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Firm characteristics and the effects of cross-border acquisitions on long-run stock returns in Europe

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TIIVISTELMÄ:

Tämän tutkielman tarkoitus on tutkia ulkomaisen yritysoston vaikutuksia ostavan yrityksen osakkeeseen Euroopassa vuosina 2003–2020. Tutkielma keskittyy yritysoston pitkäaikaisiin vaikutuksiin ostavan yrityksen osakkeen hintaan. Tämän lisäksi tutkielma pyrkii löytämään selittäviä tekijöitä yritysoston jälkeiseen osakkeen ali- tai ylisuoriutumiseen. Tutkielman tavoitteena on tuoda todisteita sekä uutta tietoa yritysostojen pitkäaikaiseen kannattavuuteen liittyen sekä tutkia yritysoston jälkeiseen osakkeen suorituskykyyn vaikuttavia tekijöitä.

Yritysoston vaikutuksia osakkeen pitkäaikaiseen suorituskykyyn tutkitaan regressiomallin avulla viidessä eurooppalaisessa maassa. Yritysostojen jälkeisille mahdollisille epänormaaleille tuottoille pyritään löytämään yritysostoista ulkopuolinen selittävä tekijä yritys kohtaisten tunnuslukujen avulla. Näin tutkielma pyrkii vastamaan kysymykseen siitä ovatko ulkomaiset yritysostot kannattavia pitkällä aikavälillä eurooppalaisille yrityksille sekä siihen mikä on yritysoston jälkeisen osakkeen yli- tai alisuoriutumisen syy.

Tutkielman tulokset osoittavat, etteivät yritysostot ole keskimäärin kannattavia pitkällä aikavälillä eurooppalaisille yrityksille. Tutkielma kuitenkin osoittaa myös sen, ettei yritysoston jälkeinen kannattavuus ole suoraan sidonnainen itse yritysostoon vaan ennemminkin ostavan yrityksen tunnusomaisiin piirteisiin, kuten kokoon sekä muihin tunnuslukuihin. Näin ollen ulkomaisia yritysostoja tavoittelevan yrityksen tulisi kiinnittää ostettavan yrityksen lisäksi entistä suurempaa huomiota omaan yritykseen sekä sen piirteisiin, jotta yritysostosta tulisi pitkällä aikavälillä mahdollisimman kannattava. Sijoittajan näkökulmasta tämä tutkielma osoittaa mahdollisuuden ennakoida yritysoston jälkeisiä osakkeen tuottoja sekä sijoituksen kannattavuutta pitkällä aikavälillä perehtymällä ostavan yrityksen oleellisiin tunnuslukuihin.

AVAINSANAT: Yritysostot, Fuusiot ja yritysostot, Osakkeen tuotto, Liikearvo, Yrityskauppa

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List of Abbreviations

BHAR	Buy and Hold Abnormal Returns
BM	Book to Market
FDI	Foreign Direct Investments
M&A	Mergers & Acquisitions
MMAR	Mean Monthly Calendar-Time Abnormal Return
OLS	Ordinary Least Squares

1 Introduction to cross-border mergers & acquisitions

Mergers and acquisitions is a well-known and studied subject in economic research. For decades acquisitions have been a key element in the operating performance of firms and to this day acquisitions remain one of the most important strategic tools that firms possess. Since mergers and acquisitions represent significant capital reallocations worldwide, the sheer magnitude and economic impact of M&As has established the topic important to policy makers, practitioners, and academics alike (Bonaime et al., 2018). In recent decades acquisitions have shifted from domestic towards cross-border acquisitions. This shift has given companies access to new markets and regions with different economic and consumer dynamics that is representing an increasingly relevant source of value creation for international firms (Jensen-Vintrup et. al, 2018).

Since the mid-1960's a key trend in the world economy has been the exceptional growth of foreign direct investment. FDI is a category of cross-border acquisitions where an investor from one economy establishes a controlling ownership in another country via acquisition. The FDI is an important element in the international economy, and it portrays effectively how cross-border acquisitions develop and grow in numbers in the modern world economy (Gregory & McCorrison, 2005). The growth of FDI has not been consistent throughout the years, as different events have caused fluctuations in it. These fluctuations are usually caused by worldwide crises such as the global financial crisis in 2007-2009 which caused a drop of -35% to the FDI and affected the worldwide economy as a whole. The most recent event that has caused a significant drop in the FDI is the COVID-19 pandemic, which has caused a short-term shock to the growth of FDI (-35%) worldwide (World Investment Report, 2021).

Nonetheless, even with the fluctuations, the FDI has been steadily growing on average in the last decades and it is expected to continue its growth. From 2003 to 2007 foreign direct investments saw one of its biggest surges in recent decades as the FDI grew around 16% in this time period. In 2013 Global foreign direct investments rose by 9% to \$1,45 trillion and this growth was expected to continue to \$1,8 trillion in 2016. From 2010 to

2020 before the effects of the pandemic, foreign direct investments grew 3,3% on average. As a result, in the context of increasingly integrated world economies, the topic of cross-border mergers and acquisitions has become more relevant and important than it has ever been (World Investment Report, 2021; Agyei-Boapeah, H, 2019).

While there exists rich M&A literature surrounding the stock market effects of domestic acquisitions, the effects of cross-border mergers and acquisitions are not as widely studied. The existing literature regarding cross-border M&As focuses mainly on developed countries and markets (e.g. Smith & Kim, 1994; Sudarsanam & Mahate, 2003; Song & Walking, 2004; Gregory & Corriston, 2005; Faccio et al., 2006; Udding & Boateng, 2009; Chari et al., 2010; Dutta et al., 2013) but in recent years studies concerning the cross-border M&As in emerging countries has also been published (e.g. Aybar & Ficici, 2009; Gubbi et al., 2010; Chen & Young, 2010; Bhagat et al., 2011; Nicholson & Salaber, 2013; Tao et al., 2017). As the number of cross-border mergers and acquisitions has been steadily growing in volume worldwide, the effects of cross-border acquisitions can be seen in every economy. Thus, there is an increasing need to further study cross-border acquisitions in both developed and emerging markets (Jensen-Vintrup et. al, 2018).

2 Purpose and hypotheses of the study

The purpose of this thesis is to study the long-term effects of cross-border acquisitions on the acquiring firms stock performance in Europe and how different firm characteristics are linked to the possible abnormal returns. As covered above, the current literature concerning cross-border acquisitions is scarcer compared to studies of domestic acquisitions. Although studies focusing on the stock performance of cross-border acquisitions have emerged in the recent decades, the majority of these studies do not differentiate between domestic and cross-border M&As in the analysis (e.g. Loughran and Vijh, 1997; Rau & Vermaelen, 1998; Andrade et al., 2001). Moreover, although multiple studies have studied the abnormal returns of acquirers (e.g. Smith & Kim, 1994; Sudarsanam & Mahate, 2003; Song & Walking, 2004; Gregory & Corriston, 2005; Faccio et al., 2006; Udding & Boateng, 2009; Chari et al., 2010; Dutta et al., 2013) the factors behind these abnormal returns is still a scarcely researched area. This is especially the case with long-run returns as it is a less studied area overall compared to short-term returns (Jensen-Vintrup et. al, 2018). Finally, the overall contractiveness of evidence provided by the existing literature emphasizes the need to further investigate the subject.

Thus, there are two underlying questions concerning the long-run returns of cross-border acquirers which are in need of further examination. The first question is what the actual long-term effects of cross-border acquisitions on the acquiring firm's stock performance are. And the second question is what factors might be linked to abnormal returns in the long run. This thesis focuses on the firm characteristics of the acquiring firms as a factor to explain the possible long-run abnormal returns of European cross-border acquirers.

The hypotheses of this thesis are connected to these two questions and built upon the existing literature.

