good reasons for firms to prefer conglomerate activity in their investments. The authors continued in their discussion by defining the diversifying acquisitions as those where the bidder firm and the target firm do not share any two-digit SIC code, while the related acquisitions are those which share a two-digit SIC code.

The paper examined four major elements as measurements to the abnormal returns of the bidding firm. The first one was the CAR from five days before to five days after the event date. The second one was the CAR from five days before to five days after the date of the last revision, the third one was the dollar returns, and finally, the last one

was the investment return which can be defined as the change in the value of the bidder divided by the purchase price. The authors presented their results which can be summarized in two main parts. The first one was that related acquisitions had positive abnormal returns for all the earlier measurements. The second part was that diversifying acquisitions had positive abnormal returns in just two measurements.

Depending on the dollar return measure, Matsusaka (1993) stated that the return to a diversifying acquisition was significantly positive. The author also explained that when any firm acquires an unrelated target, the shareholders of the bidder firm will enjoy an \$11.0 million on average value increase in the value of the firm after correcting for market movements.

Goergen and Renneboog (2003) divided in their article the data into five main industries (energy and utilities firms, production and manufacturing firms, services, retails and hotels and pubs, and finally banking and insurance firms) that will help them to test whether their results have been affected by the industrial relationship. For the target firms, they found that on the announcement day the manufacturing and the retail and manufacturing firms had positive abnormal returns of 14.4% and 10.9%, but two months later they found that there was no difference between the five industries. On the other hand, bidders in the retail and manufacturing sectors had positive abnormal returns of 2.07% and 1.89%, while services and energy firms had negative abnormal returns of -2.35% and -1.91%, and the returns for the banking industry firms were not different from zero of 0.44% for the short-term, but this industry received significantly negative returns for the long-term.

More recently, Petmezas (2009) studied the industrial relationship between the bidder and the target firm. First of all, the author assumed that both acquirer and target must share at least a two-digit SIC code to be considered as having an industrial relationship between them. Furthermore, the author studied the relationship between the industrial relationship and the market valuation. He found that acquirers who diversified their deals had positive and significant returns for high valuation periods of 2.22%, and also he mentioned that the same section of acquirers had less returns in the low valuation periods of 0.62%. In addition, acquirers who did not diversify had less positive returns of 1.19%, and that compared with those who diversified for the high valuation periods. Also, acquirers who did not diversify did not gain any significant returns during low

valuation periods. The earlier discussion implies that when the acquiring firms acquired targets which belong to different industrial sectors, they gain more than acquirers that acquired targets from the same industrial sector.

The following section therefore includes the major results regarding the effect of the industrial relationship on acquirers' returns, and that is for domestic and cross-border acquisitions.

4.2.3.1 Results

The researcher considered the industrial relationship between the target and the acquirer firm as an important variable which may have its own impact on acquirers' returns. The domestic sample has been divided into two main sections depending on two-digit SIC code; the first section includes 393 deals which belong to the same industrial sector according to the two-digits SIC code. The second section includes 261 deals which do not share the same industrial sector. The following table presents the average of bidders' returns regarding the industrial relationship for domestic deals. The researcher examines acquirers' returns for a 3-day window as well to check the robustness.

Table 4. 5.Acquirers' returns regarding the industrial relationship for domestic deals

Window	Different Sectors		Same Sectors		Differential between CAR	t-stat of differential between CAR
	CAR	t-stat	CAR	t-stat	Differential – Same	Differential-Same
-2 to +2	2.12	3.01	0.57	1.43	1.55	2.20
-1 to +1	1.81	2.98	0.46	1.25	1.35	2.23

Notes:

This table shows returns for UK domestic acquirers from 2000 till 2009 after considering the impact of industrial relationship between the acquirers and the target firm. Acquirers' returns have been calculated relying on the Market Model for a 5-day window. The domestic acquisitions have been divided into two sections according to the impact of the industrial relationship. In the first section, the acquirer and the target firms belong to the same industrial sector, which means they share the same two –digit SIC code, the total number of domestic deals in this section is 393 acquisitions. In the second section, the acquirers and the target firms belong to different industrial sectors, they do not share the two –digit SIC code. The total number of the deals in the second section is 261 acquisitions.

It is notable from table 4.5 that acquirers that share with the target firm the same industrial sector have returns which are not different from zero for the studied window.

On the other hand, acquirers that do not share the same industrial sector with the target firm have positive and significant returns for -2, +2. These results share with Petmezas' (2009) study in some aspects including the announcement day which is that acquirers who diversify or acquire firms from a different industrial sector have significant returns of 2.22% for the same window. However, these results do also share with Petmezas' study in that acquirers who do not diversify in their deals have lower returns of 1.19% in the period of (-2, +2), and in Petmezas' (2009) results 0.57% in the earlier results for the same window and that compared with acquirers who diversify have returns of 2.12% .

Additionally, table 4.6 introduces the average and t-stat of abnormal returns for acquirers according to the industrial relationship for cross-border deals. The cross-border sample has been separated into two sections. The first one consists of 300 deals which belong to the same industrial sector and that depends on the two-digit SIC code. The second section includes 179 deals which belong to different industrial sectors. It is necessary to add that the researcher tested a 3-day window to check the robustness of the results.

Table 4. 6.Acquirers' returns regarding the industrial relationship for cross-border deals

Window	Different Sectors		Same Sectors		Differential between CAR	t-stat of differential between CAR
	CAR	t-stat	CAR	t-stat	Different-Same	Different – Same
-2 to +2	0.50	0.94	0.56	0.09	-0.06	-0.10
-1 to +1	0.46	1.03	0.51	0.08	-0.05	-0.02

Notes:

This table shows acquirers' returns for UK cross-border acquisitions during 2004, 2005 and 2006 after considering the impact of the industrial relationship. Acquirers' returns have been calculated depending on the Market Model for a 5-day window. The cross-border sample has been divided into two sections according to industrial relationship. In the first section, the acquirer and the target firm belong to the same industrial sector and share the two-digit SIC code, the total number of deals in this section is 300 acquisitions. In the second section, the acquirer and the target belong to different industrial sectors and do not share the two –digit SIC code. The total number of acquisitions in this section is 179 deals.

It is noticeable that acquirers that belong to the same industrial sector have higher abnormal returns for the studied window, while acquirers that belong to different

industrial sectors have returns that are not different from zero. This makes these results consistent with Morck et al.'s (1990) results, in which the authors investigated acquirers' returns for US acquisitions. They found that the bidder had higher returns when the bidder and the target share the same four SIC -digits compared with acquirers that do not share. In addition, Hubbard and Palia (1999) examined in their paper the abnormal returns for acquirers who share with their targets two-digit SIC code around the announcement date. They found that related acquisitions had high average abnormal returns of 1.62% compared with diversifying acquisitions with average abnormal returns of 0.24%.

In addition, it is notable that the results from table 4.6 are consistent with Gregory and McCorrison's (2005) results in one respect. They examined in their paper acquirers' returns for UK acquisitions which have been conducted according to their location and their industrial relationship for the long and short term. For the short term which is for a five day window (-3, 1), they found that acquisitions which share the same SIC code had low returns of -0.31% and that is compared with acquisitions that do not share the same SIC code which achieved returns of 0.36% and these results show that acquirers that do not share with the target the same industrial sector have positive returns which are not different from zero. As regards to the above discussion, it is important to mention that acquirers of domestic acquisitions who diversify have or gain significant returns, and acquirers of cross-border acquisitions who diversify have small returns which are not different from zero, which confirms that acquirers usually invest abroad and diversify but they do not have high returns from those investments, and that is because these investments are risky and cost firms a lot of effort compared with investing or acquiring international targets which share the same sector.

4.2.4 Book-to-Market Ratio

There are many studies which have considered the Book to Market Ratio as an important variable in their research, such as Fama and French (1992) who discussed that this financial variable is considered as a proxy for unobservable common risk factors. Also they found in their results that it had a significant relationship with realized returns. Fama and French (1993) found that low book-to-market equity firms achieve more profits compared with high book-to-market equity firms over a five year period.

Most studies calculated the Book-to-Market Ratio as Barber and Lyon (1997) did in their paper. They calculated it as the ratio between the book common equity for a fiscal year ending in calendar year (t-1) and the firms' market equity at the end of Dec in year t-1.

In addition, Sudarsanam et al. (2001) introduced in their paper Lakonishok et al's (1994) view regarding the analytical power of the Book-to-Market ratio as an important variable. They mentioned that Lakonishok et al (1994) stated that those financial variables are good in forecasting share returns and that is because they can capture investors' mistakes regarding their expectations of any future returns or gains. Furthermore, the researcher notes that very few studies have examined this variable according to its impact on mergers and acquisitions. For example, Rau and Vermaelen (1998) tested a sample of 987 of USA takeovers between 1981 and 1990. They found that acquirers with a high Market-to-Book ratio had returns between -5.6% and -5.4% within the first, second and third years after the completion, while acquirers with a low Market-To-Book ratio gained returns of 5.5%, -1.1% and 9.9% within the first, second and third years.

Sudarsanam and Mahate (2003) hypothesized later that most shareholders of low MTBV acquirers experienced large post-acquisition wealth gains compared with those with high MTBV acquirers. They also found in their results that at the announcement date (-1 to +1) acquirers with high MTBV experienced abnormal returns in the range -2% to -1.8%.

Petmezas (2009) found that bidders with a high Book-to-Market ratio had negative and insignificant returns at a high valuation market period of -0.15%, while bidders have negative and significant returns at a low valuation market period of -2.80%. On the other hand, bidders with a low Book-to-Market ratio have negative and significant returns for high valuation market periods of -2.00% and also insignificant returns for low valuation market periods of -1.21%. This means that acquirers with a low Book-to-Market ratio gain better returns compared with those with high Book-to-Market ratio and that is because according to Rau and Vermaelen's (1998) argument of the extrapolation hypothesis which supposes that the market overreacts to the past performance of the acquirers at the time of announcement bid. Acquirers with high Book-to-Market ratio have a tendency to have a high share price imitating the high

growth in cash flow. Thus the market depends on the past performance of those acquirers and gives the managers of those firms the benefit of the doubt when they undertake the acquisitions. The opposite situation happens to acquirers with a low Book-to-Market ratio, which leads the managers of firms with a low Book-to-Market ratio to be careful when conducting any acquisitions.

In this research, the Book-to-Market ratio has been considered as an important variable. Both domestic and cross-border deals have been divided into two main sections according to the median of the Book-to-Market of the whole sample. The first section includes deals with a high BTM ratio, and the second section consists of deals with a low BTM ratio. It is important to add that Book-to-Market ratio is defined as the net book value divided by the market value one month prior to the announcement date.

In the following section, the researcher is going to include the major results regarding the impact of the Book-to Market ratio on acquirers' returns for domestic and cross-border acquisitions. An event study methodology and the application of the Market Model have been used to calculate acquirers' returns for a 5-day window over the announcement date.

4.2.4.1 Results

The following table presents acquirers' abnormal returns in relation to the BTM ratio. The domestic sample has been divided into two main sections as mentioned before, the first section contains 319 deals with a high BTM ratio, and the second one includes 292 deals with a low BTM ratio. Several deals have been excluded from the domestic sample because of the lack of information about their BTM ratio.

Table 4. 7. Acquirers' returns for domestic deals in relation to the Book-to-Market ratio

Window	High B/M Ratio		Low B/ M Ratio		Differential between CAR	t-stat of differential between CAR
	CAR	t-stat	CAR	t-stat	High –Low	High-Low
-2 to +2	1.46	3.01	0.28	0.58	1.18	2.40
-1 to +1	1.03	2.47	0.41	0.98	0.62	1.47

Notes:

This table presents abnormal returns for UK domestic acquisitions between 2000 and 2009 in relation to the Book-to Market ratio. Acquirers' returns have been calculated relying on the Market Model for a 5-day window. The domestic sample has been divided into two sections according to the Median of the whole BTM ratio. The first section includes deals with high Book-to-Market ratio; the total number of acquisitions in this section is 319 deals. The second section includes 292 deals that contain deals with the low Book-to-Market ratio.

It is noticeable from these results in table 4.7 that deals with a high Book-to-Market ratio have high and significant abnormal returns for the period compared with acquirers with a low Book-to-Market ratio. These results share with previous literature that suggests that firms with a high Book-to-Market ratio have higher returns over the announcement period. For example, Lang et al (1989) mention that firms with high Book-to-Market ratio generate high announcement returns. On the other hand, it is important to add that deals with a low Book-to-Market ratio have insignificant returns and that for windows around the announcement date.

It is clear that these results are consistent with Petmezas' (2009) results in returns during the low valuation market period, because in these results bidders with a high Book-to-Market ratio have insignificant returns of 1.46% for -2, +2 period, while according to Petmezas (2009)'s results, bidders for the same studied period have also insignificant returns of 0.87% for the high valuation market period, and both studies find that bidders with a low Book-to-Market ratio gain less than bidders with high Book-to-Market ratio in low valuation period.

Furthermore, table 4.8 shows the returns for acquirers undertaking cross-border deals in relation to the Book-to-Market ratio. The cross-border sample is sub-divided into two main sections according to the median of the whole Book-to-Market ratio of the complete sample. The first section includes 233 deals with a high Book-to-Market ratio,

while the second section contains 219 deals with a low Book-to-Market ratio. Several deals have been excluded from the cross-border sample because of the lack of information about their Book-to-Market ratio.

Table 4. 8. Acquirers' returns for cross-border acquisitions in relation to the Book-to –Market ratio

Window	High B/M Ratio		Low B/M Ratio		Differential Between CAR	t-stat of differential between CAR
	CAR	t-stat	CAR	t-stat	High- Low	High-Low
-2 to +2	1.30	3.27	-0.31	-0.60	1.61	4.19
-1 to +1	1.23	3.43	-0.20	-0.44	1.43	4.14

Notes:

This table presents acquirers' returns for UK cross-border deals between 2000 till 2009 in relation to the Book-to-Market ratio. Acquirers' returns have been calculated depending on the Market Model for a 5-day window. The sample has been divided into two sections according to the median of the whole Book-to-Market ratio for the whole sample. The first section consists of 240 deals which include deals with a high Book-to-Market ratio. The second section includes 219 deals with a low Book-to-Market ratio.

One can notice from table 4.8 that bidders with a high Book-to-Market ratio have significant returns for the studied window of 1.30% compared with bidders with a low Book-to-Market ratio that have lower returns of -0.31% for the same window. It is notable that there are differences between the t-statistics of both sections which confirms that there is a clear impact of B/M ratio on bidder's returns. In addition, these results are consistent with Megginson et al's (2004) in one aspect. They found that acquirers with a high Book-to-Market ratio have higher returns of -3.49% at the announcement period compared with acquirers with a low Book-to-Market ratio.

4.2.5 The type of the target firm

This section investigates the effect of the target firm being a public or private one. The literature confirms that acquiring private targets is considered important in both domestic and international acquisitions, and that is compared with acquiring public

targets. There are many reasons which lead to think that acquiring private targets may produce more returns for acquiring firms. The first reason is that the procedure of making the deal may be less showing to “public gaze”, which may happen in public bids. The second one is the private bids may lead to revelation of information between parts of the deal which cannot happen in public bids. Conn et al. (2005)

Chang (1998) studied in his paper acquirers’ returns for 281 firms which acquire private target firms between 1981 and 1992 and compare those returns with acquirers’ returns for 255 firms which acquire public targets for the same studied period. The author found that there were significant returns for firms which acquired private targets and used stock to finance their deals.

Conn et al (2005) examined the announcement returns of UK private, public, domestic and cross-border acquisitions between the beginning of 1984 and the end of 1998. They found that domestic acquirers with private targets achieve higher returns of 1.05% compared with those who conducted public firms. Furthermore, they found that the returns for cross-border acquirers do not differ from zero and that is for acquirers with both public and private targets. On the other hand, the authors pointed out that acquirers of domestic and cross-border acquisitions produce significant gains of 0.68% and 0.33% and these returns were driven by deals with private targets instead of public targets.

In the following section, the researcher will introduce acquirers’ returns for domestic and cross-border acquisitions after considering the type of the target firm.

4.2.5.1 Results

As regard to the type of the target, the researcher divides the sample into two sections according to the type of target firm. The first section includes firms which acquire private targets, while the second section consists of deals which acquire public firms. The following table introduces returns for acquirers of domestic acquisitions after dividing the sample according to the type of target firm. Domestic sample includes 551 deals with a private target and 103 deals with a public firm. One can notice that the majority of the sample includes firms which acquire private targets which gives a good explanation to the empirical results. It is important to mention that the researcher includes a 3-day window, and that is to check the robustness of the results.