A number of studies from both developed and emerging markets have reported significant positive abnormal returns for cross-border acquirers in the short run (e.g. Smith &

Kim, 1994; Chari et al., 2010; Dutta et al., 2013; Gubbi et al., 2010; Bhagat et al., 2011). The reasons for statistically positive abnormal returns in cross-border acquisitions are mainly linked to international diversification and the exploitation of geographical and cultural distance. For example, Vasconcellos et al. (1990) proposes that international diversification through M&As can be used to improve the trade-offs between risk and return. Accordingly, geographical and cultural distance provides numerous opportunities of value creation such as risk diversification, market knowledge and development of new synergies (Chakrabarti et al., 2009).

However, in accordance with Fama (1998), the market efficiency hypothesis argues that there should not be any long run abnormal returns following any significant event. As abnormal returns are experienced, these overreactions balance out as time passes, resulting in no abnormal returns in the long run (Dutta et al., 2013). These arguments lead to the first hypothesis of the thesis:

H1. Cross-border acquirers do not experience statistically significant abnormal returns in the long run.

The expected stock returns of firms have been evidently associated with different firm characteristics such as market beta, Book to Market, Momentum etc. (Bessembinder and Zhang, 2013). As the market efficiency hypothesis in accordance with Fama (1998), states that there should not be long-run abnormal returns following significant events, any long-run under- or overperformance of acquirers should not be explained by the actual event, but rather by the differences between acquirers (Bessembinder and Zhang, 2013). This argument leads to the second hypothesis of this thesis:

H2. Any abnormal returns of cross-border acquirers are not linked to the actual event, but to the differences in firm characteristics of the acquiring firms.

The motivation behind this thesis is to bring evidence to the question of whether cross-border acquisitions are actually profitable for firms in the long run and are they something firms should pursue. Moreover, to discover possible factors that can create abnormal performance for European cross-border acquirers. Also, to bring additional insights and conclusiveness into the contradictory evidence provided by previous studies on the subject.

2.1 Structure of the study

The first chapter gives a brief introduction to the subject of this thesis. The hypotheses and the purpose of the study are introduced in the second chapter. Chapter three focuses on the theoretical background of acquisitions and chapter four covers the common methods used to analyze the stock performance of acquisitions. Chapter five focuses on the stock performance of cross-border acquisitions in different markets and compares the performance of cross-border acquirers to domestic acquirers. Chapter six presents the chosen data and methodology. Chapter seven goes through the achieved results and finally, the last chapter concludes the findings of the thesis.

3 Theories behind mergers and acquisitions

To understand the effects of acquisitions on the acquiring firms' stock performance we need to study the basic understanding and theoretical background of mergers and acquisitions. This chapter gives an overview of the current literature regarding relevant theories and what is the current consensus behind these theories.

3.1 Merger waves and Impact of uncertainty

One of the most consistent empirical regularities discovered in the M&As literature is the observation that merger activity tends to cluster by industry and time. Since a considerable number of acquisitions take place during such waves, the topic has received a notable amount of academic interest (e.g. Mithcell & Mulherin, 1996; Schleifer & Vishny, 2003; Duchin & Smidt, 2013; Bonaime et al., 2018).

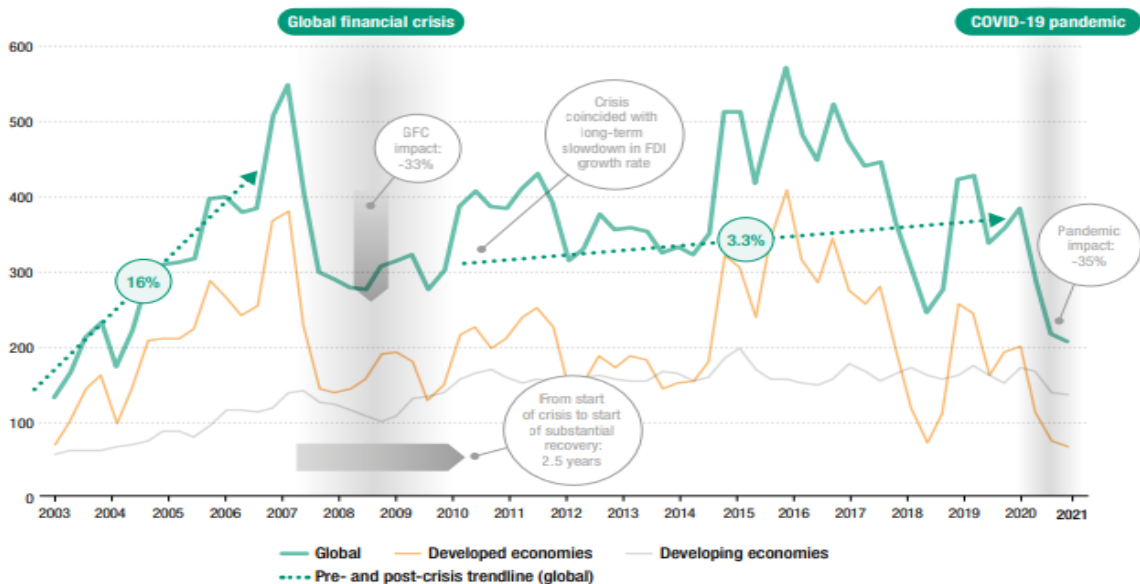


Figure 1. Development of FDI in billions of dollars (World investment Report, 2021).

The existing literature has discovered that these waves of mergers and acquisitions are associated or triggered by different drivers in the economy. Explanations given for

merger waves can be broadly categorized into two categories. The neoclassical hypothesis suggests that economic shocks and disturbances lead to industry reorganizations and thus, causing merger waves (Harford, 2005). Studies such as Mitchell & Mulherin (1996) and Harford (2005) argues for this theory. Mitchell & Mulherin (1996) proposes that such waves are triggered by different economic shocks. Accordingly, Harford (2005) argues that merger waves are driven by economic, technological, and regulatory shocks.

Behavioural hypothesis is the second category of theories which are used to explain merger waves. On the contrary to the neoclassical hypothesis which argues that merger waves are driven by events in the economy, the behavioural hypothesis explains these waves with behavioural explanations (Harford, 2005). Multiple studies have observed the positive correlation between merger activity and stock market valuations (e.g. Schleifer & Vishny, 2003; Rhodes-Kropf et al., 2004). Other behavioural explanations include studies such as Garfinkel & Hankel (2011) which attributes merger waves to risk management considerations and Goel & Thakor (2010), who argues that merger waves are associated with CEO envy. While the current literature provides multiple explanations for merger waves, the general consensus is that macroeconomic conditions and economic shocks are the dominant factors (Bhagwat et al. 2016).

3.1.1 Impact of uncertainty in mergers and acquisitions

The impact of uncertainty on investments is a widely studied phenomenon and it has received growing attention in M&A literature (e.g. Garfinkel & Hankins, 2011; Bhagwat et al., 2016; Nguyen & Phan, 2017). Uncertainty has been observed to affect multiple aspects of the economy. Bloom (2009) argues that uncertainty shocks produce rapid drops in aggregate employment and output. As high uncertainty occurs this causes firms to pause their hiring and investments. Furthermore, uncertainty leads to the fall of growth in productivity as this pause in investments and hiring freezes reallocation. Conversely, Bloom (2006) proposes that while uncertainty shocks produce rapid drops in output and employment, they also generate sharp recoveries. As uncertainty shocks

induce increased volatility in the medium term, this increased volatility results in rapid increase of output, employment, and productivity.

Correspondingly, multiple studies have argued that uncertainty impacts the activity of acquisitions and mergers (e.g. Garfinkel & Hankins, 2011; Duchin & Schmidt, 2013; Bhagwat et al., 2016; Nguyen & Phan, 2017; Cao et al., 2019). Uncertainty has been observed to have a direct link to merger waves. Duchin & Smhidt (2013) argued that acquisitions commenced during merger waves are linked to higher uncertainty. Accordingly, Garfinkel & Hankins (2011) proposes that increases in uncertainty of cash flows causes firms to integrate, which contributes to the start of merger waves.