Table 4. 9. Acquirers' returns for domestic acquisitions in relation to the type of the target firm

	Private targets		Public targets		Differential between CAR	t-stat of differential between CAR
Window	CAR	t-stat	CAR	t-stat	Private – Public	Private- Public
-2 to +2	1.22	3.21	0.90	0.69	0.32	0.82
-1 to +1	0.90	2.89	1.41	1.13	-0.51	-1.54

Notes:

This table presents acquirers' returns for UK domestic deals from 2000 till 2009 in relation to the type of the target firm. Acquirers' returns have been calculated depending on the Market Model for a 5-day window. The sample has been divided into two sections according to the type of the target firm. The first section consists of 551 deals which include deals with private targets. The second section includes 103 deals with public targets.

It is notable from table 4.9 that acquirers with private targets have higher returns compared with acquirers with public targets. These results share with Fuller et al (2002) in one respect, which is that acquirers with private targets have higher returns than acquirers with public targets. Furthermore, Fuller et al (2002) added that when a public acquirer acquires a public target the negative returns for the acquirer will equalize by the positive gains of the target firm, while when a public firm acquires a private target, the shareholders of the acquiring firm will get some returns from this bid considering that this deal is a way to increase the value. One can observe that results in the previous table share also with Conn et al.'s (2005) study, they found that acquirers of domestic and public targets have lower returns than acquirers of domestic and private targets for the 3-day window. It is notable that the difference between returns is insignificant economically and statistically which is obvious when t-stat of the difference has been considered.

The following table includes CARs for acquirers of cross-border targets after considering the type of the target firm. The cross-border sample is sub-divided into two sections. The first one includes 419 acquisitions with private targets; the second one consists of 60 deals with public targets.

Table 4. 10. Acquirers' returns for cross-border acquisitions in relation to the type of the target firm

	Private targets		Public targets		The difference between CAR	t-stat of differential between CAR
Window	CAR	t-stat	CAR	t-stat	Private-Public	Private-Public
-2 to +2	0.55	1.68	0.19	0.18	0.36	1.05
-1 to +1	0.56	2.02	-0.71	-0.74	1.27	4.30

Notes:

This table presents acquirers' returns for UK cross-border deals from 2000 till 2009 in relation to the type of the target firm. Acquirers' returns have been calculated depending on the Market Model for a 5-day window. The sample has been divided into two sections according to the type of the target firm. The first section consists of 419 deals which include deals with private targets. The second section includes 60 deals with public targets.

One can note from the previous table that acquirers with public targets have losses compared with acquirers of private targets for the same window -1, +1. This makes these results share with Conn et al.'s (2005) results, because both results show that acquirers with public targets have losses over the announcement period while acquirers with cross-border and private targets have higher returns of 0.38% with a t-stat of 2.17% for Conn et al.'s study and 0.56% with a t-stat of 2.02% for my results.

Following the above findings, it will be significant to sum up the results of this chapter and compare them with others before moving to the next section. First, regarding the method of payment as a first variable in this paper, the results indicated that acquirers of both domestic and cross-border acquisitions who used cash as a method of payment to finance their deals had higher and better returns compared with those who depended on non-cash. There are some reasons for having these results. Firstly, in cross-border acquisitions, the targets are often disinclined to accept foreign equity which leads the bidding firms to finance their deals with cash, which has its own impact on acquirers' returns and gives a good reason for having a big difference between the two sections. Furthermore, previous literature showed that cash offers achieved higher returns compared with non-cash or stock offers and this idea is consistent with the acquirers' results in this chapter.

Second, regarding the relative size of the acquirer to the target as a second variable in this research, it is notable that most studies mentioned that acquirers with small targets had higher returns compared with acquirers with large targets and that is for the short-run, and acquirers with large targets have or gain significant returns when measured over the long-run. The results showed that acquirers with domestic and large relative size had higher returns compared with acquirers with small relative size and acquirers with small and cross-border targets did worse compared with acquirers with larger cross-border acquirers. There are several reasons for having those results. The first one is the method of payment, because using equity will lower acquirers' returns, and applying that on both domestic and cross-border acquisitions, it is notable that the majority of acquirers with large relative size finance their deals with cash. The second reason is that those results are driven by the type of the target firm. Applying that as well on prior results, it is important to mention that most firms with large relative size acquire private targets. The third reason is that because of the market reaction which is slightly less towards acquiring large and international firms compared with acquirers with small relative size (see, Asquith et al, 1983. and Travlos, 1987).

Third, regarding the industrial relationship as a third variable in this paper, many studies stated that firms which acquire targets from the different sectors have higher abnormal returns compared with acquirers which acquire targets from the same sector. In addition, the results showed that acquirers which made cross-border acquisitions with a target from the same industrial sector have higher returns compared with acquirers with a target from different industrial sectors, while acquirers of domestic targets have higher returns when they acquire targets from a different industrial sector that is consistent with earlier idea.

Forth, regarding the Book-to-Market ratio as a final variable in this research, many studies find that acquirers with a low Book-to-Market ratio have higher returns compared with acquirers with a high Book-to-Market ratio. The results indicate that acquirers with domestic firms and high Book-to-Market ratio have higher returns compared with acquirers with low Book-to-Market ratio. Additionally, acquirers with cross-border targets and low Book-to-Market ratio have higher and significant returns compared with acquirers with higher Book-to-Market ratio. The reason for having these results for domestic acquisitions is that the market overreacts to the past performance of

the bidder at the announcement time, and this situation will appear and be clear in the domestic market compared with other countries' market.

Finally, in respect of considering the type of target firm as a significant variable, the results showed that acquirers who acquire private targets had higher returns, and that is for both domestic and cross-border acquisitions. It is important to mention that all the results in this chapter are driven and affected by this variable and generate higher and significant returns for acquirers in this sample.

In the subsequent section, a regression has been run of acquirers' returns against the four earlier variables; the method of payment, the industrial relationship, the relative size, the type of the target firm and the Book-To-Market ratio. That is for both domestic and cross-border deals together and then each section of the sample has been applied separately for eight different windows over, before and after the announcement day.

4.3 Ordinary Least Square regression (OLS)

With a respect to above discussion, many articles have studied the effect of several variables on acquirers' returns. According to those articles, the best method to examine the impact of some variables is to run a regression of acquirers' returns against the studied variables. (Hubbard and Palia, 1999; Fuller et al, 2002; Conn et al, 2005; Croci et al. 2010)

An investigation of the combined impact of the earlier variables on acquirers' returns, the method of payment, the relative size, the industrial relationship, the type of the firm and the Book-to-Market ratio has been conducted. The researcher considers the acquirers' abnormal returns as the dependent variable while the earlier determinants as independent variables. An examination of the determinants for the whole studied period has been done, and cumulative abnormal returns for UK acquirers for domestic and cross-border deals have been tested and estimated over two different windows (-2, +2), (-1, +1). It is necessary to mention that 5-day window is the most important window in this study but the researcher adds the 3-day window to check the robustness of the results over the announcement date.

The standard Ordinary Least Square regression has been used for the whole studied period. It is important to add that the Ordinary Least Squares has been considered in finance as a method to estimate the unknown parameters in liner regression model. Thus considering OLS regression, the researcher tests the relationship between acquirers' returns and five different variables. Table 4.11 introduces the regression's results for domestic and cross-border deals. Four main variables have been considered as follows:

1. The method of payment. The dummy equals 1 when acquirers use cash payment and equals 0 when they depend on non-cash payment.
2. The relative size of the acquirer to the target. This variable is considered as its real value which is the value of the deal divided by the market value of the acquirer one month prior to the announcement date of the deal.
3. The industrial sector. The dummy is equal to 1 when both acquirer and target belong to the same industrial sector, otherwise the dummy equals 0.
4. The Book-to-Market ratio. The real value of the Book-to-Market ratio has been considered for each deal.
5. The type of the target firm. The dummy is equal to 1 when the target is a private firm, otherwise the dummy equals 0.

To examine the impact of the four variables on acquirers' return around and over the announcement day which is considered as day 0 and that is for the complete sample, I estimate a regression of the acquirers' returns against four different variables, the method of payment, the relative size, and the industrial relationship, the type of the target firm and the Book-to-Market. It is important to add that a regression analysis of the acquirers' abnormal returns has been conducted to examine whether differences in deal characteristics explain the difference in acquirers' abnormal returns for domestic and cross-border acquisitions.

The following equation will explain more about the regression:

Where:

Y: is the acquirer's return

: is the method of payment

: is the industrial relationship

: is the relative size

: is the Book-to-Market ratio

$\alpha, \beta, \gamma, \delta$: are coefficients
is the error term

T : is the type of the target firm

Table 4. 11. Ordinary Least Square regression (OLS) for the complete sample

	(-2,+2)	(-1,+1)
Con (intercept)	0.005 (0.639)	0.002 (0.359)
MOP	0.002 (0.526)	0.005 (1.243)
Size	0.111 (0.663)	0.811 (0.559)
Sector	-0.005 (-1.036)	-0.003 (-0.907)
BTM	0.286 (0.411)	0.278 (0.466)
Type	0.005 (0.722)	0.003 (0.543)
Observation	1071	1071
R-squared	0.0026	0.0031

Notes: This table shows results of the OLS regression of cumulative abnormal returns (the dependent variable) for 1133 UK acquirers for 5-day window between 2000 and 2009 against five variables (the independent variables), the method of payment, the relative size, the industrial relationship, the type of the target and the Book-to-Market ratio. This regression includes the whole studied sample which comprises domestic and cross-border acquisitions. The abnormal returns have been calculated depending on the Market Model across 5-day window. Thus MOP refers to the method of payment, it is a dummy equal to one when acquirers used cash as a payment to finance their deals, and equals zero when they used non-cash as a payment. Size refers to the relative size of the target to the acquirer, and is considered as the value of the deal divided by the market value of the acquirer one month prior the announcement date. Sector means the industrial sector which acquirer and target are belonging to, and it is a dummy that equals one when the acquirer and the target are sharing the same industrial sector, and the dummy equals zero when the acquirer and the target are from different industrial sector. Type is the type of the target firm, it is considered whether the target is private or a public firm, the dummy equals one when the target is a private firm otherwise it is 0. BTM means the Book-to-Market ratio which is considered as the net book value divided by the market value one month prior to the announcement date of the deal. The numbers located between brackets are the T-stat. It is important to add that a 3-day window has been examined also for the robustness check. The sample has reduced from 1133 deals to 1071, and that is due to the lack of information about the Book-to-Market ratio for several firms.

It is notable from table 4.11 that the industrial relationship and the type of the target firm have a slightly good relation with the acquirers' abnormal returns and that is for a 5-day window. This means that the market reacts positively in relation to the type of the target. For a 3-day window, the results show that the method of payment has a better relation with the acquirers' returns. There is also evidence that the method of payment has a relationship with the acquirers' returns over the announcement date.

The domestic and cross-border deals have been tested separately, in order to determine whether there are some differences in the results between the two samples in terms of the affect of these variables on acquirers' abnormal returns. Table 4.12 shows the regression results of acquirers undertaking domestic deals against the same five variables. It is important to add that several firms have been excluded because of the lack of information about their BTM ratio.

Table 4. 12. Ordinary Least Square regression (OLS) for domestic deals

	(-2,+2)	(-1,+1)
Con	0.002 (0.260)	0.004 (0.551)
Mop	0.004 (0.545)	0.005 (0.913)
Size	0.103 (0.557)	0.743 (0.472)
Sector	-0.011 (-1.589)	-0.009 (-1.648)
BTM	0.219 (0.174)	0.618 (0.581)
Type	0.014 (1.612)	0.006 (0.887)
Observation	612	612
R-squared	0.0103	0.0086

Notes: This table shows results of OLS regression of cumulative abnormal returns (the dependent variable) for a 5-day window for 612 domestic UK acquirers between 2000 and 2009 against five variables (independent variables), the method of payment, the relative size, the industrial relationship, the type of the target firm and the Book-to-Market ratio. Thus MOP means the method of payment and is a dummy that equals one when acquirers used cash as the method of payment to finance their deals, and equals zero when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and it is considered as the value of the deal divided by the market value of the acquirer. Sector means the industrial sector to which the acquirer and target belong, and it is a dummy that equals one when the acquirer and the target share the same industrial sector, and the dummy equals zero when the acquirer and the target are from the a different industrial sector. BTM means Book-to-Market ratio which is considered as its real value for each deal (which is the net book value divided by the market value one month prior the announcement date of the deal). The type means whether the target is a private or a public firm, and it is a dummy that equals one when the target is a private firm otherwise it equals zero. The numbers located between brackets are the T-stat. It is important to mention that several firms have been excluded due to a lack of information about the Book-to-Market ratio for those firms.

It is notable from table 4.12 that the type of the target firm has a quite good relation with the acquirers' returns for domestic acquisitions, and that is found for both studied windows. The relative size and Book-To-Market ratio have no significant relation with acquirers' returns for domestic deals. In table 4.13, a regression of acquirers' returns for cross-border acquisitions against the same five variables has been run. Moreover, several firms have been excluded and that is due to the lack of information about their BTM ratio.

Table 4. 13. Ordinary Least Square regression (OLS) of cross-border acquisitions

	(-2,+2)	(-1,+1)
Con	0.019 (1.416)	-0.064 (-0.516)
Mop	0.004 (0.571)	0.009 (1.369)
Size	0.893 (0.150)	0.646 (1.222)
Sector	0.004 (0.725)	0.005 (0.961)
BTM	0.351 (0.479)	0.890 (0.136)
Type	-0.022 (-1.791)	-0.006 (-0.545)
Observation	459	459
R-squared	0.009	0.0098

Notes: This table shows results of the OLS regression of cumulative abnormal returns (the dependent variable) for 430 UK cross-border acquisitions between 2000 and 2009 against five variables (independent variables), the method of payment, the relative size, the industrial relationship, the type of the target firm and the Book-to-Market ratio. The acquirers' returns have been calculated depending on the Market Model for a 5-day event window. Thus MOP means the method of payment and it is a dummy that equals one when acquirers use cash to finance their deals, and equals zero when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and it is considered as its real value which is (the value of the deal divided by the market value of the acquirer one month prior the announcement date). Sector means the industrial sector to which acquirer and target belong and it is a dummy equal to one when the acquirer and the target share the same industrial sector, and the dummy equals zero when the acquirer and the target are from different industrial sector. BTM means Book-to-Market ratio which is considered as its real value for each deal (the net book value divided by the market value one month prior the announcement date of the deal). Type is considered the type of the target firm whether the target is a private firm or a public firm, it is a dummy that equals 1 when the target is a private firm otherwise it is 0. The numbers located between brackets are the T-stat.

It is notable from table 4.13 that there is some evidence of a relation between the type of the target firm and the acquirers' abnormal returns for cross-border acquisitions over the announcement. In addition, the deal characteristics have no significant impact on the acquirers' returns for cross-border acquisitions.

To sum up from the above three regressions the following results, the variables' impact differs when the sample distinguishes between domestic and cross-border acquisitions. That is because when a regression has been run for the complete sample, the results show the industrial sector has a slight relationship with the acquirers' returns for a 5-day window and the method of payment has a better impact for a 3-day window. Considering the domestic acquisitions, it is notable that the industrial sector and the type of the target firm have a slight impact on acquirers' returns. This is almost the same when the cross-border sample has only been considered in the regression and that for a 5-day window.

The following section introduces a robustness check for a 3-day window that has been included in the previous results with a 5-day window.

4.4 Robustness Check

It is notable that a 3-day window has been included in all earlier results with a 5-day window, thus in this section the researcher will revise acquirers' returns within a 3-day window and analyze their impact. The following tables present acquirers' returns for both domestic and cross-border acquisitions within a 3-day window.

Table 4. 14. Acquirers' returns for domestic and cross-border acquisitions within a 3-day window

	<i>Domestic deals</i>	<i>Cross-border deals</i>
All Bidders	1.03 (3.14)	0.41 (1.57)
Cash Payment	1.15 (3.78)	0.57 (2.18)
Non-cash Payment	0.69 (0.93)	-0.17 (-0.20)
Small Relative Size	0.60 (1.81)	0.11 (0.39)
Large Relative Size	1.53 (2.69)	0.82 (1.76)
Same Sector	0.46 (1.25)	0.51 (0.08)
Different Sector	1.81 (2.98)	0.49 (1.03)
High Book-to-Market ratio	1.03 (2.47)	1.20 (3.49)
Low Book-to-Market Ratio	0.41 (0.98)	-0.20 (-0.45)
Private Target Firm	0.90 (2.89)	0.56 (2.02)
Public Target Firm	1.44 (1.13)	-0.71 (-0.74)

Notes

This table introduces acquirers' returns for UK domestic and cross-border acquisitions between 2000 and 2009 within a 3-day window over the announcement date. The sample includes successful and unsuccessful deals. The acquirer must be a public firm, while the target can be a public or a private firm; the firms must be listed in LSE. The impact of five variables has been analysed against acquirers' returns, the method of payment, the industrial relationship, the relative size, the Book-to-Market ratio and the type of the target firm. The sample has been separated into sections according to the method of payment; the first section includes acquirers which used cash to finance their deals, while the second section consists of deals that have been financed via non-cash. The sample is sub-divided according to the industrial relationship into two sections depending on two SIC digits. The first one consists of acquirers that share with their target firms the same industrial sector. The second section includes acquirers that do not share with their targets the same industrial sector. The sample also has been divided according to the relative size into acquirers with large relative size and acquirers with small relative size, it is important to mention that the relative size defined as "the value of the deal divided by the market value of the acquirer one month prior to the announcement date of the deal". With a respect to the type of the target firm, the sample divided into two parts. The first one includes firms that acquire private targets. The second comprises from firms with public targets, it is notable to mention that the first part form the majority of both domestic and cross-border acquisitions. The sample has been divided according to the Book-to-Market ratio into two sections; the first one includes firms with high Book-to-Market ratio, the second one consists of firms with low Book-to-Market ratio. Abnormal returns have been calculated depending on the Market Model. Numbers between brackets are t-stat.

Table 4. 15. OLS regression of acquirers' returns against five variables for a 3-day window

	<i>The complete sample</i>	<i>The domestic sample</i>	<i>The cross-border sample</i>
Con	0.002 (0.359)	0.004 (0.551)	-0.064 (-0.516)
Mop	0.005 (1.243)	0.005 (0.913)	0.009 (1.369)
Size	0.811 (0.559)	0.743 (0.472)	0.646 (1.222)
Sector	-0.003 (-0.907)	-0.009 (-1.648)	0.005 (0.961)
BTM	0.278 (0.466)	0.618 (0.581)	0.890 (0.136)
Type	0.003 (0.543)	0.006 (0.887)	-0.006 (-0.545)
Observation	1071	612	459
R-squared	0.0031	0.0086	0.0098

Notes:

This table shows results of the OLS regression of cumulative abnormal returns (the dependent variable) for UK cross-border and domestic acquisitions between 2000 and 2009 against five variables (independent variables), the method of payment, the relative size, the industrial relationship, the type of the target firm and the Book-to-Market ratio. The acquirers' returns have been calculated depending on the Market Model for a 3-day event window. Thus MOP means the method of payment and it is a dummy that equals one when acquirers use cash to finance their deals, and equals zero when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and it is considered as its real value which is (the value of the deal divided by the market value of the acquirer one month prior the announcement date). Sector means the industrial sector to which acquirer and target belong and it is a dummy equal to one when the acquirer and the target share the same industrial sector, and the dummy equals zero when the acquirer and the target are from different industrial sector. BTM means Book-to-Market ratio which is considered as its real value for each deal (the net book value divided by the market value one month prior the announcement date of the deal). Type is considered the type of the target firm whether the target is a private firm or a public firm, it is a dummy that equals 1 when the target is a private firm otherwise it is 0. The numbers located between brackets are the T-stat.

Tables 4.14 and 4.15 illustrate that examining acquirers' returns over a 3-day window does not differ from acquirers' returns over a 5-day window. These returns are almost the same for both cross-border and domestic acquisitions. It is significant to add that analysing acquirers' returns against five different variables does not show clear differences for a 3-day window compared with acquirers' returns for a 5-day window.

4.5 Summary

This chapter studies the acquirers' returns for acquisitions made by the UK firms from 2000 until the end of 2009. The sample of both domestic and cross-border deals has been included, and the total number of the sample is 1133 deals. The acquirers' abnormal returns have been calculated depending on the event study methodology and

the application of the Market Model for each deal for a 5- day event window before and after the announcement day. The impact of the major determinants has been investigated that have been proposed as affecting acquirers' returns for the same studied period of 5 days around the announcement day. The variables are the method of payment, the relative size of the acquirer to the target, the industrial sector, and the Book-to-Market ratio. Regarding the method of payment's impact, the results indicate that for domestic deals acquirers that depend on noncash as a method of payment achieve slightly more returns compared with those who use just cash to finance their payment for long windows, and for cross-border deals, acquirers that finance their acquisitions depending on cash have better returns comparing with those who did not use cash. The situation is the same for the relative size and the industrial relationship, because acquirers of both domestic and cross-border acquisitions also differ in their returns. Finally, regarding the Book-to-Market ratio, domestic acquirers with a high BTM ratio have higher abnormal returns compared with acquirers of cross-border acquisitions with a high BTM ratio that have lower abnormal returns. A regression has been conducted between all the earlier variables and the acquirers' abnormal returns for the same studied period, and for both the domestic and the cross-border deals. The results show that there is no clear difference between the results of domestic and cross-border acquisitions.

Chapter 5: Directors' Overconfidence and its Impact on Acquirers' Abnormal Returns

Directors' Overconfidence and its Impact on Acquirers' Abnormal Returns

5.1 Introduction

This study investigates the effect of directors' overconfidence on acquirers' returns. The researcher investigates the 'self-attribution bias' of acquirers by dividing the complete sample into acquirers classified as frequent and infrequent acquirers, and that is done for both domestic and cross-border acquisitions. Event study methodology has been used to calculate acquirers' abnormal returns for a 5-day event window.

This chapter is organized as follows: The first section includes the literature review that introduces more information about the topic. The second section reviews the major studies concerned with managerial behavior. The third section reports and investigates 'self-attribution bias' in more detail. The next two sections include the data and the major results of self-attribution and its impact on acquirers' abnormal returns for domestic and cross-border acquisitions. The final section is the summary which concludes the chapter and its results.

5.2 Literature review

Studies that analyse mergers and acquisitions activities suggest that there are three major reasons for firms to conduct takeovers. The first reason is the desire to generate synergies; the second reason comes from the agency conflict between managers or directors and shareholders, while the third reason is associated with the concept of managerial hubris. Investigating the third reason leads to Roll's (1986) study, which proposed that managers of acquiring firms overvalue the target when making mergers and acquisitions, because they are overoptimistic about the possible benefits of the merger. This leads them to -overbid for the target firm- and results in a loss for their shareholders. (Brown and Sarma, 2007)

Many articles have recently stated that managerial behaviour has a major role in the performance of the acquirer in mergers and acquisitions (Crocì et al., 2010). The literature relating to the concept of managerial behaviour departs from economics models to integrate psychological evidence on some attitudes such as overconfidence. The analysis of overconfidence belongs mainly to psychology, which points out that

many individuals have a tendency to consider themselves as above average regarding their skills and abilities. Furthermore, individuals tend to over-estimate the gains from things which relate to themselves, especially those who are in the senior positions. This is because the CEO usually has the final decision regarding a firm's big investments, and as a result, the CEOs can believe that they have ultimate control over outcomes, which leads them to underestimate the probability of failure generally. This discussion leads us to Roll's (1986) 'hubris theory' (Malmendier and Tate, 2005b).

Roll (1986) was the first to present the idea of overconfidence to corporate finance in his 'Hubris' theory of acquisitions. He introduced the idea of a rational investor-irrational manager which explains why managers keep making mergers and acquisitions because of their very optimistic view of their skills in order to generate value and profit in future takeovers. Moreover, overconfidence in finance has a psychological basis which confirms that such individuals are often overconfident, and also that managers tend to be more confident than normal individuals because of selection bias. (Brown and Sarma, 2007)

In addition, Barros and Silveira (2007) stated that individuals who are overconfident about their skills and abilities are more likely to apply for, and therefore obtain higher managerial positions. According to Croci et al. (2010), Langer (1975) defined managerial overconfidence as "overestimation of CEO's own abilities and outcomes relating to actions which are under their control". In addition, the authors added that when the manager overvalues the synergy in returns that are likely to result from any merger or acquisition, this is due to the manager's belief in his/her leadership skills and abilities. On the other hand, this idea may stem from the psychology of many people, because some individuals have a tendency to overvalue their capabilities compared with others, with the consequence that they can misjudge any potential danger which comes with an opportunity (Croci et al., 2010). Additionally, managers play a major role in predicting unidentified issues in a firm such as cash flow and demand, and they tend to depend on these predictions as the basis for designing future corporate policies. Thus achieving their predictions requires the presence of self-confidence, which indicates that individuals often show overconfidence in predicting their future plans. (David et al., 2007)

On the other hand, Barry (2005) mentioned that the level of optimism common in society generally also has its impact on the mood of financial decision-makers, and where there is a high level of optimism or overconfidence, managers may consider making more investment decisions and therefore making many acquisitions.

5.3 The main studies about managerial behaviour

Sudarsanam et al. (2006) discussed the idea of managerial behaviour from a different viewpoint. They assume that managerial compensation usually encourages managers to take risky investment decisions which are in shareholders' interests, and for that they study managers' compensation. They considered two measures to test managerial incentives; the first one was the sensitivity of the CEO's wealth to the stock price (Delta), and the second one was the sensitivity of the CEO's wealth to the stock return volatility (Vega). Also they studied how these two measures affect the consideration of risky investment decisions. They set up some hypotheses related to these measures and managerial overconfidence and acquirers' performance. The first hypothesis they examined was that a "high level of Vega is associated with an increase in firm risk due to corporate acquisition". The second hypothesis was that a "high level of Delta is associated with a decrease in firm risk due to corporate acquisition". Thus the authors depended on a sample of US mergers and acquisitions between 1993 and 2004. In the short term, they use a traditional event study for a 3-day (-1, +1) event period to calculate the cumulative abnormal returns, and for the long term, they depended on one-year and three-year buy and hold abnormal returns. They found that the impact of the stock return (Vega) on wealth differs between the long and the short term. In the short term high Vega is related to bad performance compared with Vega in the long term. In addition, with regard to the impact of the stock price (Delta) on wealth, they found that high Delta performs better in the short term compared with the long term. In addition, the authors create a regression which relates managerial motivations and CEO confidence and its relationship with different variables including the ownership, the relative size and the type of deal. They found that the Delta has a negative and significant impact on the acquirer's return for a 3-day period of -0.38%, while Vega has a positive and insignificant impact on the acquirer's return of 0.10%. This does not confirm the authors' assumption which related Vega to managerial behaviour, and especially that Vega should be positively related to the announcement returns when the executive is overconfident.

More recently, Malmendier and Tate (2008) have studied managerial overconfidence from another perspective. They examined the impact of executive overconfidence on merger decisions, and they wondered whether this overconfidence may explain acquirers' acquisition losses. They considered two predictions. The first one supposes that in firms with surplus internal capital, overconfident CEOs and executives will execute more acquisitions than non-confident managers. The second one is that when overconfident executives and CEOs carry out more acquisitions compared with non-confident CEOs, the average value of return for the overconfident CEOs and executives will be lower than that for rational ones. They included in the sample 477 large US firms for the period between 1980 and 1994. To test the earlier predictions, they studied executives' personal portfolios of executive options. Also they examined additional variables such as the size, cash flow, stock ownership, and some personal characteristics of the individual (such as age and tenure). They sorted the executives into two main sections according to how long they hold their options. The first section includes the Longholder who can be identified as those CEOs who hold an option until the expiration date, and the second section includes the remaining executives who are considered as Holder67, holding their options until the fifth year prior to expiration. The authors formed a regression which included all the earlier variables to test their two predictions. They found that the impact of cash flow depends on whether the firm is cash-rich or cash-poor, because cash flow increases acquisitiveness between cash-poor firms. The stock ownership has an insignificant impact in all specifications.

Ismail (2008) also considered executive overconfidence as an indirect reason for explaining abnormal returns for single and multiple acquirers. The author studied acquirers' returns for 16,221 US takeovers between 1985 and 2004. He included several variables such as the method of payment, the geographic scope, the type of the target and the industry scope in his study as well, in order to find out the effect of those variables on the returns for both single and multiple acquirers. The author reported that for the five days (-2, +2) around the announcement day, the returns for single acquirers are higher and better compared with multiple acquirers' returns. For example, generally single acquirers have 2.63% as abnormal returns compared with 0.97% as CAR for multiple acquirers. In addition, the author found that CARs are higher for single acquirers when he considered variables such as the method of payment, the geographic scope, the industry scope and the type target. For example, single acquirers who depend

on cash have a CAR of 1.83% compared with 1.01% for multiple acquirers who depend on cash as well. In order to determine whether the number of deals may affect the earlier results, the author compared acquirers' returns according to the number of deals, and considers in his comparison Malmendier and Tate's (2004) theory of overconfidence, and in particular that an overconfident executive usually makes many acquisitions compared with a not or less confident one. He found that abnormal returns are lower when the acquirer makes many deals, which means that the acquirer's return reduces from 2.63% after the first deal and becomes 1.25% after the second deal and the return continues to decrease to the tenth deal when it becomes 0.07%. Thus the author concluded that acquirers who made many deals (overconfident executives) had lower returns compared with those that are undertaken by firms with less confident executives who only undertake a single acquisition. This implies that managerial behaviour can be one of the most important variables in explaining acquirers' returns.

More recently, Croci et al. (2010) studied the relationship between managerial overconfidence and market valuation regarding returns to acquisitions, using a sample of UK acquisitions between 1990 and 2005 for the five-day period over the announcement day. They followed Bouwman et al. (2009) in their classification of each month into "high, neutral and low valuation", because they wanted to find out whether there was any difference in managerial behaviour according to the market situation. For their estimate of the market's valuation, they depended on the market price to earnings ratio to sort the market into these three situations. In addition, they followed Malmendier and Tate (2008) by sorting managers into two main sections as overconfident and non-confident. This is based on their decisions regarding their executive options. Managers are considered to be overconfident when they keep their options until the expiration date, and that is because they are confident that the stock price of their company will keep performing well as a result of their leadership skills. Depending on the Market Model, and trying to examine the relationship between market valuation and managerial overconfidence, they found that overconfident managers had positive and not different from zero returns for high and neutral market periods of 0.83% and 0.62%, and they had negative and significant returns for low market periods of -1.69%. Non-overconfident managers had positive and significant returns for all market periods (high, neutral and low) of 1.36%, 1.26% and 1.13%, which means that non-overconfident managers' returns show no difference between market valuation periods. Finally, it is possible to conclude that many studies find that

overconfidence among managers results in acquisition returns that are not different from zero, or are lower compared to those achieved by non-confident managers who have higher and significant returns.

In view of the literature above, this paper will investigate the effect of managers' overconfidence on acquirers' returns, in order to find whether they have a significant impact on firms' decisions and this has been done by using UK data. The researcher will sort both domestic and cross-border acquisitions depending on two measures into acquisitions which have overconfident managers and acquisitions that have less confident managers.

In the following section, the self-attribution bias has been investigated which is considered as a fundamental of managerial behaviour. To achieve this, the sample has been sorted into frequent and infrequent acquirers, and that is for acquirers undertaking both domestic and cross-border acquisitions.

5.4 Studying the self-attribution bias

Billett and Qian (2005) mentioned that according to the psychological literature, the most familiar resource of overconfidence generally is 'self-attribution bias'. According to self-attribution bias many people tend to excessively credit their own skills for good results and overly credit external factors for bad outcomes. They stated that Hirshleifer (2001) summed up the relationship between overconfidence and self-attribution bias as follows "self-attribution can cause individuals to learn to be overconfident". The authors tried to examine managerial self-attribution bias in US mergers and acquisitions by studying a series of deals made by acquirers. Depending on US data, the authors selected domestic US mergers and acquisitions between 1980 and 2002. To be included in their data, both acquirer and the target must be public firms and the deal must be also completed with a value more than one million dollars. Given these pre-conditions, they tested and studied around 4501 US mergers and acquisitions over the studied period, the authors sorted acquirers into frequent and infrequent acquirers. They defined a frequent acquirer as one that announces at least two public deals within any five-year period'. In addition, the authors used the Market Model to estimate abnormal returns for a 3-day event window (-1, +1). They found that acquirers that conducted many deals have negative and significant returns at the 1% level. For example, acquirers that made 15 to

16 deals have returns of -2.01% and -2.88%. On the other hand, acquirers who have not achieved as many acquisitions also have negative but smaller returns. For example, acquirers that have carried out two deals have returns of -1.54%. Moreover, to examine self-attribution, the authors studied whether there is a difference in returns in first deals between frequent and infrequent acquirers. Thus they tested acquirers' abnormal returns of first deal for both frequent and infrequent acquirers. They found that both infrequent and frequent acquirers have returns that are not different from zero of -0.01% and -0.031%. Thus they concluded that frequent acquirers only have significant and negative returns once they have made a number of deals.