Policy and regulatory uncertainty have been discovered to strongly affect merger and acquisition activity. Nguyen & Phan (2017) argues that policy uncertainty has a positive relation to the time which acquisition deals take and a negative relation to overall acquisition activity. The negative relation between policy uncertainty and M&A activity has also been observed in other studies such as Bonaime et al. (2018), who proposes that political and regulatory uncertainty has a strong negative association to M&A activity at firm and macro levels. Moreover, Bonaime et al. (2018) argues that the effects are strongest regarding uncertainty in monetary and fiscal policies, government spending, regulation, and taxes. Political uncertainty can also influence the type of acquisitions which firms make. Cao et al. (2019) proposes that in a period of political uncertainty acquisitions are more likely to be cross-border.

Irrefutably, uncertainty can have major effects on M&A activity as it contributes to the start of merger waves (Duchin & Smhidt, 2013) while at the same time in some cases it can hinder the overall merger activity (Bonaime et al., 2018). Uncertainty also affects the time it takes to complete acquisitions and it can even affect acquirers' stock market performance (Nguyen & Phan, 2017). Overall, it is evident that uncertainty has its effects on multiple aspects of our economy, mergers and acquisitions included (Bloom, 2009).

3.2 Motives behind mergers and acquisitions

Multiple studies regarding M&As propose that the motive behind acquisitions affects the acquiring firm's performance (e.g. Berkovitch & Narayanan, 1993; Seth et al., 2000; Lim & Lee, 2016). Different motives can create several different levels and types of risks and returns during and after the public takeover procedure, which ultimately leads to changes in the acquirer's performance. As the motives affect the performance of the acquiring company it becomes essential to be able to recognize the true motives behind the acquisition since it may give an indication about the acquirer's future. There are numerous possible motives behind acquisitions, thus, it becomes difficult to clarify the true motives behind each unique acquisition. However, the current M&A literature has been able to recognize and study some of the most common motives that are perceptible in acquisitions (Nguyen et. al, 2013).

Lim & Lee (2016) proposes that motives can be categorized into three different types: economic, financial, and strategic motives. Economic motives relate to the firm's size and market share. This motive argues that firms perform acquisitions to expand their size or market share to gain benefits such as economies of scale and economies of scope. Financial motive relates to the financial synergy of the acquiring firm. By enhancing the financial synergy, the acquiring firm is able to gain benefits such as reduced capital costs and risks, short-term cash returns and improved borrowing capacity and external ratings, which functions as the motive. Strategic motive, on the other hand, relates to the changes in the firm's industrial structure and the obtainment of valuable assets from the acquisition which results in the acquiring firm's overall competitiveness (Lim & Lee (2016).

As different motives can create several different levels and types of risks and returns during and after the public takeover procedure this results in different choices of deal resolution. For example, according to Lim & Lee (2016), the level of expected returns is

higher in acquisitions with strategic motives than acquisitions with financial motives. This is due to the difference in perceived risk that these two different motives provide.

Acquisitions with financial motives often aims to gain short-term financial synergies, which enables the acquirer to predict more precisely the future expected returns. Hence the decision maker is more sensitive to any risks that arises and is also more likely to not complete the acquisition if some risk factors are perceived. On the contrary, acquisitions with strategic motives are more likely to tolerate higher levels of risks as the accurate prediction of expected returns are harder to forecast. This is because opposed to financial motives, acquisitions with strategic motives target long-term business synergies which require high input and considerable time. This perception of risk and the ability to predict expected returns of the deal ultimately leads to the decision about whether to execute the acquisition or not (Lim & Lee, 2016).

On the contrary to Lim & Lee (2016) a study from Nguyen et. al (2013) proposes a different kind of categorization for the motives behind acquisitions. According to Nguyen et. al (2013) there exists four major motives for M&As that can be identified and classified. These motives can be classified into two different categories. Value-increasing and non-value increasing. The value-increasing M&As are undertaken to gain from the synergy of combining the two firms. This type of M&A motive can be defined as synergetic motive. Contradictory, the non-value increasing motives can be divided into three major types. Agency, hubris, and market timing. Thus, we have four major motives that can be identified in M&As: synergy, agency, hubris, and market timing (Nguyen et. al, 2013).

The synergy motive theory suggests that firms perform acquisitions to achieve desirable value-increasing benefits from combining the physical operations of the two firms. I.e., firms benefit from the synergy of the two merged companies (Nguyen et. al, 2013). The synergy benefits that are usually desired by acquisitions are cost reductions, market power, resources, and market for corporate control. However, as every acquirer has its own motives, the desired benefits vary from every acquisition, and are not limited to

these. As the synergy motive suggests that M&As take place due to the economic benefits gained from acquisition, the value of the merged company is believed to be higher than the sum of the value of the separate companies, thus creating value from the acquisition. As the basis of the synergy theory is that firms perform acquisitions to increase their value and performance, this theory is highly related to the neoclassical theory which states that a firm behaves by the assumption that it is maximizing its value or profit (Ali-Yrkkö, 2002).

Agency motive theory is linked to the agency problem and principal-agent theory by Jensen & Meckling (1976). As corporate managers act as agents to the owners of the company, this creates a possibility that the ownership and management of the company are separated, which is the basis of the agency problem. Therefore, an agency problem is a conflict of interest between the owners and management of the company. The agency view assumes that managers try to maximize their own wealth at the expense of the shareholders of the firm. This can lead to managerial decisions that are not optimal from the perspective of the company or the shareholders. In the context of agent motive and acquisitions, this leads to the assumption that the acquisitions are executed by the managers of the company to gain personal benefits such as power and compensation (Ali-Yrkkö, 2002; Ngyen et al., 2013).

The hubris hypothesis by Roll (1986) is the second type of value-decreasing motive that is evidently recognized in M&As. Hubris motive proposes that the motive behind M&As is the over-confidence or incompetence of the firm's management that leads to non-profitable acquisitions. Managers affected by hubris are prone to overpay for targets and underestimate the synergy which is achieved by carrying out the acquisitions (Ngyen et al., 2013). In acquisition scenarios where the management is competent, the acquirer knows that the current market price of the acquired company is at its lowest where the target company's shareholders can accept it. Thus, when the acquirer's valuation is below this market price, it does not make an offer to the target company. In the hubris

motive theory, the bidder believes that potential synergies exist and thus, overvalues and overpays for the acquisition (Ali-Yrkkö, 2002).

According to Nguyen et al (2013) the market timing motive is the third type of value-decreasing motives behind M&As. Market timing theory of acquisitions argue that stock financed M&As benefit the acquirers' shareholders by converting overvalued equity into hard assets and it is strongly linked to market timing motive. The market timing motive theory suggests that highly valued firms have the motive to buy relatively undervalued targets with stocks even though both firms could be overvalued (Schleifer & Vishny (2003); Savor & Lu, 2009). Multiple studies such as Udding & Boateng (2009) and Dutta et. al (2013) have found stock financed acquisitions to underperform. Furthermore Dong et al. (2006) finds that acquisitions by overvalued firms are typically followed by lower post-acquisition abnormal returns.

Multiple studies have also suggested that some M&As show multiple motives. For example, Berkovitch and Narayanan (1993) suggests that hubris, synergy and agency motives simultaneously coexist in some takeovers. Furthermore, Arnold and Parker (2009) reports that mergers in the UK are related to both market-timing and synergy motives. Thus, in general it is difficult to have a clear picture of what is the true motive behind an acquisition (Ngyen et. al, 2013).

3.3 Variables affecting the performance of cross-border acquirers

As every acquisition is unique, the possible variables affecting the acquirer's performance are numerous. Due to the fact that these variables may co-exist and differ from every acquisition scenario, in many instances it becomes difficult to distinguish and separate every variable that may affect the performance of the acquiring firm. However, previous studies have been able to recognize some of the most common variables that are present in cross-border M&As. A study from Udding & Boateng (2009) proposes that there are five main variables affecting the performance of cross-border acquisitions.

Payment method, public versus private target, target and acquirer's relatedness, geographical origin of target and deal size (Udding & Boateng, 2009).

3.3.1 Payment method

The payment method of the acquisition is one of the main variables that is recognized to possibly affect the performance of the acquiring firm. According to the current M&A literature, the decisions as to whether the acquirer finances the takeover with stocks or cash may affect the acquirer's future performance. However, the existing literature is quite divided as to whether it is better to finance a cross-border acquisition with stocks or cash. Numerous studies have argued that cash-financed acquisitions provide higher returns compared to stocks. In their study, Udding & Boateng (2009) found out that in the UK, cash-financed cross-border acquisitions tend to perform better than non-cash acquisitions. Dutta et. al (2013) came to the same conclusion in their study focusing on Canadian cross-border acquirers.