To determine whether these differences are driven by the method of payment, the authors examined the impact of the method of payment on acquirers' returns, after separating the method of payment into three sections (cash, stock and mixed). They found that acquirers that have achieved a number of deals (higher-order deals) have more negative returns in all kinds of payment. Additionally, the authors examined whether deal characteristics (such as, the relative size of target to acquirer, the type of the deal, the industrial relationship and the method of payment) change between acquirers that have made their first deal and those that have conducted a number of deals. They measured the mean and the median for each section of acquirers. They found that acquirers who made a first deal have a larger mean compared with acquirers who have achieved many deals, and that is in respect of many variables such as the relative size of the target to the acquirer, the conglomerate deal, tender offer and the cash deal. As a result, the authors suggest that past success in mergers and acquisitions can lead to hubris in managers' investment decisions in the future.

More recently, Doukas and Petmezas (2007) examined whether acquisitions with overconfident managers can create higher returns compared with acquisitions by non-confident managers in the short and the long term. Also they shed light on self-attribution and its role in wealth effects. The authors explained that overconfident managers believe that they have great leadership skills which may motivate them to make multiple acquisitions, because overconfident managers usually underestimate the possible dangers and overvalue the potential benefits related to each deal. As a result, the authors sorted managers into overconfident and non-overconfident managers according to their merger decisions in the short term, and they considered managers who perform five or more than five acquisitions within a 3-year time period as

overconfident managers, and managers who achieve less than five acquisitions are considered as non-overconfident managers. The authors studied around 5334 successful acquisitions by UK public companies that acquired domestic and cross-border companies and that, is between the beginning of 1980 and the end of 2004. In order to study the impact of overconfidence over the short-term, the authors calculated abnormal returns for the 5-day period (-2, +2) including the announcement day and they used the Market-Adjusted model. In addition, the authors estimated abnormal returns for the long-term (first, second and third years after the announcement date) using calendar time portfolio regressions.

For the short term, they found that single acquirers gain positive and significant returns at 1% level of 1.34%, while multiple acquirers also have positive returns of 0.79%, which confirms that acquisitions by overconfident managers gain less than acquisitions with non-overconfident managers, and they fail to achieve better returns. Furthermore, to find out whether self-attribution plays an important role in acquirers' returns, the authors tried to compare between multiple acquirers' returns, and whether there is any difference between acquirers' returns after the first, second, third, fourth and fifth deal, because the self-attribution approach considers that acquisitions with a high-order (fifth deal or more) will be related to low returns compared with acquisitions with a low-order (first deal). They found that multiple acquirers have positive and significant returns of 1.72% after their first deal, and their returns decline after achieving their second, third, fourth, and fifth deal, the gain being 0.79%, 0.69%, 0.63%, and 0.49%, and this result confirms the self-attribution impact on acquirers' returns. The authors also examined acquirers' returns (overconfident and non-overconfident acquirers) regarding diversifying and non-diversifying acquisitions. They noticed that single acquirers (non-overconfident acquirers) have positive returns when they make diversifying deals of 1.37%, while multiple acquirers (overconfident acquirers) have positive and small returns of 0.73% when they diversify in their deals. In addition, the authors mentioned that both sections of acquirers (overconfident and non-overconfident acquirers) have positive and significant returns at a 1% level of 0.89% and 1.28% when they enter non-diversifying deals. Doukas and Petmezas (2007) also studied acquirers' returns according to the impact of many variables such as the relative size of the target, target origin, and Tobin's Q. They found that single acquirers (non-overconfident acquirers) have positive returns of 1.91% when the target size is large and smaller returns of 0.65% when the target size is small. On the other hand, multiple acquirers

(overconfident acquirers) have positive returns of 1.49% when they acquire a large target, and small but not different from zero returns of 0.37% when they acquire a small target. In addition, the authors studied acquirers' returns according to the target origin (domestic or foreign). They noticed that returns for single acquirers are higher than returns for multiple acquirers whatever the situation of the target firm and acquirers' returns are in the same position regarding the impact of Tobin's Q. Single acquirers have positive and significant returns of 2.16% with low Q, and 1.31% with high Q while multiple acquirers have small returns in both cases of 0.89% in low Q and 0.81% in high Q for a five-day period. This implies that single acquirers have significant returns compared with multi-acquirers which have lower returns after their first deal. The authors examined the impact of different variables on the returns of the single and multi-acquirers. They found that acquirers have significant returns when they acquire a large target compared with acquirers of small targets, and the returns of single acquirers are better with domestic and cross-border acquisitions compared with multi-acquirers.

5.5 Data

The researcher examines a sample of 1133 acquisitions in the UK from the 1 January 2000 until the 31 December of 2009. This sample is collected from the Thomson Database. The selection criteria are as follows:

- 1- the acquirer must be a publicly traded UK firm.
- 2- the firm must be listed on the London Stock Exchange (LSE).
- 3- the deal can be a domestic or cross-border one.
- 4- deals with a value less than £1 million have been excluded to avoid results which can be produced by deals with small value.
- 5- the method of payment of each deal must be available.
- 6- the sector of the acquirer and the target firm must be available as well. Deals with financial and utility acquirers/targets have been excluded.
- 7- the target can be a public or a private firm.

The total number of domestic deals is 654 acquisitions, while the total number of cross-border deals is 479 acquisitions.

The researcher relies on the classic event study methodology with estimation windows (-150 day, -20 day) with a Market Model application to investigate acquirers' abnormal returns for a 5-day window. First of all the impact of self-attribution bias for domestic

and cross-border acquirers have been investigated. Later, the directors' overconfidence has been tested via two measures and also for acquirers who conducted domestic and cross-border deals. The total number of firms in the sample has been reduced after examining the directors' overconfidence according to the two measures, and that is because of the lack of some information for some firms. (See section 3.3 for more information).

5.6 Results

5.6.1 Investigating the self-attribution bias

First of all, the researcher investigates the abnormal returns for frequent and infrequent acquirers. The number of deals which have been made by the firm itself has been counted to determine whether the acquirer is frequent or infrequent. The main reason for considering the number of deals in this research is because there is a significant relationship between overconfidence in managerial behaviour and doing a number of deals. Thus an acquirer is considered as a frequent acquirer when the firm conducted at least two acquisitions during the year before the announcement date of the deal; otherwise the acquirer will be considered as an infrequent acquirer. The number of acquirers which have been considered as frequent acquirers in the domestic sample is 262 firms and the number of the infrequent acquirers is 392 acquirers. In the cross-border sample 200 acquirers are regarded as frequent, while the number of infrequent acquirers in the cross-border sample is 261 firms.

After separating both samples into frequent and infrequent acquirers, the classic event study methodology has been applied to calculate the abnormal returns depending on the Market Model, and that is for a 5-day window over the announcement date of the deal. It is necessary to mention that the researcher investigates returns for a 3-day window over the announcement date in order to check the robustness of the results.

Regarding the results for domestic frequent and infrequent acquirers, the following table will present the abnormal returns for both sections.

Table 5. 1 Abnormal returns for domestic acquisitions according to self-attribution bias

	Infrequent acquirers		Frequent acquirers		Differential between CAR	t-stat of difference
Window	CAR	t-stat	CAR	t-stat	Infrequent-frequent	Infrequent-frequent
-2 to +2	1.30	2.53	0.96	1.86	0.34	0.65
-1 to +1	1.13	2.43	0.92	2.02	0.21	0.45

Notes:

This table introduces abnormal returns for UK domestic acquisitions between 2000 and 2009 in relation to self attribution bias. The domestic sample has been divided into two sections depending on the number of deals which have been done one year before the announcement day of the deal. The first section includes the frequent acquirers which conducted two deals in year before the announcement day of the deal. The total number of frequent acquirers is 262. The second section includes infrequent acquirers which have not done any deal during the year before the announcement day of the deal. The total number of infrequent acquirers is 392 acquirers. The abnormal returns are calculated for a 5-day event window depending on the market model.

One can note that frequent acquirers have lower returns compared with infrequent acquirers who have higher returns for the studied window. Over the announcement date, the frequent acquirers yield CAR of 0.96%, which is significant, while the infrequent acquirers have CAR of 1.30% for the 5-day window. These results are consistent with Billett and Qian's (2005) results in a few points, because Billett and Qian (2005) studied the managerial self-attribution of USA acquisitions depending on the number of deals. According to their study, they found that frequent acquirers that have carried out a number of deals have lower abnormal returns compared with acquirers that have done just one or two acquisitions. Moreover, these results are consistent with Doukas and Petmezas (2007) in several respects. They considered in their study overconfident acquirers who made more than five deals within a three years period, and not overconfident acquirers who have done less deals than that. They investigated abnormal returns over the short term of a 5-day window (-2, +2) around the announcement day. They found that overconfident or multiple acquirers have positive but small returns of 0.79%, while the single or not overconfident acquirers have higher returns of 1.34%, significant at a 1% level.

Additionally, the abnormal returns for cross-border frequent and infrequent acquirers have been calculated. It is significant to mention that some firms have been excluded because some of them made more than one deal. Thus to avoid counting the firm twice or more they have been excluded. Here the results show that there is a difference between the returns for both sections of the cross-border sample (although not significant), as outlined in the following table.

Table 5. 2.Acquirers' returns for cross-border acquisitions in relation to self-attribution bias

	Infrequent acquirers		Frequent acquirers		Differential between CAR	t-stat of Difference
Window	CAR	t-stat	CAR	t-stat	Infrequent-frequent	Infrequent-frequent
-2 to +2	0.68	1.55	0.23	0.52	0.42	1.01
-1 to +1	0.67	1.79	0.08	0.21	0.59	1.57

Notes:

This table presents abnormal returns for UK cross-border acquisitions between 2000 and 2009 according to the self-attribution bias. The cross-border sample has been divided into two sections. The first section includes frequent acquirers which conducted at least one acquisition within one year before the announcement day of the deal. The total number of the frequent acquirers is 213 acquirers. The second section consists of infrequent acquirers which have not done any deal prior to the announcement day of the main deal. The total number of infrequent acquirers is 266 firms. The abnormal returns have been calculated for a 5-day event window depending on the event study and the Market Model.

One can find that infrequent acquirers have higher returns compared with frequent acquirers which have returns that are not different from zero, and that is for both the studied windows. This confirms the idea that multiple or frequent acquirers have lower returns over the short term around the announcement date. See Doukas and Petmezas (2007).

Earlier results in tables 5.1 and 5.2 confirm the idea that self-attribution is considered as a basis for managerial behavior. There is a significant explanation for having lower returns for frequent acquirers that conduct many acquisitions within a short period of time, as this gives a sign to the market that those managers are very optimistic about the future success of their mergers and acquisitions. As a result, they have a tendency to overpay for their targets. (Doukas and Petmezas, 2007)

5.7 Summary

This chapter investigates managerial behavior by examining the ‘self-attribution bias’ of acquirers. The researcher divides the domestic and cross-border samples into frequent and infrequent acquirers. An acquirer is classified as frequent when the firm conducted at least two acquisitions during the year before the announcement date of the deal, otherwise the acquirer will be considered as infrequent. Event study methodology has been applied to calculate the acquirers’ returns. The results show that infrequent acquirers which conduct domestic acquisitions have significant returns compared with frequent acquirers. On the other hand, infrequent acquirers which make cross-border deals have higher returns compared with frequent returns, although the difference is not significant. Earlier results confirm that ‘self-attribution bias’ leads managers to be overconfident, which in turn is related to the idea of ‘hubris theory’; that indicates that overconfident or frequent acquirers have lower returns because of their high confidence in their managerial skill in generating or predicting future returns, and leads or encourages them to make many deals.

Chapter 6: Insider trading and acquirers' returns of domestic and cross-border acquisitions

Insider trading and acquirers' returns of domestic and cross-border acquisitions

6.1 Introduction

This chapter investigates the link between the private investment decisions of the directors of the firm, and the firm's investment in respect of the acquisitions it makes. Thus the insiders' trades could simply be indicative of the director's private information. To examine this relationship, the researcher depends on two different methods to sort both the domestic and cross-border acquisitions into deals where directors are classified as being either optimistic or neutral. The motive on which the use of these two different measurements is used to sort the sample into optimistic and neutral directors is to determine whether the acquirer's returns will differ according to the different methods used in sorting the sample.

This chapter is organized as following. The first section includes a literature review that introduces basic details about insider trading. The next section presents the major methods that have been used to measure the relationship between private investment decisions and the firm's investment in respect of the number and the amount of acquisitions it conducts. The last section introduces the main results according to the earlier methods.

6.2 Literature review

Understanding whether and when to invest the firm's resources is a very significant decision, and it is considered as the most important decision that can be considered by the firm's directors (Boehmer and Netter, 1997). Furthermore, according to Roll (1986) it is important to recognize managerial behavior around corporate actions and try to explain their motivations.

Elliot et al. (1984) point out that purchasing usually increases before the announcement of 'good earnings' and selling also increases prior to the announcement of 'bad earnings'. The authors conclude that the main explanation for insider transactions is the availability of information to the insider. Seyhun (1990) examines the trading of the bidder's managers around the announcement date. He finds that managers increase their net purchases before the announcement date of the acquisition.

6.3 Examining the insider trading decisions

The researcher investigates in the following section the link between the private investment decisions of directors and the firm's investment regarding the acquisitions it makes, depending on two methods to sort the sample into those that are optimistic and those that are neutral directors. The reason which leads to relying on two different methods in sorting the sample is to determine whether the acquirers' returns will differ, if different methods have been used in sorting the sample into optimistic and neutral directors. The researcher also considers in calculating acquirers' returns transactions which have been done within one year before the announcement date of the deal.

6.3.1 The number of transactions method

The first method which the researcher considers in sorting the sample into optimistic and neutral directors depends on the number of personal transactions undertaken by the directors, which means the number of buys of stocks and the number of sales of stocks which have been carried out by directors. This method considers counting the number of transactions within one year before the announcement of the deal. The directors of the firm can be regarded as being optimistic when the number of buys is larger than the number of sales by more than two transactions, otherwise the directors will be considered as neutral. For example, the director of Trinity Mirror makes 13 buys and zero sales, and according to this method the director of this firm can be considered as being optimistic about the firm's prospects during these three years.

6.3.2 The amount of transactions method

The second method which the researcher considers in sorting the sample into optimistic and neutral directors depends on the amount of shares bought or sold within the personal transactions undertaken by directors, which means the amount of stock bought and the amount of stock sold by the directors. This method considers counting the amount bought or sold within one year before the announcement of the deal. The directors of the firm can be regarded as being optimistic when the difference between the two amounts is positive because an optimistic director keeps buying stocks and

reduces his selling, and that is due to his optimism about being able to achieve future profits, otherwise the directors will be considered as neutral.

The following section introduces the main results according to these earlier two methods. The Market Model has again been applied to calculate the acquirers' returns after dividing the respective samples according to the measures used.

6.4 Results

The main results have been divided into two parts according to two previous methods outlined above to sort the sample into deals that include neutral and optimistic directors for both domestic and cross-border acquisitions.

6.4.1 Results for domestic acquisitions

First of all, regarding domestic acquisitions which are included in the sample, the total number of those acquisitions is 654, but when these acquisitions are sorted according to their managerial behaviour, the researcher has to drop some firms, because there were no directors' transactions for these firms.

The following table 6.1 shows the total number of firms after sorting them according to the managerial behaviour within the firms, into firms with neutral directors and firms with optimistic directors, and that is estimated for the one year period before the announcement date of the deal. It is important to add that the difference between the number of optimistic and neutral acquirers according to earlier methods comes from the difference between two methods in sorting the sample. For example, depending on the amount method acquirer may be considered as optimistic one while he/she may be considered as neutral one according to the number of transaction method because he/she did not do many transactions.