On the opposing side, Fuller et. al (2002) and Chang (1998) who studied takeovers in the United States, reports that firms who financed their acquisitions via stocks have superior performance compared to cash acquisitions. As the results vary from study to study, it remains uncertain whether cash acquisitions outperform stock acquisitions in cross-border acquisitions. Nonetheless, the current M&A literature shows strong evidence that the payment method of the acquisition may influence the acquirer's performance (Udding & Boateng, 2009).

3.3.2 Public versus private target

Public versus private target can be seen as another variable affecting the acquirer's performance. Udding & Boateng (2009) argues that the form and nature of the target firms may have an influence on the performance of the acquiring firm. Public firms tend to be bigger in size and thus more reputable than private targets. This may lead to higher wealth gains for the acquirers' shareholders and larger benefits for the company, as the

value gained from the acquisitions is higher than from a smaller private firm. On the other hand, as the firm is bigger and more reputable, managers tend to pay more and, in some cases, overpay for the bigger target and hence, creating a risk for both the company and its shareholders.

In the case of private firms, the acquisitions of smaller firms tend to have lower value-increasing benefits compared to public firms, which may lead to non-profitable acquisitions. However, as private targets do not enjoy the same reputation as their public counterparts, private target acquisitions rarely lead to overpayment and therefore lowering the risk of the acquisition and enhancing the wealth gains of the acquirer's shareholders. (Udding & Boateng, 2009). Multiple studies such as Conn et al. (2005) have documented private targets to outperform public targets in both domestic and cross-border acquisitions. However, studies with contradicting results exist (e.g. John et al., 2010).

3.3.3 Relatedness of the acquirer and its target

Existing M&A literature proposes that the relatedness of the acquirer and its target is another variable that may have an impact on the acquirer's performance. Both related and unrelated acquisitions can generate value, but the overall value from related acquisitions is usually more prominent compared to unrelated acquisitions. The value of related acquisitions arises from the benefits gained from the relatedness, such as economies of scope, market power and economies of scale. (Udding & Boateng, 2009).

The main value-increasing benefits gained from unrelated acquisitions come from the possibility of diversification effect. This corporate diversification gained from the unrelated acquisition creates different benefits for acquirer such as: reduction of risk, coin-surance, increased debt capacity and creation of internal capital market (Udding & Boateng, 2009). However, compared to related acquisitions, unrelated acquisitions have multiple value destroying elements which may overshadow the benefits gained from the acquisition. For example, studies have shown that unrelated acquisitions may have damaging effects on the firm's R&D output, and they may lead to increased total stock risk

(Hitt et al., 1991 & Lubatkin & O'Neill, 1987). In the context of cross-border acquisitions, multiple studies such as Udding and Boateng (2009) and Gregory & McCorrison (2005) have found that related cross-border acquisitions have superior performance compared to unrelated cross-border acquisitions.

3.3.4 Geographical origin

Inter-country diversification is one of the main sources where the benefits of cross-border acquisitions emerge. Cross-border diversification may help the acquirer to lower the risks of the acquisitions and it enables the acquiring firm to take advantage of the international product and finance markets. Differences in the governance system, tax structure and in the level of development in technology are some of the advantages which may provide strategic opportunities for the acquiring firm. However, the benefits gained from cross-border acquisitions vary from one country to another. (Udding & Boateng, 2009).

The current literature supports the hypothesis that geographical origins affect the performance of the acquiring firm, even though the literature is divided about some of the results. Udding & Boateng (2009) reports that acquisitions from North America perform better than acquisitions from Europe while a study from Conn et al. (2001) argues that acquisitions from Europe tend to provide better performance compared to other continents. Furthermore, Chari et al. (2004) argues that acquisitions from less developed countries produce positive gains for the firm's shareholders compared to developed countries. Countries with more open banking climates, non-restrictive tax regulations and fewer government restrictions and interventions also tend to have better performance compared to countries with the opposite (Udding & Boateng, 2009). Overall, even with the inconsistencies in the literature, it is evident that the target's geographical origin may influence the acquirer's performance.

3.3.5 Deal size

The deal size of the acquisition is the final main variable that has been evidently found to affect the acquiring firm's performance. There are several reasons why the size of the acquisition deal may have an influence on the acquirer's performance. Firstly, contrary to small deals, larger deals are more likely to be financed by stocks. As discussed previously, the payment method of the acquisition (cash vs. stocks) may affect the acquirer's performance and thus, the size of the deal also may also influence the acquirer's performance (Udding & Boateng, 2009). Several studies such as Dutta et. al (2013) found superior performance in cash financed acquisitions which leads to the assumption that smaller acquisition deals should have better performance. However, as discussed previously there are also studies which opposes this conclusion.

Deal size may also give an indication about the size of the target. As big target acquisitions tend to lead to larger gains of economies of scale and scope, it is evident that it affects the acquirer's performance. The size of the target may also have an effect on the acquirer's financial synergy as large acquisitions can be seen as beneficial for attaining the financial synergy of the acquiring firm via the larger gains of economies of scale and scope (Myers and Majluf, 1984; Sudarsanam, 2003).

On the other hand, smaller acquisitions are easier to integrate into the acquiring firm and it can be done without the possibility of losing control. Furthermore, opposed to smaller targets, larger targets give the acquiring firm's manager higher salary, social recognition and greater power which is another factor that may affect the acquirer's performance, as it can lead to higher managerial performance or value-destroying acquisitions due to hubris. As seen from these arguments above, the deal size of the acquisition may affect the acquirer's performance in several ways and the effects can be both negative and positive (Udding & Boateng, 2009; Seth et al., 2000).

4 Measures of stock performance in M&As

The current M&A literature provides different methods to measure the effects of acquisitions on the stock performance of the acquiring firm. As the methods used to study the effects of cross-border acquisitions are the same as the methods used in domestic acquisition studies, it allows the comparison between the current cross-border studies and the comparison between domestic and cross-border studies. This chapter gives an overview of some of the most commonly used methods which are used to study the effects of acquisitions on the firm's stock performance.

4.1 Standard event study

As stated above, the stock performance of acquisitions can be studied with multiple different tools. However, most of the existing M&A research that studies the share price impacts of acquisitions focuses on the short-term shareholder values of the acquiring firms. As these studies often focus on the effects of the acquisitions around the acquisition (event) date, the most common methodology used to study the effects of acquisitions is the standard event study methodology by Brown & Warner (1985) (Ali-Yrkkö, 2002).

In standard event study the aim is to measure the abnormal return on the stock value of the event studied. The abnormal returns are measured by calculating the difference between the actual stock return and an expected return if the event had not happened (Ali-Yrkkö, 2002).

The raw returns without expected returns can be written as follows:

$$A_{it} = R_{it} \quad (1)$$

Where A_{it} is the abnormal return on stock i at time t and R_{it} is the return on stock i at time t .

The expected returns of the stocks can be calculated with three different methods: Mean adjusted returns method, Market adjusted returns method and OLS market model method (Brown & Warner, 1985). In the mean adjusted returns method, a period is chosen where no information related to the event is released and the average return is estimated for this period (Ali-Yrkkö, 2002).

The mean adjusted returns method can be written as follows:

$$A_{it} = R_{it} - \bar{R}_i \quad (2)$$

Where \bar{R}_i is the average of stock i 's daily returns in the chosen estimation period.

The Market adjusted returns method adds to Mean adjusted method by taking into consideration the risk associated with the market and mean returns:

$$A_{it} = R_{it} - R_{Mt} \quad (3)$$

Where R_{Mt} represents the normal return on the chosen market at time t .

The final method used to calculate the expected returns is the OLS market model where the predicted return at a defined time is assumed to be equal to the return on the market index for that same period of time:

$$A_{it} = R_{it} - \alpha_i - \beta_i R_{Mt} \quad (4)$$

Where α_i and β_i are OLS values from the estimation period.

Finally, after the abnormal returns (A_{it}) are measured, the cumulative abnormal returns or CAR is calculated. This is done by summing the average abnormal returns over the defined event period (Ali-Yrkkö, 2002):

$$CAR_t = \sum_{t=1}^n A_{it} \quad (5)$$

Where CAR_t is the cumulated average return and n stands for the number of days.

One of the most crucial points in a standard event study is the length of the event window used in the study. The event window is defined by the number of days where the possible abnormal returns caused by the event exists (Tao et. al, 2017). When deciding the length of the event window it should be defined to be long enough to capture the full effect of the event and at the same time short enough to enhance the power of the test and the possibility of finding significant evidence. As the event study window is defined by the person conducting the research, using the correct length is a crucial step to the success of any study (Udding & Boateng, 2009).

4.2 Buy-and-hold abnormal return

The standard buy-and-hold abnormal return methodology by Barber & Lyon (1997) is another commonly used tool in M&A literature to study the stock price impacts of acquisitions. While the previously covered standard event study is one of the most commonly used methods when studying the short-term share price impacts, it has its limitation when studying the long-term effects of acquisitions. Barber & Lyon (1997) argues that many commonly used methods such as the standard event study are conceptually flawed or lead to biased test statistics if used to detect the long-run abnormal stock returns. Thus, the usage of buy-and-hold abnormal returns should be preferred over cumulative abnormal returns if measuring the long-run effects.

The method to calculate standard buy-and-hold abnormal returns can be written as follows:

$$BHAR_{iT} = \prod_{t=1}^T [1 + R_{it}] - \prod_{t=1}^T [1 + E(R_{it})] \quad (6)$$

Where ($BHAR_{iT}$) is the buy-and-hold abnormal returns of a stock, $\prod_{t=1}^T [1 + R_{it}]$ is the buy-and-hold investments in a sample firm and $\prod_{t=1}^T [1 + E(R_{it})]$ is the buy-and-hold investments in a reference portfolio with an appropriate expected return.

The BHAR methodology replaces the cumulative abnormal returns used in the standard event study with buy-and-hold abnormal returns. As the standard event study measures the abnormal returns by calculating the difference between the actual stock return and the expected return, the BHAR methodology calculates it by deducting the normal buy-and-hold return from the realized buy-and-hold return. This is done by comparing the returns of a buy-and-hold investments in a sample firm with buy-and-hold investments in a reference portfolio with appropriate expected returns (Barber & Lyon, 1997).

The expected return $E(R_{it})$ in BHAR can be calculated in two different ways: It can be calculated using a reference portfolio return, for example by using the market index return or it can be calculated with control firm returns, where the portfolio consists of firms with different chosen criteria such as matching book to market value ratio and firm size (Dutta et al., 2013). As proposed by Barber & Lyon (1997), when calculating the expected return with a reference portfolio it exposes the results to different biases. These biases affecting the reference portfolio are rebalancing bias, new listing bias and skewness bias.

According to Barber & Lyon (1997), rebalancing bias arises because the compound returns of a reference portfolio are typically calculated using periodic rebalancing while the returns of the sample firms are compounded without rebalancing. New listing bias on the other hand arises because the sampled firms usually consist of firms with a long

event history of returns while the firms in a reference portfolio consists of new firms that began trading after the event. Lastly, the skewness bias arises because long-term abnormal returns are proven to be positively skewed (Barber & Lyon, 1997).

The biases that the reference portfolio method is subject to can be mitigated by using the control firm method covered above. The control firm method mitigates the rebalancing bias by calculating both the control firm and sample firm returns without rebalancing. The new listing bias is eliminated because in the control firm method, both the sample and control firm must be listed. Finally, the skewness bias is eliminated because the control and sample firms are both equally likely to experience major positive returns (Dutta et al., 2013).

As with every other event-based long-run methodology, BHAR suffers from the fact that it does not take into account the cross-dependence among acquisition events, which poses a threat to the performance of the performance of BHAR. This problem cannot be mitigated with the usage of the reference portfolio method or the control firm method. However, this shortcoming of BHAR can be eliminated with different correction methods which are used to adjust the cross-sectional dependence in BHAR test statistics. Finally, as with the standard event study method, defining the event window is another crucial factor to take into consideration when using the BHAR methodology (Dutta et al., 2013).

4.3 Calendar-time approach

Studies using microeconomic data are likely to face the issue of cross-dependent data. This cross-dependence of data is formed from factors such as corporate timing and other psychological behavior patterns which can lead to significantly biased statistical results. Different methods are developed to counter this bias caused by cross-dependence and one of these methods is the Calendar time portfolio approach originating from the works of Mandelker (1974) and Jaffe (1974) (Daniel & Heinz, 2007).

In M&As literature the focus can be placed either on the even-time approach (BHAR and standard event study) or the calendar time approach. Fama (1998) proposes that long-run abnormal returns should be calculated by using monthly portfolios in calendar time. This is because monthly portfolios give the opportunity to take into account the cross-correlation between firms, thus eliminating the problem of cross-sectional dependence. Furthermore, compared to event-time methods this approach allows better statistical inferences.

4.3.1 The Fama-French Three-Factor Model and Calendar-Time Portfolios

The calendar time approach can be used in different methods. One of these methods used in M&A literature is based on the usage of the three-factor model invented by Fama & French (1993). The procedure working with this method is to form an equally or value-weighted portfolio which consists of firms that have experienced M&A activities within the last k years of the calendar month. The return of this portfolio is then calculated for each month and these calendar-time returns are used to estimate the following regression (Lyon et al., 1999):

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{Mt} - R_{ft}) + s_pSMB_t + H_pHML_t + \epsilon_{pt} \quad (7)$$

Where R_{pt} is the portfolio monthly return, R_{ft} is the risk free rate, R_{Mt} is the monthly return on a market index, SMB_t is the difference in the returns of portfolios of small and big stocks, HML_t is the difference in the returns of portfolios of high book-to-market stocks and low book-to-market stocks. β_p , s_p and H_p indicates the loadings of the portfolio on each risk factor while ϵ_{pt} is the error term of the regression. The intercept term α_p stands for the abnormal return of the sample.

Rebalancing the portfolio is an important factor to consider when using this specific method as unbalanced samples have the tendency to overweight observations from periods of small cross-dependence and underweight the periods with large cross-dependence (Loughran & Ritter, 2000).

4.3.2 Mean Monthly Calendar-Time Abnormal Return

Mean Monthly Calendar-Time Abnormal Return is another calendar-time method used in M&A literature. This method calculates the mean monthly returns by using the monthly abnormal returns of each security (Lyon et al., 1999).

The abnormal return of each security in every month is written as follow:

$$AR_{it} = R_{it} - R_{pt} \quad (8)$$

Where AR_{it} is the abnormal return, R_{it} is the difference between the return for each security and R_{pt} is the returns of the market portfolios.

After this the mean abnormal return MAR_t is calculated in each calendar month t :

$$MAR_t = \sum_{i=1}^{n_t} x_{it} AR_{it} \quad (9)$$

Where n_t is the number of firms in the portfolio in month t . x_{it} Stands for the weight which is $1/N_t$ when the abnormal returns are equally weighted and $MV_{it}/\sum MV_{it}$ when abnormal returns are value weighted.

Finally, the mean monthly abnormal returns $MMAR$ calculated:

$$MMAR = \frac{1}{T} \sum_{t=1}^T MAR_t \quad (10)$$

Where T stands for the total amount of calendar months.

5 Stock performance of cross-border acquirers

Most of the existing cross-border M&A literature that studies the stock market effects of acquisitions focuses on the short-term returns of developed countries. The majority of used empirical data in cross-border studies comes from the United Kingdom (e.g. Gregory & Corriston, 2005; Sudarsanam & Mahate, 2003) and from the United States (e.g. Smith & Kim, 1994; Floreani & Rigamonti, 2001; Song & Walking, 2005) but studies focusing on other parts of Europe and Northern America also exist (e.g. Faccio et al., 2006; Chari et al., 2010; Dutta et al., 2013). Although, most of the current empirical evidence concentrates on Anglo-Saxon countries, in recent years studies focusing on the stock performance of emerging markets, such as India and China have also been published (e.g. Bhagat et al., 2011; Nicholson & Salaber, 2013; Tao et al., 2017).