Table 6. 1. The number of domestic acquisitions after sorting the sample depending on two methods for one year before the announcement date of the acquisition

<i>The type of directors for domestic deals</i>	<i>The number of deals according to the number of transactions method</i>	<i>The number of deals according to the amount of transactions method</i>
Neutral	215	150
Optimistic	185	230

Notes:

This table includes the number of UK domestic acquisitions after sorting the sample relying on two methods into deals which include optimistic directors and acquisitions which consist of neutral directors. The first method is the number of transactions method which considers the number of buys and the number of sales which has been carried out by directors of the firm. The second method is the amount of transactions method; this method considers the amount of transactions that have been made by directors of each firm. The total number of domestic sample is 654 deals, but it is reduced because of the lack of information. This table considers transactions which have been done by directors within one year before the announcement day of the acquisition.

6.4.1.1 Results according to the number of transactions method

This section will introduce the abnormal returns for domestic acquirers after sorting the sample according to the number of transactions method based on the one year prior to the announcement date of the deal.

According to the number of transactions method the total number of the domestic sample has been reduced to 400 deals, because of the lack of information availability for some firms. The number of sales and buys which directors of the firm make during the one year before the announcement date of the deal for each acquisition have been considered. The following table introduces acquirers' returns for the domestic sample after sorting them according to the first method one year before the announcement date. It is important to mention that a 3-day window has been considered in the following results, and that is for a robustness check.

Table 6. 2. Acquirers' returns for domestic acquisitions in relation to the number of transactions made by directors within one year of the announcement date of the acquisition

Window	Optimistic director		Neutral director		Differential between CAR	t-stat of differential
	CAR	t-stat	CAR	t-stat	Optimistic-Neutral	Optimistic-Neutral
-2 to +2	1.60	2.80	0.16	0.28	1.44	2.67
-1 to +1	1.53	3.38	-0.004	-0.01	1.54	3.59

Notes:

This table includes results for UK domestic acquisitions after sorting the sample into optimistic and neutral directors, and that is based on the number of transactions method. This method relies on the number of buys and the number of sales which have been done by directors of the firm, and sorting the sample into deals with include optimistic and neutral directors. Thus the director can be considered as optimistic if the number of buys is larger than the number of sales by at least two transactions, otherwise they will be regarded as neutral. These results are for transactions which have been achieved within one year before the announcement date. The total number of domestic sample has been reduced to 185 deals which have optimistic directors and to 215 neutral directors, and that is because of the lack of trading information. Acquirers' returns have been calculated depending on the Market Model for a 5-day event window.

It is clear from table 5.4 that firms with optimistic directors generate significant returns at and after the announcement date compared with firms with neutral directors. For example, for the window -2, +2 the CARs for optimistic directors is 1.60% (with t-statistic of 2.80) and the CARs for neutral directors are 0.16% (with t-statistic of 0.28).

6.4.1.2 Results according to the amount method

This part will present the abnormal returns for acquirers that have made UK domestic deals after sorting the sample depending on the amount of transactions method. This method sorts the acquisitions by those that have optimistic directors and acquisitions which have neutral directors depending on the difference between the amount of purchases and the amount of sales. The directors are considered as optimistic if the difference is positive, because optimistic directors continue buying stocks and reduce their sales, and that is due to their optimism in achieving future profits. Alternatively, directors can be regarded as being neutral. The sample has been sorted according to this difference and included all related transactions that have been carried out by directors for just one year before the announcement date. The following table 6.3 presents the abnormal returns for acquirers that have directors classified as optimistic and neutral

based on their transactions carried out during the one year period before the announcement date of the acquisition.

Table 6. 3. Acquirers' returns for domestic acquisitions after sorting by the amount method for transactions made within one year of the announcement date of the acquisition

	Optimistic director		Neutral director		Differential between CAR	t-stat of differential
Window	CAR	t-stat	CAR	t-stat	Optimistic-Neutral	Optimistic-Neutral
-2 to +2	1.55	2.94	-0.16	-0.28	1.71	3.32
-1 to +1	1.26	2.96	0.01	0.02	1.27	2.99

Notes:

This table includes results for UK domestic acquisitions after sorting the sample into optimistic and neutral directors based on the amount method. This method relies on the difference between the amount of purchases and the amount of sales in sorting deals which have optimistic directors and deals which have neutral directors. Directors are considered as optimistic if the difference is between positive, otherwise they will be considered as neutral. These results are for transactions within one year before the announcement date of the acquisition. The sample has been reduced to 230 deals which have optimistic directors and 150 deals which have neutral directors and that is because the lack of information. Acquirers' returns have been calculated depending on the Market Model for a 5-day event window.

It is clear from table 6.3 that firms with optimistic directors have significant returns for -2, +2 window compared with firms with neutral directors. These results are the same when the researcher depends on sorting the sample by the number of transactions method. It is significant to add that earlier results of domestic acquisitions confirm the idea which suggests that optimistic managers increase their purchases or ownership around the announcement date because they turn out to be optimistic about their acquisition plans. This means that the abnormal returns for acquirers with optimistic directors will be higher when personal transactions have been considered as a measure of managerial behavior. (Doukas and Petmezas, 2007)

6.4.2 Results for cross-border acquisitions

The researcher investigates the abnormal returns to acquirers that conducted cross-border deals. Acquisitions have been sorted according to the two different methods. The essential number of the cross-border sample is 479 deals, but this number is reduced after sorting the sample according to the two different methods. As before, the

first method is the number of transactions method, the difference between the numbers of buys and sells undertaken by the directors. The second method is the amount of transactions method; this method considers the difference between the amount of purchases and the amount of sales. The directors are considered as optimistic if the difference is positive, otherwise the directors will be considered as neutral. The following table 6.4 introduces the number of cross-border deals and that after sorting the deals according to the two methods, but now based on directors' personal transactions undertaken within one year of the announcement date of the acquisition.

Table 6. 4.The number of cross-border acquisitions after sorting the sample depending on two different methods for transactions which have been done within one year of the announcement date of the deal

<i>The type of directors for cross-border deals</i>	<i>The number of deals according to the number of transactions method</i>	<i>The number of deals according to the amount of transactions method</i>
Neutral	150	159
Optimistic	190	205

Notes:

This table includes the number of cross-border acquisitions after sorting the sample depending on two methods into deals that include optimistic directors and acquisitions which consist of neutral directors. The first method is the number of transactions based on the difference in the number of buys of and the number of sales conducted by directors of the firm. The second method is the amount of transactions method; which considers the difference between the amount of purchases and the amount of sales that conducted by directors. The total number of the cross-border sample is 479 deals, but this is reduced after sorting the sample due to the lack of information. This table considers all transactions carried out within one year of the announcement date of the acquisition.

6.4.2.1 Results according to the number of transactions method

After sorting the cross-border sample depending on the number of transactions method, the total number of firms in the cross-border sample was reduced to 340 acquisitions, and that includes 190 acquisitions with optimistic directors and 150 acquisitions with neutral directors. The following results in table 6.5 represent the transactions carried out within one year of the announcement date of the deal.

Table 6. 5. Acquirers' returns for cross-border acquisitions depending on the number of transactions method for transactions within one year of the announcement date of the deal

	Optimistic director		Neutral director		Differential Between CAR	t-stat of differential
Window	CAR	t-stat	CAR	t-stat	Optimistic -Neutral	Optimistic -Neutral
-2 to +2	1.29	2.64	0.11	0.19	1.18	2.32
-1 to +1	0.85	2.11	0.04	0.10	0.81	1.92

Notes:

This table includes results for UK cross-border acquisitions after sorting the sample into optimistic and neutral directors, and that depend on the number of transactions method. This method relies on the number of buys and the number of sales which have been done by directors of the firm in sorting the sample into deals which have optimistic directors and deals which have less optimistic or neutral directors. Directors can be considered as optimistic if the number of buys is larger than the number of sales by more than two transactions, otherwise they will be considered as neutral. These results are for transactions which have been achieved within one year before the announcement date of main deal, the total number of sample has been reduced to 190 deals with optimistic directors and 150 deals with neutral directors because the lack of information. Acquirers' returns have been calculated depending on the Market Model for a 5-day event window.

It is clear from the table 6.5 that deals with neutral directors have returns that are not different from zero. For example, CARs for neutral directors in the window -2, +2 are 0.11% while CARs for optimistic directors generate significant returns of 1.29% for the same window. It is important to mention that a 3-day window has been examined and that is to allow a robustness check.

6.4.2.2 Results according to the amount of transactions method

After sorting the cross-border sample according to the amount measure, the total number of cross-border acquisitions is reduced to 364 deals (205 acquisitions with optimistic directors and 159 acquisitions with neutral directors). The following table 6.6 reports the results.

Table 6. 6. Acquirers' returns for cross-border acquisitions based on the amount of transactions method including transactions within one year of the announcement date of the acquisition

	Optimistic director		Neutral director		Differential between CAR	t-stat of Differential
Window	CAR	t-stat	CAR	t-stat	Optimistic-Neutral	Optimistic-Neutral
-2 to +2	1.42	3.29	-0.23	-0.35	1.65	3.63
-1 to +1	1.06	2.78	-0.24	-0.47	1.30	3.32

Notes:

This table includes results for UK cross-border acquisitions after sorting the sample into optimistic and neutral directors, and that depends on the amount of transactions method. This method relies on the difference between of the amount of purchases and the amount of sales in sorting the sample into deals with optimistic directors and deals with neutral directors. Directors can be considered as optimistic if the difference is b, positive otherwise they will be considered neutral. These results are for transactions which have carried out within one year before the announcement date of the deal, the total number of cross-border sample has been reduced to 205 deals which have optimistic directors and 159 deals which have neutral directors because the lack of information. Acquirers' returns have been calculated depending on the Market Model for a 5-day event window.

It is evident from table 6.6 that deals with neutral directors again have lower returns compared with deals made by firms with optimistic directors and that is for the studied window. For example, one can note that optimistic directors have significant returns of 1.42% which are considerably larger than that achieved by firms with neutral directors. This makes those results consistent with the results presented in table 6.5, which leads to the conclusion that the abnormal returns for acquirers that conduct cross-border deals with neutral directors have lower announcement returns compared with deals conducted by firms with optimistic directors in the same sample.

It is notable from the previous results that depending on both methods in sorting the cross-border sample, neutral directors have low returns compared with the returns of optimistic directors.

The following section investigates robustness check for two major issues. The first one is considering abnormal returns for a 3-day window. The second issue considers testing the sensitivity across earlier methods that have been used to examine directors' behaviour.

6.5 Robustness check

Measuring the link between the private investment decisions of directors of each firm and firm's investment according to acquisitions it makes over 5-day window throughout this chapter considers also examining managerial behavior for a 3-day window. Thus this section sums up abnormal returns after examining the earlier idea for a 3-day window, and that is to find out whether there is any difference in acquirers' returns between the studied window and a 3-day window. The following table presents acquirers' returns for domestic and cross-border acquisitions after considering the earlier idea for a 3-day window.

Table 6. 7. Checking the robustness for abnormal returns for a 3-day window

<i>Insider trading decisions</i>	<i>Domestic acquisitions</i>	<i>Cross-border acquisitions</i>
<u>The number of transactions method</u>		
Optimistic Directors	1.53 (3.38)	0.85 (2.11)
Neutral Directors	-0.004 (-0.01)	0.04 (0.10)
<u>The amount of transactions method</u>		
Optimistic Directors	1.26 (2.96)	1.06 (2.78)
Neutral Directors	0.01 (0.02)	-0.24 (-0.47)

Notes:

This table presents acquirers' returns for a 3-day window for domestic and cross-border acquisitions. The sample includes 1133 UK acquisitions that have been conducted between 2000 and 2009. The total number of domestic sample is 654 acquisitions, while the total number of cross-border acquisitions is 479 deals. The target can be a private or a public firm. The acquiring firms must be public firms that are listed on LSE. It is significant to add that the total number of both domestic and cross-border acquisitions has been reduced after considering two measures to examine insider trading. The first method is the number of transactions method. This method considers the number of personal transactions that have been conducted by directors. The director can be regarded as optimistic if the number of buys is larger than the number of sales by two transactions. The second method considers the amount of transactions. This method relies on the difference between the amount of the buys and the amount of sales. The director is considered as optimistic if the difference is positive otherwise he is considered as neutral. Numbers between brackets are t-stat for acquirers' returns.

It is notable from table 6.7 that examining acquirers' returns for a 3-day window does not show any big difference from the acquirers' returns that have been examined for a 5-day window. Furthermore, measuring the relationship between private investment decisions and the firm's investment according to the acquisitions it makes depending on directors' personal transactions produces for a 3-day window almost similar results compared to the 5-day window. The following table presents overlapping observations across all measures which investigate the link between the private investment decisions and the firm's investment regarding acquisitions it makes.

Table 6.8. Overlapping observations

<i>Insider Trading Decisions</i>	<i>Domestic Acquisitions</i>	<i>Cross-border Acquisitions</i>
Optimistic Directors	2.06 (3.03)	1.77 (3.31)
Neutral Directors	-0.82 (-1.21)	-0.42 (-0.46)

Notes

This table presents results for overlapping observations across two methods which have been used. The first method considers the number of transactions that have been carried out by directors. The second method depends on the difference in amounts of transactions in sorting the sample into optimistic and neutral directors. These results are for a 5-day window. The number of optimistic directors in domestic sample is 175 and in cross-border sample is 166, while the number of neutral directors in domestic sample is 110 and in cross-border sample is 123. Numbers between brackets are t-stat.

Earlier results in table 6.8 show that optimistic directors produce higher returns for both domestic and cross-border acquisitions compared with neutral directors. This leads us to summarize the major findings in this chapter.

Optimistic directors of both domestic and cross-border acquisitions produce significant returns compared with neutral directors. These results confirm that optimistic directors increase their transactions around corporate events such as acquisitions. Measuring the relationship between private investment decisions of directors and firm's investment regarding the acquisitions it makes has its own influence on returns of directors who make many transactions around the announcement date of acquisition.

6.5 Summary

This chapter investigates the relationship between private investment decisions of directors and firm's investment regarding the acquisitions it makes. For these terms, both domestic and cross-border samples have been sorted depending on two different methods. The first method is called the number of transactions method. This method depends on the number of buys and the number of sales which have been done by directors of the firm. The directors of the firm will be considered as optimistic if the number of buys is larger than the number of sales by at least two transactions, otherwise they will be considered as neutral. The second method is called the amount of transactions method. This method relies on the difference between the amount of purchases and the amount of sales. Directors will be considered as optimistic if the difference is positive otherwise they will be neutral. The researcher includes all such personal transactions that have been achieved within one year prior to the announcement date of each acquisition. The results indicate that optimistic directors of domestic and cross-border acquisitions produce significant returns compared to neutral directors and that according to previous used methods.

Chapter 7: Synergy Gains and Operating Performance for Acquirers with Public Targets

Synergy Gains and Operating Performance for Acquirers with Public Targets

7.1 Introduction

While many studies have investigated acquirers' abnormal returns around the announcement of an acquisition, others have tried to examine the synergy gains that accrue to an acquisition. The major motive for that is to determine whether these investments can create real economic gains or not.

In this chapter, synergy gains have been investigated for 94 UK successful acquisitions. The researcher includes in this chapter domestic and cross-border acquisitions from 2000 until 2006. Further, the operating performance has been measured over a three-year period, and that includes the years after the announcement year. Later, the researcher runs a regression for the operating performance against four different variables to find whether there is any change in the operating performance according to these variables. For a detailed review of the synergy gains, see (Bradley et al, 1988; Hayn, 1989; Kim, Singal, 1993) and for operating performance, see (Healy et al. 1992; Linn, Switzer, 2001; Powell, Stark, 2005).

This chapter is organised as follows: The first section is the literature review that includes more detail about the synergy gains. The second section consists of the data and methodology that has been used in this chapter. The third section introduces the main results after investigating the synergy gains for acquiring firms with public and domestic targets. The next two sections include a study of the operating performance and the major results for acquirers. The final section sums up the whole chapter.

7.2 Literature review

Many studies in corporate finance have revealed that acquisitions usually result in significant gains for shareholders of target firms, and smaller gains in returns for shareholders of acquiring firms (Hayn, 1989). Considering and understanding the source of the gains is very significant for the merging firm, and also it may reduce the resistance towards acquisitions which can come sometimes from target firms or even from antitrust authorities.

In addition, the combined firm sometimes creates a cash flow with a net present value in excess of the market value of the bidder and the target firms. Investigating the sources of these gains will help to determine which components have changed as a result of the acquisition. On the other hand, studying abnormal returns does not give a clear picture of whether these returns are real economic gains, thus one should consider investigating synergy gains (Jensen, Ruback, 1983). Different explanations have been given regarding the source of these gains, but the main studies consider that tax and market power are the major sources of acquisition gains (See Hayn, 1989).

There is empirical evidence that corporate acquisitions achieved via tender offers increase shareholders' wealth for both the target firm and the acquiring firm. These gains may be caused by the combination of the target and the acquiring firms' resources, which lead to the synergies theory (Bradley, Desai, Kim, 1988). In addition, the increase in the stock market value of the merging firms may come as a result of 'the value creation', and the value creation in turn may occur as a result of improved managerial effectiveness, improved production methods or other synergy gains (Kim and Singal, 1993). Previous research stated that mergers raise the joint equity value of both the target and the acquiring firms, which increases the importance of searching for sources of merger gains that may have occurred because of market power, taxes, or efficiency developments. (Devos, Kadapakkam, Krishnamurthy, 2009)

Jensen and Ruback (1983) mentioned that synergy gains may come from different sources. They explained that these gains usually happen during the adoption of some new production or organisational technology, or through reducing agency costs. Also these synergy gains may come from tax savings or tax advantages by reducing the tax paid previously by the acquirer and the target firms separately. Furthermore, they added these ideas confirm that combined firms produce cash flows with a net present value which extends the market value of the bidding and the target firms.

Bradley et al (1988) studied the importance of synergistic gains that are created via tender offers, which were defined according to Dodd and Ruback (1977) as a cash or stock bid by one firm 'the bidder' for a block of another firm's outstanding common stock, and the stockholders accept the offer by tendering their stocks or not tendering their stocks to retain ownership of the target firm. Thus Bradley et al. (1988) depended on the re-estimation of the joint wealth of shareholders of both the target and the

acquiring firms. Their sample includes 236 pairs of successful tender offers made during 1962-1984. They defined the total synergistic gains to a tender offer as 'the sum of the change in the wealth of the target stockholders and the change in the wealth of the stockholders of the acquiring firm'. They divided the studied period into three sub-periods. The first one begins from 1962 and ends in 1968 and this period is totally free from any government regulation. The second period begins in 1969 and ends in 1980, and by this period takeovers have been regulated via the government. The last period begins in 1981 and ends in 1984. Within this period the corporate market has witnessed many changes such as the beginning of 'investment banking firms' whose interest is mainly in funding corporate takeovers. Thus the authors are interested to discover whether these changes within this period have any impact on the synergistic gains created by tender offers. They relied on the Market Model to estimate total synergistic gains, from five days before the announcement of the bid through also to five days after that announcement. Depending on the cumulative abnormal returns, the authors calculate the synergistic gains that are created via a tender offer. They found that the total sample of tender offers produced an average synergistic gain of \$67 million for the total studied period (1962-1984), and total gains for the first period on average was \$21 million. They noted that gains grew over the years. For example, the total gains increased from \$38 million for the second period (1969-1980) to \$187 million by the end of the third period in 1984. The authors also noted that the value of both the target and the acquiring firms increased as well, and that was the result of many factors such as inflation and the general growth of the economy which have their own impact on the value of firms. Also the beginning of investment banking firms during the third studied period enhanced the ability of firms to increase their funds and capital quickly when required, which affected firms' value positively and increased their capital. To summarise, they found that successful tender offers generated significant synergistic gains, and these gains increased over the years. The main reason for these increases was the rise in the value of firms involved in acquisitions, but when they control for the change in the value of the firm, they noticed that the synergistic gains remained stable for the whole studied period. Thus they concluded that changes in the environment of the economy have no effect on gains which are created via tender offers.

Hayn (1989) considered the magnitude of target firms' tax roles in attracting acquisitions. The author mentioned that acquisitions commonly can be categorised according to the tax situation, into taxable, partly taxable and tax-free acquisitions for

the target firm's shareholders. This categorisation will have its own impact on any benefit or loss that may be achieved via the acquisition. For example, for totally taxed acquisitions, gains or losses will be announced to the target firm's shareholders in the year of sale, while in part-tax acquisitions some benefits or losses will be known and the rest will be postponed because of tax. The situation will differ for the shareholders of acquiring firms, because the author considered just the taxable and the tax-free acquisitions, while part-tax acquisitions will be considered as taxable or tax-free acquisitions depending on the structure of the deal. Hayn studied a sample of 640 acquisitions made between 1970 and 1985. The author calculated firms' returns using an event study, and that for the announcement period according to the tax situation and the type of the deal (tender offer or merger). She determined the announcement period as a 15-day period which begins from day -9 and ends at day +5 with day 0 as the announcement day of the deal which is the first day when the acquiring firm appears in the *Wall Street Journal* as a possible acquirer. The main results showed that abnormal returns are better for tender offers compared with mergers over the announcement period and it is important to add that tender offers are usually made via public offers, while mergers are made via private negotiations (See Berkovitch and Khanna, 1991). On the other hand, all tender offers are taxable deals, while mergers are divided between taxable and tax-free deals. The relationship between target and acquiring firms' returns and the role of tax has been studied by means of a cross sectional regression where returns are considered as the dependent variable and the tax and other variables such as net operating loss carryforwards and unused tax credits, capital gains tax, relative size, the step up, and the type of the deal are independent variables. The author added that net operating loss carryforwards and unused tax credits may explain part of firms' abnormal returns.

In addition, the author found that tax-attributes in tax-free acquisitions for target firms are better compared with acquiring firms' results, and that is because target firms have higher t-statistics compared with acquiring firms. Also target firms have high coefficients of net operating loss carryforwards and unused tax credit of 0.25 and 0.43 compared with 0.14 and 0.21 for acquiring firms. For taxable acquisitions, the situation differs for acquiring firms, because they have higher results for major variables compared with the target firm. This indicates that some benefits may come from net operating loss carryforwards and unused tax credits for tax-free acquisitions, while

capital gain and step up may have their own impact on firms' returns of taxable acquisitions.

Healy et al. (1992) studied the post merger cash flow performance of both the target and the acquiring firms. The authors also tried to determine whether takeovers can generate actual gains, and they investigated the sources of these gains. They mentioned that gains from mergers may come from different sources such as operating synergies, tax savings, and transfers from employees. To determine these gains and their sources, they studied the largest 50 US acquisitions which happened between January 1979 and June 1984. They chose these for several reasons, such as, if there are any economic gains from acquisitions, their impact will be clearer in the largest acquisitions. Also the manual collection of data is easier with this small sample.

They depended on the pre-tax operating cash flows for the target and the acquiring firms in order to determine the cash flows for the combined firm from year five before the merger until year five after the merger. They defined the operating cash flow returns as 'the ratio of operating cash flows during a given year to the market value of assets at the beginning of that year'. They found that the median of cash flow increases are 14% at year-1 to 1, 17% at year -1 to 2, and 16% at year-1 to 3 and 4, and 9% at year-1 to 5. This indicates that these changes in cash flows and assets cannot be recognized by the merger at post-bid period.

Kim and Singal (1993) tested whether mergers increase market power, and they did that by studying the airline industry. They depended on the product price instead of the stock price; because any changes in the product price of merging firms may have its impact on efficiency and market power. The major reason that led them to choose airline industry data to examine market power was because each route can be measured and studied as a separate market. The routes that are not affected by mergers can be considered as the 'control group', which help to capture any change in industry variables such as fuel costs, seasonal changes, or even airfare changes. The sample comprises 14 airline mergers made between 1985 and 1988. The essential data consists of 27 airline mergers but they drop 13 mergers because of insufficient information. They collect information about the acquirer, the number of passengers, the target and the number of air routes that are affected by those mergers. They compared the change of fare in the sample route with the average fare change in its control group. Later, they

considered some hypotheses to be tested. First of all, they studied whether or not mergers raise airfares of combined firms compared with their control group. If the merger produces an efficiency gain, then this will have an impact on the marginal cost which will lower the price in the absence of market power. Thus they wanted to find out what the situation would be in order to examine the existence of both the market power and the efficiency gains. Secondly, they examined the relationship between the price changes of merging firms and the concentration of the market. Finally, they test whether the fare changes over the announcement period are because of the market power effect and the changes during the completion period are because of the balance impact of market power and efficiency gains. The authors studied earlier hypotheses for normal firms' mergers which does not include any firm in financial difficulty and for failing-firm mergers which include firms in financial difficulties. They found that during the announcement period the merging firm and its rival firms (which are defined as airlines that serve sample routes) increase their fares by 11 and 13 percent, and that is between firms which did not suffer from any financial difficulties, while firms with financial difficulties drop their prices by 19 percent. In the authors' opinion that is to attract more consumers who may have a negative mindset after the announcement of the merger, or to increase the firm's cash which will help them to improve their financial situation. At the completion period both combined firms and their rivals cut their prices by a relative average of 9 percent and 5 percent, and that is for normal-firm mergers, while failing-firm mergers increase their price by an average of 40 percent. Both authors concluded that this introduces evidence that the changes in fare price are due to the increase in market power, and also these changes in prices are due to market concentration and are not affected by any other variables.

Hanson and Song (1997) investigated synergy gains for the acquirer and the target, and also the total gains which may be produced by divestitures. Also they expanded this idea to study the role of the ownership and board structure in allocating these gains. They stated that divestitures usually create gains in each firm for two main reasons. First of all, asset sales produce value and that for the divesting firm because it helps to eliminate negative synergies. In addition, sales will help to correct previous mistakes by the firm, such as the effects of failed deals. On the other hand, the buyer of the firm usually gains positive synergies via economies of scale. The authors think that there are major roles to the stock ownership and to the board structure in the division of these gains, and that is for several reasons. Firstly, when managers have a large share of

stock, this will force them to be good bargainers when making the deal. Also this will motivate them to sell assets which reduce the firm's value. Secondly, a small share of stock may lead the managers sometimes to acquire or make deals which are more valuable to their shareholders. Additionally, the board structure of the firm has a key role in advising and monitoring managers when doing their job and that role differs from one firm to another.

According to the authors' earlier discussion, they studied 96 divestitures announced between April 1987 and July 1991. In addition, they calculated total synergies for the seller and the buyer following Bradley et al.'s (1988) method, and that for an 11-day window. They found that the average value of the transaction is \$233.32 million, and the average of the market value of the buyer is higher than the average of the market value of the seller, and that is before the divestiture. Further, the authors mentioned that sellers have positive dollar synergy gains of \$6 million, while buyers have synergy gains of minus \$59 million, and the total synergies for the divestiture is still minus \$53 million. This indicates that divestitures do not create any synergy gains. Finally, regarding the ownership role in synergy gains, they find that officers and directors own around 10.2% and CEOs on average 4.1% of the firm's shares. Regarding the board structure role, they found that outside directors make up around 47% of the average board. This also allowed them to conclude that both managerial ownership and board structure have a significant role in making these divestitures.

Houston, James and Ryngaert (2001) investigated in their study the sources of merger gains in the banking sector. They focused in their research on large acquisitions made in the banking sector over 12 years (1985-1996). They chose large acquisitions in the banking sector because studying large acquisitions allows them to capture any improvements in performance, and also helps them to explain the bank consolidation process which took place between the 1980s and 1990s. They examine whether management valuations of deal gains will have an impact on the stock market's valuation of the merger benefits, and for that they calculate the present value of the after-tax cost saving and revenue gains from mergers. They divide the study period into two main parts. The first is between 1985 and 1990, and that is to help them to explain the bank consolidation process which happened at that time. The second part includes the years between 1991 and 1996. They calculate abnormal returns for the combined firms and for the acquirer and the target as well, and that is from four days before the

acquirer and the target become involved in the merger until one day after the announcement date. They found that the combined firms have returns of 1.86% over the whole study period, while deals made between 1985 and 1990 have lower returns of 0.14% compared with transactions made after 1991 with returns of 3.11%. While acquirers have negative returns for both periods of -4.64% and -2.61% compared with target firms which have positive and very high returns of 15.58% and 24.60% for both periods. Furthermore, they calculate the combined returns for the acquirer and the target, and they found that there is an increase in the value of the acquirer and the target of an average of \$165 million, and that mainly comes from transactions which occurred between 1991 and 1996. To find out the sources of the merger gains, they estimate the present value of merger gains via calculating the after-tax cash flows. They found that the mean of total gains is \$765.05 million, with a median of \$369.06 million. They mention that most of these earnings come from expected net cost savings which are estimated by calculating the present value of net cost savings with an average of \$711.36 million and with a median of \$367.09 million.

Andrade, Mitchell and Stafford (2001) investigated abnormal returns and gains from mergers between 1973 and 1998, both for the acquirer and the target as well as for the combined firm. They presented in this research the type of industry shock deregulation which was very important in the earlier years, and became a major factor leading to merger activity at and after the late 1980s. They suggest that this kind of industry shock can create new investment chances for industry and can also remove many of main difficulties to merging and consolidating. The authors also divide the studied period into three main parts, in order to find out the difference in returns before and after late 1980s. The first part includes the years from 1973 until 1979. The second part covers the years from 1980 until 1989, and the third part contains the years from 1990 until 1998. They investigate abnormal returns for the acquirer and the target and the combined firms for each part of the studied period. They consider two main windows, three days around the announcement date (-1, +1), and a longer window which begins a few days before the announcement date and ends by the closing date of the merger (-20, close). They found that combined firms have the higher returns at the second part of the studied period of 2.6% and that is for the short window, and the same situation for the longer window where combined firms have positive and significant returns of 3.2%. The target has almost the same average of positive and significant returns for all parts of the studied period of 16.0% for the short window, and for the longer window the target

has higher returns only for the first part of the studied period of 24.8%. The acquirer has negative returns which are not different from zero for the first and the second parts of the studied period of -0.3% and -0.4%, and higher returns for the third part of the studied period of -1.0% and for the short window. Even though the acquirers' returns become higher for all parts of the studied period for the longer window, they are still negative returns. They also found that the acquirer has the lowest negative returns for the second part of the studied period of -3.1%.

Heron and Lie (2002) studied firms' operating performance and its relation with the method of payment. They examined acquisitions announced and completed between the beginning of 1985 and the end of 1997. With a sample consisting of 859 acquisitions divided into three main sectors according to the method of payment (cash payment, stock payment and mixed payment), the authors calculate announcement returns for both the acquirer and the target and for the combined firm. They use the equity market for five days before the announcement date, and find that target firms have positive returns for all three methods of payments, especially when the target has cash as payment for the deal. They found that the average of the target's returns is higher than when stock is used as a method of payment. On the other hand, they found that the acquirer has returns which are not different from zero when cash or a mix of methods is used to finance the deal. They found that combined firms have positive returns at the announcement period and the average of their returns is 5.3% for cash acquisitions, which is considerably higher than the returns for combined firms financed by stock and a mix of cash and stock of 0.9% and 5.00% respectively.

They measure operating performance by comparing the operating performance with two benchmarks which allows them to control some of the factors that may have an impact on the results. To control for economy-wide variables and industry improvements, they calculate an industry-adjusted operating performance by comparing the performance of the sample firms with the median of the operating performance of firms that share the same three-digit SIC code which they designate as a control group. Additionally, they compare the operating performance of the sample with a sample of firms in the same industry and share 'pre-event performance', measured from three years prior to the fiscal year relative to completion until three years after the year of completion. They found that the industry-adjusted operating performance of acquiring firms relative to the control group remains almost the same for cash acquisitions for

three years after the completion of +0.016%. The situation is different for acquisitions that depend on a mixed method of payment, with performance decreasing year on year. For example the operating performance at year +1 is 0.032% and at year +2 is 0.018%. This allowed them to conclude that acquirers performed well compared with firms in a similar industry.

Moeller et al. (2003) studied acquisitions' gains and considered mainly the target situation (public, private or subsidiary) which may have an effect on these gains. They examined a sample of 12,023 acquisitions announced between 1980 and 2001. The authors divide the sample into three main sections; acquisitions by public firms, acquisitions by private firms, and acquisitions by a subsidiary. Firstly, they estimate abnormal returns for each transaction around the announcement day for a 3-day window. Then they calculate shareholders' gains also for a 3-day window. They call the measure of these gains 'the net present value' of the acquiring firm. They found that the average of the net present value for the whole sample is \$-218.59 million, and gains for public acquisitions lose more compared with private and subsidiary acquisitions of \$-256.86 million. In addition, they divide the sample according to many variables, such as, the size of the acquirer, the method of payment, and the organisational form of the assets acquired. They found that subsidiary acquisitions have higher returns according to the method of payment compared with acquisitions of public and private targets.

Recently, Devos et al. (2008) calculated synergy gains for 264 large mergers between 1980 and 2004. They compared between the present value of Value Line cash flow forecasts for both target and acquiring firms before merger, with the forecast of joint firms after the merger. Before studying the sample they test three possible reasons for synergy gains from mergers. The first one is that mergers may produce useful efficiencies which in turn generate high operating earnings or reduced capital expenditure. The second reason is that firms sometimes become involved in mergers in order to benefit from tax savings. Finally, the third reason is that possible 'anticompetitive mergers' between firms within the same industry may allow the joint firm to exercise enhanced market power.