While a notable amount of research is devoted to the impact of cross-border M&As on stock performance, research for the specific factors that define the firms' post-acquisition value in cross-border M&As is still limited (Danbolt & Maciver, 2012). Existing studies provide different theoretical underpinnings for the link between cross-border M&As and stock market reactions. Some studies have adapted to the resource-based view (Gubbi et al., 2010), which links the stock market reactions to the resources that acquisitions facilitate, and which constitutes an important strategic value creation for acquiring firms. Other theories used to explain the stock market reactions of cross-border acquisitions include theories such as agency theory (Chen & Young, 2010) and signaling theory (Tao et al., 2017).

Agency theory explains the stock market reactions with the differences in corporate governance while signaling theory explains the stock market reactions with the assumption that information is not available to all parties at the same time, hence information asymmetry exists. (Tao et al., 2017). Furthermore, some studies have used different variables such as cultural and geographic distance (Chakrabarti et al., 2009) to explain the stock market reactions of cross-border acquisitions. There also exists multiple studies with empirical evidence but with no clear theoretical explanations for the reactions between the

acquisitions and stock market reactions (e.g Floreani & Rigamonti, 2001 & Faccio et al., 2006).

As the stock market effects of acquisitions are usually calculated and analyzed by using abnormal returns, this chapter focuses on the short- and long-term abnormal returns of cross-border acquirers from both developed and emerging markets. By comparing the abnormal returns from different countries and markets, we should get an understanding of what are the effects of cross-border acquisitions on stock performance and how the effects differ between these markets. In addition, this chapter compares the performance difference between domestic and cross-border acquirers. Since the modern financial markets are fully global, it is expected that these studies from different parts of the world should provide rather similar results (Ali-Yrkkö, 2002).

5.1 Short-term stock performance in developed markets

As stated previously, most of the research devoted to the stock impacts of cross-border M&As focuses on short-term stock performance in developed countries. While there exists a vast amount of cross-border acquisition research that studies the stock market reactions in developed countries, a considerable amount of these studies focuses on the United States and Europe. Nonetheless, short-term abnormal returns have been documented in developed countries across the world (Danbol & Maciver, 2012; Tao et al., 2017).

Studies such as Smith & Kim (1994), Floreani & Rigamonti (2001) and Song & Walking (2005) have reported positive abnormal returns for cross-border U.S. acquirers. Smith & Kim (1994) who studies the effects of free cash flow and financial slack on bidder and target stock return on 177 different bidders and targets found 0,23% significant abnormal returns over -1 and 0 days. Supporting this evidence, a study conducted by Floreani & Rigamonti (2001), which focuses on 56 listed acquirers in a time period of 1996-2000 finds 3,65% positive abnormal returns in a 24-day even window. Furthermore, Song &

Walking (2005) who studies the effects of bid activity of 5726 mergers and acquisitions finds 0,8% positive abnormal returns for acquiring firms with a period of more than one year of dormant bid activity.

Positive abnormal returns have also been reported in other developed markets such as Canada and several European countries. Focusing on Canada, a study by Ben-Amar & Andre (2006) which studies the separation of ownership in cross-border M&As reports 1,6% positive abnormal returns for acquiring firms over 3 days in their sample of 238 mergers and 138 acquisitions. Furthermore, a study conducted by Dutta et al. (2013) which focuses on 1300 different acquisitions reports significantly positive abnormal returns for the shares of Canadian acquiring firms around the announcement date.

European studies supporting the evidence that cross-border acquisitions can create positive abnormal returns include studies such as Goergen & Rennebook (2004), Faccio et al. 2006 and Chari et al. (2010). In their study, Goergen & Rennebook (2004) analyzes the short-term wealth effects of 187 European takeover bids. They found that over 5 days around the announcement day, the bidders achieved 0.7% percent significant abnormal returns. Another study focusing on cross-border M&As in European markets is a study conducted by Faccio et al. (2006), which studies 4429 listed and unlisted acquisitions by Western European firms over the period of 1996-2001. In their study, Faccio et al. (2006) reports 1,48% significant positive abnormal returns for unlisted targets in a five-day event period. Lastly, supporting the evidence of positive abnormal returns in cross-border acquisitions in Europe is a study by Chari et al. (2010) which focuses on 2218 European cross-border acquisitions from both developed and emerging markets. In their study, Chari et al. (2010) finds that over a three-day window, the acquisitions in developed markets experienced 1.16% positive abnormal returns on average.

While a wide amount of research supports the evidence that cross-border acquisitions in developed markets can create positive short-term abnormal returns, studies with contradicting results also exist in numbers. One of these studies is a study by Gregory &

Corrison (2005) which studies the short and long-term effects of 343 UK cross-border acquisitions from different continents. Gregory & Corrison (2005) finds that for the full sample, the short-run returns around the announcement date are not significantly different from zero. Further opposing the evidence of positive short-term abnormal returns in developed market cross-border acquisitions is a study by Udding & Boateng (2009), which focuses on the short-term performance of 373 UK cross-border acquirers. In their study Udding & Boateng reports that the UK acquirers do not earn significant positive abnormal returns around and after the acquisition announcement date. Furthermore, some studies have reported negative abnormal returns for cross-border acquirers in developed markets. Sudarsanam & Mahate (2003), who studies 519 listed cross-border UK acquirers found that the whole sample experienced significant negative abnormal returns of -1.4% around the bid announcement period (-1 to +1 days).

As seen above regarding developed markets, there exists a considerable amount of research that supports the evidence of significant positive short-term abnormal returns in cross-border acquisitions. However, as studies opposing this conclusion also exist in significant numbers, the empirical evidence can be seen as mixed and inconclusive. The abnormal returns differ between developed countries. Most of the short-term significant negative abnormal returns in the studies above have been documented in the UK while other developed countries such as Canada seem to experience significant positive abnormal returns more often.

5.2 Short-term stock performance in emerging markets

Compared to the research on cross-border acquisitions in developed markets, the empirical evidence surrounding emerging markets is scarce. Most of the research in developed markets focuses on the most prominent emerging countries such as India and China (Gubbi et al., 2010; Nicholson & Salaber, 2013), however, studies focusing on other emerging markets exist (Aybar & Ficici, 2009; Bhagat et al., 2011).

As with developed markets, positive short-term abnormal returns have also been documented in emerging markets. Focusing on India and China, studies by Gubbi et al. (2010) and Nicholson & Salaber (2013) are some of these studies where positive abnormal returns have been found. Gubbi et al. (2010) studies 425 different cross-border acquisitions by Indian firms and found evidence of positive 2,9% abnormal returns for the acquiring firms' shareholders over an 11-day event window. Nicholson & Salaber (2013) focused on both Indian and Chinese cross-border acquisitions with their sample including 203 Indian firms and 63 Chinese firms. In their study, Nicholson & Saber (2013) finds that the Chinese acquirers achieved 3,8% positive abnormal returns while the Indian acquirers experienced similarly positive 2,5% abnormal returns for a five-day event window. Further supporting the evidence of positive abnormal returns in emerging markets is a study by Bhagat et al. (2011) which studies 698 acquisitions from eight emerging countries. In their study, Bhagat et al. (2011) concluded that the sample experienced significant positive abnormal returns of 1.09% on the announcement date.

Compared to the research devoted to developed markets, the empirical evidence is similarly mixed with the research focusing on emerging markets. Studies such as Aybar & Ficici (2009) and Cheng & Young (2010) both provide opposing empirical evidence for positive abnormal returns in cross-border acquisitions. Aybar & Ficici (2009) studies 433 cross-border acquisitions by 58 companies from a variety of different emerging countries. In their study, Aybar & Ficici (2009) found an average of -1.38% of negative abnormal returns for the whole sample 10 days before and after the event date. Similarly, with a more defined sample Cheng & Young (2010) studied cross-border acquisitions by 32 Chinese enterprises and found that the acquirers experienced negative average cumulated abnormal returns around the acquisition date.