The authors consider that the total synergy consists of two major parts; the first is the operating synergies which come from 'changes in cash flow which are correlated to operations' while the second type is financial synergies which are 'produced by

increased interest tax shields'. In addition, they depend on Value Line forecasts to calculate the total gains for acquirer, target and the joint firm. The forecast contains variables such as, revenues, operating margin, depreciation, tax rates, debts, working capital and capital expenditures. They calculate the annual capital cash flows and the present value of cash flows for the acquirer and the target before the merger and for the combined firm after the merger.

According to their results, the average of synergies for the total sample is around 10.3% which is significant, and also the median is 5.11% which is significant at 1%. This allowed them to conclude that all mergers create value through synergic gains. Furthermore, they found that the average for financial synergies is 1.64% which is significant at a 1% level, and the average for operating synergies is 8.38% which is better and higher than the average of financial synergies. This gives a clear indication that operating synergies can be considered as a major source of the gains in mergers.

In the following section; the researcher introduces the data studying synergy gains in more detail, because synergy gains have been investigated for combined firms with domestic and public targets. In addition, more information has been added about the major methodology that has been required for investigating synergy gains for both acquirers and target firms.

7.3 Data and methodology

The total number of UK successful acquisitions which is included in the sample is 834 deals which were carried out between 2000 until 2006. The acquirer must be a public firm, and the target in the sample differs between public and private firms, but the majority of these acquisitions were carried out with private targets, which lead to considering deals which include both public acquirer and public target firms in order to calculate total synergy gains. This reduced the number of acquisitions that are included in this chapter. The new total number of domestic acquisitions is 54 deals while the total sample of cross-border acquisitions with public targets is 40 deals. It is important to add that the researcher wants later in this research to calculate the change in operating performance for a 3-year period after the announcement year. Thus this leads to the need to exclude deals that were conducted during 2007-2009. The reason which leads to investigate acquisitions with public targets is that to find whether these investments can

produce any gains despite the fact that firms with public targets form only around 10% of the total number of these kinds of investment.

The following table shows acquirers returns for domestic acquisitions that were conducted between 2000 to the end of 2006.

Table 7. 1. Acquirers' returns for UK domestic acquisitions

Window	CAR	t-stat
-2 to +2	0.61	1.61
-1 to +1	0.57	1.73

Notes:

This table presents acquirers' returns for UK domestic deals between 2000 and 2006. The total number of domestic deals is 484 deals. The cumulative abnormal returns have been calculated depending on the Market Model and the classic event study methodology for 5-day window over the announcement day.

After reducing the domestic sample, the researcher makes a comparison in acquirer returns between the two divided samples. The first sample includes public acquirer and target firms; the second sample includes public acquirer and private target firm.

The following table introduces acquirer returns for domestic acquisitions in both sections. The first section includes acquisitions with public targets; the total number of acquisitions in this section is 54 deals. The second section includes acquisitions with private targets; the total number of deals in this section is 430 deals. One can note that acquirers' returns for acquisitions with private targets are better than acquirers' returns with public targets for some estimated windows (See table 6.1).

Table 7. 2.Acquirers' returns for domestic acquisitions with public and private targets

Window	Acquirers with Private Targets		Acquirers with Public Targets	
	CAR	t-stat	CAR	t-stat
-2 to +2	0.75	1.54	-0.80	-0.99
-1 to +1	0.67	1.67	-0.46	-0.57

Notes:

This table introduces acquirers' returns for domestic deals in both parts and that from 2000 to 2006. The first section includes acquisitions with private targets. The total number of deals in the first section is 400 deals. The second section includes acquisitions with public target firms. The total number of the second section is 54 acquisitions. The acquirers' abnormal returns have been calculated depending on the Market Model and the event study methodology for a 5-day event window.

Comparing between acquirers' returns of the two parts of the domestic sample, one can note that the part that includes acquirers with public targets have insignificant losses over the announcement date, which motivates a study of the synergy gains, in order to find out whether there are any gains which encourage acquirers to do these investments. In addition, studying the second part of the divided domestic sample will be impractical regarding calculating synergy gains, because it includes private target firms, and it will not be possible to calculate the abnormal returns for these private firms.

The following table includes the returns to acquirers which conducted cross-border successful acquisitions between 2000 and 2006. The total sample comprises 300 acquisitions. The cross-border sample is sub-divided into two sections according to the type of the target firm. The first section includes 40 acquisitions with public targets while the second section includes 310 acquisitions with private targets. It is necessary to add that abnormal returns have been calculated for a 5-day window but a 3-day window has been included to check the robustness of the results.

Table 7. 3. Acquirers' returns for UK cross-border acquisitions

Window	CAR	t-stat
-2 to +2	0.67	1.88
-1 to +1	0.45	1.45

Notes:

This table presents acquirers' returns for UK cross-border successful deals between 2000 and 2006. The total number of cross-border deals is 350 deals. The cumulative abnormal returns have been calculated depending on the Market Model and the classic event study methodology for 5-day window over the announcement day.

The following table presents acquirers' returns after dividing the sample according to the type of the target firm.

Table 7. 4. Acquirers' returns for UK cross-border acquisitions according to the type of the target firm

	Acquirers with Private Targets		Acquirers with Public Targets	
Window	CAR	t-stat	CAR	t-stat
-2 to +2	0.93	2.26	-1.17	-1.02
-1 to +1	0.74	2.17	-1.99	-1.91

Notes:

This table introduces acquirers' returns for successful cross-border deals in both parts and that from 2000 to 2006. The first section includes acquisitions with private targets. The total number of deals in the first section is 310 deals. The second section includes acquisitions with public target firms. The total number of the second section is 40 acquisitions. The acquirers' abnormal returns have been calculated depending on the Market Model and the event study methodology for a 5-day event window.

It is notable from tables 7.2 and 7.4 that acquirers with private targets have higher returns compared with acquirers with public targets that have losses for both the 5-day and 3-day windows.

The total synergy gains have been calculated for the first part of the divided domestic and cross-border sample, which includes public acquirers and public targets. The researcher depends on the market value for both the acquirer and target firms and

cumulative abnormal returns for both firms as well. First of all, the acquirers' returns have been estimated depending on the Market Model and on the classic Event Study. The parameters for the Market Model are estimated between (-20 and -150 days) and the event window is the 5-day window both before and after the announcement date of the deal.

Following Bradley et al. (1987), the researcher calculates total synergy gains for acquiring firms and target firms for domestic acquisitions. In addition, the total synergies have been defined as 'the sum of the change in the wealth in the target stockholders and the change in the wealth in the acquirer stockholders'.

$$\Delta \Pi = \Delta W_T + \Delta W_A$$

Where $\Delta \Pi$ the total synergistic gain

ΔW_T the change in the wealth of target stockholders

ΔW_A the change in the wealth of acquirer stockholders

Moreover, the researcher calculates the change in the wealth for both acquirer and target stockholders depending on the cumulative returns and the market value of the acquiring and target firms.

$$\Delta W_{Ti} = W_{Ti} \cdot CART_i$$

$$\Delta W_{Ai} = W_{Ai} \cdot CARA_i$$

Where

The market value of the target equity at the end of one month prior to the announcement date

The cumulative abnormal returns to the target firm, and that is from two days prior to the announcement day until two days after the announcement day

The market value of the acquirer's equity at the end of one month prior to the announcement date.

The cumulative abnormal returns to the acquiring firm, and that is from two days prior to the announcement day till two days after the announcement day

In the next section; the major results have been introduced after applying the earlier methodology to the previous data.

7.4 Results

The researcher calculates total synergies for UK domestic and cross-border successful acquisitions between 2000 and 2006. The total number of the domestic sample is 54 deals, and the total number of cross-border sample is 40 acquisitions with public targets. It is significant to mention that the total number of cross-border acquisitions with public targets has been reduced to 26 deals and that is due to a lack of information about target firms for several acquirers. The acquirer and the target must be public UK firms, which will make it possible to collect the required information about both the acquirer and the target. For each firm the cumulative abnormal returns have been calculated for a 5-day window from two days before the announcement day which is considered as day (0) to two days after the announcement day. The researcher depends on the market value for one month prior the announcement date. Depending on Bradley et al. (1987) methodology the median, the average, and the standard deviation have been calculated for each combined firm. The following two tables introduce total synergy gains for domestic and cross-border acquisitions.

Table 7. 5.Total synergy gains for domestic acquisitions with public targets

	Total synergies (-2,+2)	Total synergies (-1,+1)
Median	3.78	4.38
Mean	-43.94	-12.88
Standard Deviation	537.13	459.79

Notes:

This table introduces the Mean, the Median and the standard deviation of total synergy gains in millions for domestic (54) acquisitions between 2000 and 2006.

Table 7.6.Total synergy gains for cross-border acquisitions with public targets

	Total synergies (-2,+2)	Total synergies (-1,+1)
Median	79.76	50.46
Mean	-120.37	-727.88
Standard Deviation	3987.87	6357.92

Notes:

This table introduces the Mean, the Median and the standard deviation of total synergy gains in millions for cross-border (26) acquisitions between 2000 and 2006.

One can notice from table 7.6 that the median for the combined wealth is 3.78m and the mean for the combined wealth is minus 43.94m and that is for a window -2, +2. It is noticeable that the median for synergy gains of cross-border is 79.76 and the mean is minus 120.37 for the same window. Comparing these results with Hanson and Song's (1997) study, they investigated total synergy gains for 96 divestitures and they followed Bradley et al.'s method. They found that total synergy gains for the divestiture are minus \$53million which led them to conclude that divestitures do not create or produce any gains. Thus both studies point out according to their results that combined firms do not generate any synergy gains. Furthermore, comparing earlier results in table 6.5 and

6.6 consistent with Moeller et al.'s (2004) study, the authors investigated gains for acquisitions according to the target type; they found that acquisitions with public targets lose more than acquisitions with private or subsidiary targets. Both results confirm that acquisitions with public targets do not create any synergy gains.

To find whether these gains are real economic gains, the operating performance has been investigated for acquirers, and that is for the 3-year period which begins from the first year after the announcement year and ends at year three after the announcement year. The following section will explain the importance of investigating the operating performance for each firm.

7.5 Operating performance

Studying operating performance and its improvement as a result of a corporate takeover is still one of the most studied topics. Many researchers have found that there is no relationship between the operating performance and the abnormal returns of the combined firm. For example, Healy et al. (1992) examined whether there is a difference in operating performance when the acquirer finances their deals with cash compared with those who depend on stock. They found that there is no relationship between changes in operating performance and using different methods of payment, and although they also mention that these results may be affected by the small number of the total sample on which they depend. Cornett and Tahrarian (1992) investigated some clear changes in operating performance, but they did not relate these improvements to any variables. (See, for instance, Healy et al. 1992; Linn, Switzer, 2001; Powell, Stark, 2005).

Powell and Stark (2005) examined the sensitivity of estimates of operating performance improvements from UK takeovers. The authors relied on two measures of operating cash flow. The first one is as defined by Healy et al. (1992). The second one is called the 'pure' cash flow measure and this measure regulates for the effect of the accounting operation increases. They relied on both measures of cash flow to allow for conclusions to be reached on the sensitivity of estimates of operating performance developments to various performance metrics. They depend on 191 takeovers by UK industrial firms undertaken between January 1985 and July 1993.

The authors investigated the operating performance according to Healy et al.'s (1992) regression, which is based on two benchmarks of operating performance. The first one is the industry-adjusted median and the second one is the industry, size and pre-performance adjusted. They also examined the operating performance against some variables such as, relative size, method of payment, the level of industrial relatedness, and the type of takeover. In addition, they rely on four different deflators to find out whether there are obvious differences in the operating performance according to each one. These deflators are the pre- and post-takeover cash flows relative to total market value, the pre- and post-takeover cash flows relative to adjusted total market value, the pre- and post-performance takeover cash flows relative to book value of assets, and the pre- and post-performance takeover cash flows relative to total assets. The authors found that takeovers produce some improvements in operating performance and that depending on the use of an accruals definition of cash flow, also there is no clear impact for earlier variables on operating performance. For example, the impact of the method of payment shows a slight impact on operating performance according to the median of pre- and post-takeover cash flows relative to book value of assets of 2.23%. This implies that although there are some improvements, these are not high or noticeable.

Different methodologies have been used to measure operating performance over and post the corporate takeover. For example, improvements are investigated depending on the difference between the industry-adjusted, post-takeover performance and the combined, the target and the acquirer firms and pre-takeover, industry-adjusted performance.

In this section of the paper, the researcher will investigate the improvements in operating performance for acquirers of UK takeovers. The main measure on which the researcher depends on to estimate operating performance is the industry-adjusted median which can be defined as 'EBITDA/Total Assets as of the fiscal year prior to the announcement minus the median Return on Assets of the firms in the same industry with the bidder. It is important to add that required numbers have been collected from DataStream.

Measuring operating performance has been considered over a three-year period, which extends from the first year after the effective year until year three after the effective year. The total sample is 81 firms, which includes public UK acquirers and target firms.

7.5.1. Results

The operating performance for each acquirer has been calculated depending on measuring the returns on assets. The calculation for a three-year period has been considered which includes year one after the effective date until year three after the effective date. The following table presents the results of the operating performance for 41 acquirers within the studied years. It is significant to mention that several firms have been dropped because of a lack of information.

Table 7.7. The Mean, Median of the operating performance change for domestic UK acquisitions with public targets within a 3-year period

The studied years	The mean of the operating performance %	The median of the operating performance %	The mean relative to industry %	The median relative to industry %
+1	-0.033	-0.043	0.128	0.119
+2	-0.049	-0.024	0.134	0.118
+3	-0.018	-0.021	0.107	0.115
1+2	-0.082	-0.077	0.262	0.237
1+2+3	-0.101	-0.102	0.370	0.345

Notes:

This table shows the average and the median of the operating performance for 41 acquirers relative to the same industry sector as the bidders within a 3-year period, which includes three years after the effective date which is year (0).

One can note from the table 7.7 that the average of the operating performance decreases over the studied years, and the median has the same situation. There are no clear improvements in the average and the median of operating performance for years +1, 1+2 and 1+2+3.

The following table introduces results of operating performance for cross-border acquisitions with public targets; the total number of firms is 38. It is notable that the researcher considers measuring operating performance for years 1+2 and years 1+2+3

and that is to find whether the operating performance will show some changes within these years.

Table 7. 8. The Mean, Median of the operating performance change for cross-border UK acquisitions with public targets within a 3-year period

The studied years	The mean of the operating performance %	The median of the operating performance %	The mean relative to industry %	The median relative to industry %
+1	0.001	-0.015	0.096	0.132
+2	0.014	-0.013	0.091	0.125
+3	-0.013	-0.012	0.125	0.138
1+2	0.015	-0.006	0.187	0.264
1+2+3	0.002	0.015	0.321	0.356

Notes:

This table shows the average and the median of the operating performance for 38 acquirers relative to industry sector that is the same as that of the bidders within a 3- year period, which includes three years after the effective date which is year (0).

It is notable from the earlier table that the average of operating performance increases in year +1 and +2 and decreases in year +3. It is notable that the average of operating performance increases from year 1 and years 1+2 but it does not improve for years 1+2+3.

These results share with the earlier results in several respects. Firstly, it is notable that there are some improvements in the mean of the operating performance over the studied period. For example Linn and Switzer (2001) find that the mean of the operating performance of combination firms increases from 21.65% in year -1, to 27.38% in year +1. In addition, Linn and Switzer (2001) notice that the median of the operating performance of the combined firms has decreased from 25.18% in year +1, to 24.01% in year +2. Furthermore, Ghosh (2001) finds that the mean of the combined firm decreases from 16.18% in year -2 to 14.78% in year +2. Also the median of the merged firm keeps decreasing from year to year, for example it was 14.90% in year -2 and became 13.89% in year +2. These results are consistent with Ghosh (2001) in one aspect, which is that the median decreases over the studied period which makes these results share with

earlier results for domestic and cross-border acquisitions. This implies that there are very small improvements or increases in the average of the operating performance and that for cross-border acquisitions which are usually happened after the announcement date, and there are some decreases in the median of the change of the operating performance and that is also after the effective date. The researcher also examines the self-attribution bias for earlier acquirers to find out whether they are frequent or infrequent. The acquirer is considered as frequent if he did at least two deals one year prior to the announcement date of the deal. Otherwise he is considered as an infrequent acquirer. The majority of the domestic sample includes frequent acquirers and the same for cross-border acquirers. The total number of frequent acquirers that conducted cross-border acquisitions with a public target is 30 while the total number of acquirers that conducted domestic acquisitions is 32. This suggests that earlier results give a good reason for acquirers to avoid or reduce doing deals with public targets because operating performance gives a good picture about the recent and future situation of those firms.