While the cross-border M&A research focusing on emerging markets is scarcer than in developed markets, the empirical evidence in both markets provides rather similarly mixed results. As shown above, the results of these studies from both markets vary from positive to negative abnormal returns, while some studies report no abnormal returns.

Thus, the evidence of whether cross-border acquisitions are able to create positive abnormal returns in the short run remains mixed and inconclusive in both markets. However, compared to developed markets the experienced abnormal returns seem to be more significant in emerging countries.

5.3 Long-term stock performance

Most of the current research concerning the stock performance of cross-border acquisitions focuses on the effects of the acquisitions around the date of the acquisition. The evidence of long-run stock performance in cross-border M&As is significantly scarcer compared to short-term performance and the current empirical evidence of long-run performance is heavily focused on developed markets (Gregory & McCorriston, 2005).

As positive abnormal returns may dissipate over time, research surrounding only the announcement period may not fully reflect the effects of the acquisitions. This argument could be particularly highlighted in cross-border acquisitions if the acquisition or the premium paid is affected by short-term factors such as a given level of exchange rate, changes in legislation, or the presence of increased protectionism. Hence, as these factors may affect the stock performance in the short run, the results concerning the short-term returns may not fully reflect the wealth effects of the acquisitions in the long run (Gregory & McCorriston, 2005).

Similarly, regarding the short-term stock performance of cross-border acquisitions, the empirical evidence for the long-term stock performance is equally inconclusive. A handful of current studies have found no long-term abnormal returns on average in cross-border acquisitions. One of these studies is a study by Gregory & McCorriston (2005), which studies 343 acquisitions by UK companies. In their study, Gregory & McCorriston (2005) concluded that the returns are insignificantly different from zero on average for the full sample in a 1-, 3- and 5-year event window.

Further supporting this argument, Chakrabarti et al. (2009) who focus on 800 cross-border acquisitions from different countries finds no significant abnormal returns in 24-, 30- and 36-month event windows. Finally, a study by Dutta et al. (2013) which focuses on 1300 cross-border and domestic acquisitions by Canadian acquirers. In their study, Dutta et al. (2003) came to the same conclusion as the other studies above, with no significant abnormal returns found on average for the whole cross-border sample in a three-year event period.

These results are in line with the market efficiency hypothesis which states that there should not be any long-run abnormal returns following any significant event (Fama, 1998). As cross-border acquirers experience abnormal returns in the short run, these overreactions balance out as time passes, resulting in no abnormal returns in the long run (Dutta et al., 2013). However, even though some of the studies suggest that the long-run abnormal returns do not significantly differ from zero on average, significant abnormal returns have also been documented.

Focusing on the studies mentioned previously, Gregory & McCorriston (2005) finds no long-term significant abnormal returns for the full sample on average. However, in their sample, Gregory & McCorriston (2005) documented significant negative abnormal returns for the US acquisitions, insignificant returns for the EU acquisitions and significant positive abnormal returns for acquisitions in other regions. Likewise, Dutta et al. (2013) finds no long-term significant abnormal returns for the full sample but reports that cash-financed cross-border acquisitions did not experience any abnormal returns while stock-financed acquisitions experienced significant negative abnormal returns.

In more recent studies Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) both found statistically significant negative abnormal returns for the event firms. Bessembinder and Zhang (2013) studied American SEOs, IPOs, M&As and Dividend initiations between the years 1980 and 2005 and found statistically negative abnormal returns in the long run for SEOs, IPOs and M&As and statistically significant positive abnormal

returns for Dividend initiations. Jensen-Vintrup et. Al., (2018) acquired similar results in their study which focused on European cross-border acquisitions between 2002-2012. In their study Jensen-Vintrup et. Al., (2018) found that European cross-border acquirers experience statistically significant abnormal returns in the long run. Thus, as both significant positive and negative abnormal returns have been documented, the evidence of whether cross-border acquisitions do not create any abnormal returns in the long run remains rather inconclusive.

As with short-run cross-border stock market performance, the contradictory evidence in studies focusing on long-term performance could be explained by the complexity and diversity of cross-border acquisitions. Cross-border acquisitions can be affected by multiple factors that may influence abnormal returns (Gregory & McCorriston, 2005). In their study, Gregory & McCorriston (2005) finds that the abnormal returns vary across different regions and thus, abnormal returns may be experienced in some regions more often than others. This argument that abnormal returns differ from one country to another is supported by Chakrabarti et al. (2009) who finds that cross-border acquisitions perform better in the long run if the acquirer and the target come from countries that are culturally more disparate.

Apart from cultural and geographical distance, another factor that possibly affects the abnormal returns is the payment method of the acquisition. In their study, Dutta et al. (2013) finds a significant difference between the stock market performance of acquirers depending on whether the acquisition is financed with stocks or cash. The stock performance of a cross-border acquiring company could also be explained with other factors such as public vs. private target (Conn et al., 2005) and firm-specific advantages such as R&D (Gregory & McCorriston, 2005). Another factor apart from the nature of cross-border acquisitions which may explain the contradictory results in current cross-border M&A literature is the basic differences in research methods, as the empirical evidence may vary depending on the methodological choices (Dutta & Jog, 2009).

Overall, the current M&A literature cannot provide conclusive evidence for either the short-run or long-run stock market performance of cross-border acquirers. As the results of current literature from both markets vary from positive to negative abnormal returns to no abnormal returns, the evidence remains inconclusive.

5.4 Cross-border vs. domestic acquisitions

As the number of cross-border acquisitions has been significantly growing in volume worldwide for the past decades, the relevancy and the need to focus on the comparison between domestic and cross-border acquisitions has been highlighted. As cross-border acquisitions provide the acquiring companies with a wide range of new opportunities and advantages for value creation, the stock market reactions of cross-border acquirers are expected to differ from domestic acquirers (Jensen-Vinstrup et al., 2018).

The existing literature provides some evidence that the stock market effects of cross-border mergers and acquisitions differ from domestic deals. Previous studies such as Moeller et al. (2005) suggests that domestic acquirers outperform cross-border acquirers. Moeller et al. (2005) finds that in their sample of 4430 U.S acquisitions, cross-border acquirers experience significantly lower stock returns of approximately 1% around the announcement date. Further supporting the evidence of domestic acquirers outperforming their cross-border counterparts is a study by Conn et al. (2005). In their study of 4000 UK acquisitions, Conn et al. (2005) concludes that cross-border acquisitions results in overall lower announcement and long-run returns compared to domestic acquisitions.

On the contrary, more recent literature such as Danbolt & Maciver (2012) and Gregory & O'Donohoe (2014) finds evidence of superior performance in cross-border acquisitions. In their study, Danbolt & Maciver (2012) finds that in an event period of 11-days, the overall wealth creation of cross-border acquisitions is significantly higher compared to domestic acquisitions. Gregory & O'Donohoe (2014) finds similar results in their

study. Gregory & O'Donohoe (2014) concludes that in their sample of 288 UK acquisitions domestic acquirers underperform in general compared to cross-border acquisitions in a 5-day event window.

Current literature explains this possible superior performance of cross-border acquisitions by pointing out the advantages that cross-border acquisitions provide. Most of the benefits of cross-border acquisitions arise from the possibility of geographical diversification (Jensen-Vinstrup et al., 2018). By entering new regions cross-border acquirers may exploit the foreign countries' valuable resources and imperfections in the modern financial markets. For example, if the acquirer's and the target's capital markets are not properly integrated, changes in stock market valuations, exchange rates and different levels of taxation may allow the acquirer to buy relatively inexpensive targets (Douklas & Travlos, 1998). Accordingly, Vasconcellos et al. (1990) proposes that international diversification through M&As can be used to improve the trade-offs between risk and return, even if the industries do not differ. This is because the covariance of returns is likely to be higher in a single country compared to returns across different countries.