A regression has been run for the operating performance against four different variables; the method of payment, the industrial relationship, the relative size and the Book-to-Market ratio. Moreover, the researcher depends on Ordinary Least Squares regression.

The motive for making this regression is to find out whether the operating performance will be affected by these variables. In addition, it is interesting to know whether there is any positive or negative relationship between any of those variables and the operating performance. The following tables will present the results for an Ordinary Least Squares (OLS) regression of the operating performance change as a dependent variable against earlier variables as independent variables and that is for 41 UK domestic acquirers and 38 UK cross-border acquirers for three years. The four variables; the method of payment, the relative size, the industrial relationship, and the Book-to-Market ratio have been considered as independent variables and the operating performance as the dependent variable. The following equation will explain more about this regression

Where:

Y: The operating performance
: The method of payment
: The relative size

- : The industrial relationship
- : The Book-to-Market ratio
- , , , : are the coefficients
- : The error term

Table 7. 9. Ordinary Least Squares (OLS) regression for the operating performance against four variables within a 3-year period for domestic acquisitions

	W1 (Year +1)	W2 (Year +2)	W3 (Year +3)	W4 (Years 1+2)	W5 (Years 1+2+3)
Con	-0.104 (-2.304)	-0.053 (-1.185)	0.056 (0.992)	-0.157 (-1.870)	-0.100 (-0.928)
MOP	0.059 (1.418)	0.014 (0.326)	-0.043 (-0.807)	0.073 (0.929)	0.030 (0.294)
sec	0.049 (1.058)	-0.008 (-0.176)	-0.068 (-1.181)	0.041 (0.490)	-0.026 (-0.243)
size	-0.775 (-0.320)	-0.580 (-0.236)	-0.193 (-0.617)	-0.135 (-0.294)	-0.329 (-0.555)
BTM	-0.410 (-0.751)	0.138 (0.249)	0.359 (0.508)	-0.271 (-0.261)	0.878 (0.065)
Observation	41	41	41	41	41

Notes

This table shows results of OLS regression of the operating performance for 3 years for 41 UK acquirers who make domestic acquisitions. MOP means the method of payment and it is a dummy that equals 1 when acquirers used cash as a payment to finance their deals, and equals 0 when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and the value of the deal divided by the market value one month prior the announcement date. Sector means the industrial sector to which acquirer and target are belonging, and that is dummy equals to 1 when the acquirer and the target share same industrial sector, and the dummy equals 0 when the acquirer and the target are from a different industrial sector. BTM means Book-to-Market ratio which is considered as considered as the net book value divided by the market value one month prior to the announcement date of the deal. The numbers in brackets are the T-ratios. The data that has been used in w4 and w5 is cross-sectional data.

One can find from table 7.9 that there is a slight improvement in the operating performance when one considers additional variables. The main change which can be noticed is in the method of payment for the first year after the announcement year. Moreover, these improvements in the operating performance regarding the method of payment comes from the impact of using cash as a method of payment instead of depending on stock; that is because the number of acquirers that use cash to finance their deals is 31 out of 41, which implies that there is an obvious impact of cash deals on the performance of the firm. Furthermore, one can note that there is no change or any improvement in operating performance if one considers operating performance for the first two years together and for the three studied years as well.

The following table includes results for a regression of operating performance against four earlier variables for the cross-border acquisitions.

Table 7. 10. Ordinary Least Squares (OLS) regression for the change in the operating performance against four variables within a 3-year period for cross-border deals

	W1 (Year +1)	W2 (Year +2)	W3 (Year +3)	W4 (Years 1+2)	W5 (Years 1+2+3)
Con	-0.113 (-0.929)	0.039 (0.346)	-0.022 (-0.459)	-0.072 (-0.359)	-0.095 (-0.421)
MOP	0.093 (0.917)	0.120 (1.243)	0.061 (1.509)	0.213 (1.247)	0.275 (1.442)
sec	0.089 (0.819)	-0.098 (-0.951)	-0.027 (-0.628)	-0.008 (-0.047)	-0.036 (-0.178)
size	-0.079 (-0.494)	-0.155 (-1.00)	-0.038 (-0.598)	-0.234 (-0.856)	-0.272 (-0.893)
BTM	-0.003 (-0.922)	-0.003 (-1.022)	-0.002 (-2.056)	-0.006 (-1.125)	-0.009 (-1.449)
Observation	38	38	38	38	38

Notes

This table shows results of OLS regression of the operating performance for 3 years for 38UK acquirers who make cross-border acquisitions. MOP means the method of payment and it is a dummy that equals 1 when acquirers used cash as a payment to finance their deals, and equals 0 when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and the value of the deal divided by the market value one month prior the announcement date. Sector means the industrial sector to which acquirer and target are belonging, and that is dummy equals to 1 when the acquirer and the target share same industrial sector, and the dummy equals 0 when the acquirer and the target are from a different industrial sector. BTM means Book-to-Market ratio which is considered as its real value one month prior to announcement date. The numbers in brackets are the T-ratios. The data that has been used in w4 and w5 is cross-sectional data.

It is notable that there are some changes in operating performance at year +2 and +3 and that for the method of payment and the Book-to-Market ratio. These changes and improvements in operating performance stay the same against the method of payment if one considers the operating performance for the whole studied years together. It is important to add that comparing between operating performance of domestic and cross-border acquisitions with a public target states that cross-border acquisitions do better than domestic deals.

It is important to add that earlier table provides significant evidence which is that acquirers usually benefit from an improvement in their operating performance when they conduct cross-border acquisitions as compared to when they make domestic deals. This gives a good reason for continuing to invest abroad.

The researcher runs in the following section the OLS regression for the operating performance against three variables which are the method of payment, the relative size and the industrial relationship. The Book-to Market ratio has been excluded because this variable is not a decision or pre-determined variable. The following two tables present regression for operating performance against three variables for all studied windows.

Table 7. 11. Ordinary Least Squares (OLS) regression for the change in the operating performance against three variables within a 3-year period for domestic deals

	W1	W2	W3	W4 (Year 1+2)	W5 (Year 1+2+3)
Con	-0.101 (-2.346)	-0.054 (-1.228)	0.054 (0.966)	-0.155 (-1.885)	-0.101 (-0.952)
MOP	0.054 (1.361)	0.015 (0.381)	-0.038 (-0.740)	0.070 (0.911)	0.031 (0.315)
Sec	0.045 (1.053)	-0.006 (-0.148)	-0.064 (-1.140)	0.038 (0.468)	-0.025 (-0.951)
Size	-0.893 (-0.379)	-0.541 (-0.224)	-0.183 (-0.593)	-0.143 (-0.317)	-0.326 (-0.241)
Observation	41	41	41	41	41

Notes

This table shows results of OLS regression of the operating performance for 3 years for 41UK acquirers who make domestic acquisitions. MOP means the method of payment and it is a dummy that equals 1 when acquirers used cash as a payment to finance their deals, and equals 0 when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and the value of the deal divided by the market value one month prior the announcement date. Sector means the industrial sector to which acquirer and target are belonging, and that is dummy equals to 1 when the acquirer and the target share same industrial sector, and the dummy equals 0 when the acquirer and the target are from a different industrial sector. The numbers in brackets are the T-ratios. The data that has been used in w4 and w5 is cross-sectional data

Table 7. 12. Ordinary Least Squares (OLS) regression for the change in the operating performance against three variables within a 3-year period for cross-border deals

	W1 Year +1	W2 Year +2	W3 Year +3	W4 (Year 1+2)	W5 (Year 1+2+3)
Con	-0.023 (-0.195)	0.008 (0.080)	-0.046 (-0.933)	-0.014 (-0.072)	-0.060 (-0.273)
MOP	0.076 (0.742)	0.106 (1.109)	0.052 (1.215)	0.183 (1.075)	0.235 (1.223)
sec	-0.045 (-0.441)	-0.059 (-0.621)	0.001 (0.025)	-0.105 (-0.617)	-0.103 (-0.540)
size	-0.001 (-0.007)	-0.160 (-1.055)	-0.036 (0.536)	-0.161 (-0.601)	-0.197 (-0.651)
Observation	38	38	38	38	38

Notes

This table shows results of OLS regression of the operating performance for 3 years for 38UK acquirers who make cross-border acquisitions. MOP means the method of payment and it is a dummy that equals 1 when acquirers used cash as a payment to finance their deals, and equals 0 when they used non-cash as a payment. Size means the relative size of the acquirer to the target, and the value of the deal divided by the market value one month prior the announcement date. Sector means the industrial sector to which acquirer and target are belonging, and that is dummy equals to 1 when the acquirer and the target share same industrial sector, and the dummy equals 0 when the acquirer and the target are from a different industrial sector. The numbers in brackets are the T-ratios. The data that has been used in w4 and w5 is cross-sectional data

7.6 Summary

In this chapter, the researcher studies the synergy gains for 94 UK domestic and cross-border acquisitions with public targets that have been carried out from the beginning of 2000 toward the end of 2006. There are several reasons for this type of acquisition. First, domestic acquisitions do not have any interesting results in both the previous chapters, which raises the issue of what is it that encourages many firms to make or keep making this type of investment. In addition, a further aim is to examine or know whether there are real economic gains that may be generated or produced from these investments. The main requirement in choosing these acquisitions is that the acquirer and the target must both be public firms. The researcher finds that these investments do not achieve some synergy gains around and over the announcement day. In addition, the operating performance has been investigated for this sample for three years around after the effective date of the each deal. The results show that there are slight improvements

and changes in the operating performance for acquirers that conducted cross-border acquisitions compared with those that made domestic deals, but generally earlier results give a reason for acquirers to avoid acquiring public firms internationally and domestically. Finally, the researcher regress a regression for the operating performance against some variables such as, the method of payment, the industrial relationship, the relative size, and the Book-To-Market ratio and the industrial sector. The results do not show any sensitivity regarding the relative size.

Chapter 8: The Conclusions

The Conclusions

This dissertation introduces some evidence on the impact of acquisitions on a firm's stock and how the stock behaves after undertaking or making the deal. This research presents some important evidence on topics such as measuring the change in operating performance for domestic and cross-border acquisitions with public targets for the long-term. It is important to mention that this research examines acquisitions between 2000 and 2009 for UK acquirers. The major motivation which leads to include these investments is that by 2000 the world witnessed the end of the fifth merger wave which witnessed by itself very significant economic improvements. Thus the researcher wants to draw a real picture for these investments in UK and find how they may be influenced after the end of that economic period.

Two major requirements were essential in this research. The first one was the Event study methodology, which was the essential research device that was used to find out and study the acquisition's impact on the firm's stock depending on investigating the cumulative abnormal returns for each firm. The second one was literature which helped to understand the main issues in each chapter. For example, understanding how the acquiring firm reacts after making the deal and how important the attitude of the directors can be in influencing the propensity of a firm to conduct acquisitions.

This dissertation consists of an introductory two chapters, five essays and conclusion chapter. The first and the second essays investigate the acquirers' returns and the main determinants that may affect their returns. The third and fourth essays examine directors' behavior and self-attribution bias. The last essay considers synergy gains and change in operating performance for acquirers of public target firms.

The first essay is titled "UK Acquirers' Returns of Domestic and Cross-Border Acquisitions". Acquirers' returns have been studied in this essay and that depending on the Event study and the Market Model a for a 5-day event window. Moreover, a comparison has been made between acquirers of domestic acquisitions and those that acquire cross-border target firms. The results confirm that acquirers that acquire domestic and cross-border targets have insignificant returns for the whole studied

window, but acquirers that acquirer domestic targets have higher returns compared with those that have acquired cross-border targets.

The second essay is titled “The Determinants of Domestic and Cross-Border Acquisitions”. The major variables that have been studied in this essay are the method of payment, the relative size, the industrial relationship, the Book-To-Market ratio and the type of the target firm.

The results confirm that acquirers with large relative size, cash deals, private targets and high Book-to-Market ratio generate significant returns compared with acquirers with small relative size, non-cash deals, low Book-to-Market ratio and public targets and that for domestic and cross-border deals. On the other hand, acquirers that acquire domestic targets from a different industrial sector produce higher returns compared with acquirers with targets from the same sector, and acquirers that acquirer cross-border targets generate high returns when they acquire targets from same industrial sector.

The third essay is titled “Directors’ Overconfidence and Its Impact on Acquirers’ Returns”. This essay introduces evidence on self-attribution bias which has been considered as a basis for some managerial behaviour. These results confirm that frequent acquirers have lower returns compared with infrequent acquirers.

The fourth essay is titled “Insider Trading and Acquirer Returns in Domestic and Cross-Border Acquisitions” Furthermore, the essay measures the relationship between private investment decisions of directors and firm’s investment regarding the acquisitions it makes via two main measures. The first one which is called the number of transactions method, this method depends on the number of transactions that directors have carried out, the directors being considered as optimistic when the number of buys is larger than the number sales by at least two transactions. The second one is called the amount method, which depends on measuring the difference between the number of purchases scaled by the amount of purchases and the number of sales that scaled by the amount of sales. The director will be regarded as being optimistic according to this method if the difference is positive, otherwise he will classified as neutral. Major results for acquirers of domestic and cross-border acquisitions present that optimistic managers have significant returns compared with neutral directors.

Generally, these results guide the researcher to investigate more about acquirers with public targets and also lead me to question whether those acquisitions produce any real returns or gains. The results did not show any abnormal returns for acquirers with public targets.

The fifth essay is titled “Studying the Synergy Gains and Operating Performance for Acquirers with Public Targets”. In this essay, the synergy gains for acquirers that undertake domestic and cross-border deals and public targets have been studied. The results show that this kind of investment does not generate any synergy gains and that is for both domestic and cross-border acquisitions. Moreover, the researcher introduces new evidence via measuring operating performance change of those acquisitions depending for a 3-year period after the effective date of each acquisition. Results provide that there are no clear or big improvements in operating performance for acquisitions with target firms which encourage acquirers to acquire that type of target. In addition, earlier results lead the research to run a regression of the operating performance change against some variables, and the reason for that is to find out whether there is any relation between the operating performance and any of the earlier variables. Mainly, the results confirm that these variables have no clear effect on the operating performance such as, the industrial relationship and the relative size, while the method of payment and the Book-to-Market ratio have a small impact on the operating performance and that is for cross-border deals. It is important to add that the novelty of this thesis is measuring the operating performance for domestic and cross-border acquisitions.

This research may be expanded in several areas. First of all, regarding the first essay, this essay may be extended via calculating the acquirers’ abnormal returns depending on more than one model and comparing between the returns according to those results. Second, the second essay could be improved more by including extra variables such as investigating more about acquirers’ characteristics such as Tobin’s Q, Debt/Asset ratio according to the Book value and to the Market value. Third, the third essay can be developed by including the personal characteristics of directors in this study such as, the impact of the director’s age, and the effect of the education background for each director. Fourth, the last essay can be improved by studying the impact of more variables on the operating performance or via studying the effect of the method of payment in more detail, as well as by expanding the sample. In addition, further and

future studies should be done on examining the legal origin effects on acquirers' returns and investor protection. The importance of this idea comes according to La Porta et al. (2000) from differences between countries in their financial systems such as in the ownership of public firms, in access of firms to exterior funds, and in dividend policies. With respect to the above idea, it is notable that the protection of shareholders and creditors by the legal system is a very fundamental one to consider and understand corporate finance in different countries. Investor protection is a very critical idea because in many countries expropriation of minority shareholders is widespread. When outside investors try to finance firms and make investment abroad, they may face a risk and their returns may be influenced negatively because of the controlling of shareholders and managers as insiders. Thus considering corporate governance as essential procedures will help outsiders to protect themselves against the expropriation of insiders. There are many faces of expropriation which should be considered such as selling the assets of the firm by insiders to another firm with an artificially low price. Several articles have proved that strong investor protection is related to efficient corporate governance.

Cross-border acquisitions according to Bris and Cabolis (2008) are the best methods to examine investor protection and find out how firms change corporate governance. It is significant to add that future studies may also focus on studying cross-border acquisitions from 2000-2009 via examining investor protection and also investigating how legal origin may influence acquirers' returns.

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