Moreover, cross-border acquisitions create further opportunities for value creation by providing the advantages of risk diversification, market knowledge and development of new synergies by exploiting the geographical and cultural distance. Cross-border acquisitions may also be used to bridge the imperfections in capital, product, and factor markets (Gregory & O'Donohoe, 2014; Chakrabarti et al., 2009).

However, compared to domestic acquirers, cross-border acquirers also face unique challenges that may negatively affect the acquirers' performance. As cultural and geographical distance has its benefits it also leads to numerous challenges such as difficulty of integration and difficulty in valuation (Chakrabarti et al., 2009). Furthermore, due to the complexity and nature surrounding cross-border acquisitions, acquirers participating in international deals may suffer from incomplete knowledge which leads to internal uncertainty and greater acquisition costs. Overall, cross-border acquisitions have been

documented to have larger scope for valuation error and agency problems (Danbolt & Maciver, 2012; Gregory & O'Donohoe, 2014).

Similarly, to the abnormal returns of cross-border acquisitions, the existing literature is divided about the performance difference between domestic and cross-border acquirers. As older literature shows empirical evidence of cross-border acquirers underperforming compared to domestic, the more current literature finds evidence of cross-border acquisitions outperforming domestic acquisitions. However, the current literature shows that domestic acquisitions typically create negative or null abnormal returns while the wealth gains in cross-border acquisitions tend to have more variation. This implies a possibility for cross-border acquirers to achieve higher post-acquisition performance compared to domestic acquirers (Jensen-Vinstrup et al., 2018).

6 Data and methods

This section reviews the methodology and sample used to assess the long-run abnormal returns of European cross-border acquirers in this thesis. The first section explains the sample selection and filtering methods that are used to define the sample. Additionally, sample statistics for the final sample are presented. The second section presents the chosen methodology and descriptive statistics.

6.1 Sample selection

The sample of this thesis consists of public German, UK, French, Finnish, and Swedish companies that have completed acquisitions between 2003 and 2020. These countries were selected due to the significance that these countries have for the overall acquisition volume of Europe. Within the last decades these countries have been the top five cross-border acquirers in Europe when measuring public acquisitions (Jensen-Vintrup et. al, 2018). The sample ends in 2020 to allow 36-month (3-year) post-event stock returns for the used methodology.

The thesis follows the filtering processes of Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) and all acquisition data is gathered from LSEG Datastream. The first sample defining criteria for the sample were that 1) the acquisitions were completed, 2) the deal value of the acquisition was available, and 3) all necessary data for the event period and the firm characteristic data were available for the chosen firms. These filterings resulted in a total sample of 231 events for the sample period of 2003-2020.

Following the work of Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) the following additional criteria were used to enhance the reliability of the results. First, acquirers in the financial sector were excluded because of the specific traits of this sector, such as accounting standards and regulatory specifics which could bias the results. Second, the sample excludes acquirers who have been involved in other deals within three years after and before the event. This is done to avoid noise that may arise from multiple

events within a single event observation period. Finally, the transaction value of the deal has to be more than 3 million dollars (approx. 2,7 million euros) to exclude small deals that are less likely to have material impacts. The deal value requirement is reduced from the 5-million-dollar threshold used by Bessembinder and Zhang (2013) to keep the sample size at an adequate level. These filterings resulted in a total final sample of 102 acquisitions for the sample period of 2003-2020.

	Country					Total
	Finland	France	Germany	Sweden	United Kingdom	
2003	0	0	1	1	2	4
2004	0	3	1	0	4	8
2005	0	0	0	1	2	3
2006	0	1	0	1	7	9
2007	4	0	0	1	4	9
2008	1	0	1	0	4	6
2009	0	0	0	1	0	1
2010	0	0	0	2	5	7
2011	1	2	1	1	4	9
2012	0	0	0	0	1	1
2013	0	0	1	0	1	2
2014	0	1	0	0	4	5
2015	0	0	1	2	2	5
2016	0	1	0	3	1	5
2017	0	0	3	2	2	7
2018	0	2	0	2	4	8
2019	0	2	3	1	6	12
2020	0	0	0	0	1	1
Total	6	12	12	18	54	102

Table 1. Yearly distribution of events per country

Industry	Count
Consumer Products and Services	9
Consumer Staples	5
Energy and Power	5
Healthcare	13
High Technology	24
Industrials	14
Materials	12
Media and Entertainment	5
Real Estate	7
Retail	3
Telecommunications	5
Total	102

Table 2. Distribution of events per industry

6.2 Methodology

Following Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013), the purpose of this thesis is to study abnormal returns of the event firms. In addition, the abnormal returns of the event firms are studied with different firm characteristics that have been shown to be associated with expected stock returns. The goal is to find firm characteristics that are able to explain the possible abnormal returns of the event firms. In accordance with Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) the following firm characteristics were chosen to explain the abnormal returns of European cross-border acquirers: market beta, firm size, Book-to-Market (BM), momentum and idiosyncratic volatility.

The values for market beta, firm size and BM are directly gathered from LSEG Datastream. Following Bessembinder and Zhang (2013), market beta is the monthly beta of the firm's stock and firm size is measured as market capitalization at the end of the latest June. Momentum and Idiosyncratic risk are calculated from the daily and monthly returns of the event firms. Momentum is the cumulative return of a stock over months 12 to 2. Idiosyncratic risk is the annualized standard deviation of the residuals obtained in a Fama and French three-factor regression implemented in daily returns.

A common methodology to assess the long-run returns of acquirers is the BHAR method (see Barber & Lyon, 1997 and chapter 4.2) where the BHAR of event firm R_{it} over T months after a corporate event date 0 is:

$$BHAR_{iT} = \prod_{t=1}^T [1 + R_{it}] - \prod_{t=1}^T [1 + E(R_{it})] = \exp\{\sum_{t=1}^T \ln(1 + R_{it})\} - \exp\{\sum_{t=1}^T \ln(1 + E(R_{it}))\} \quad (11)$$

where R_{it} and $E(R_{it})$ are the month t stock returns of the event firm and the chosen reference portfolio, respectively.

In accordance with Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) the following regression model is implemented in favor of the regular BHAR to study the long-term abnormal returns and their links to firm characteristics after a corporate event:

$$\ln(1 + R_{it}) - \ln(1 + E(R_{it})) = \alpha + \beta_1 \text{Beta}_{it} + \beta_2 \text{Size}_{it} + \beta_3 \text{BM}_{it} + \beta_4 \text{Mom}_{it} + \beta_5 \text{IdioVol}_{it} + \varepsilon_{it}$$

$$i = 1, 2, 3, \dots, I; \quad t = 1, 2, 3 \dots T \quad (12)$$

where the dependent variable of the regression is the difference between month t logarithmic stock returns of the event firm R_{it} and logarithmic returns of the STOXX600 index $E(R_{it})$. On the right side of the equation are the explanatory variables which are the chosen five firm characteristics.

Different from Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) this thesis uses a reference portfolio (STOXX Europe 600) in $E(R_{it})$ opposed to firm matching to assess the excess performance of the acquiring firms. The reference portfolio methodology produces some limitations and possible biases to this method and BHAR, which are discussed in more detail in chapter 4.2.

The wealth relative introduced by Loughan & Ritter (1995) is also considered in the analysis of the abnormal returns:

$$WR_{eT} = \exp\left\{\sum_{t=1}^T [\ln(1 + R_{it}) - \ln(1 + E(R_{it}))]\right\} = \frac{\prod_{t=1}^T [1 + R_{it}]}{\prod_{t=1}^T [1 + E(R_{it})]} \quad (13)$$

The wealth relative WR_{eT} measures the gross return over a certain period for a \$1 investment in the event firm compared to the same investment in the reference portfolio or STOXX Europe 600 index in this case. Assessing whether $BHAR_{iT}$ is equal to zero is the same as examining whether WR_{eT} is equal to 1. Both of these are equivalent to evaluating whether the time series mean log return is equal across the event firms and

STOXX Europe 600. A value of WR_{eT} above 1 corresponds to a positive abnormal return (BHAR > 0). As proposed by Bessembinder and Zhang (2013), the estimated intercept α from equation (12) can be converted into wealth relative as follows: $WR_{eT} = \exp(\alpha T)$.

This approach offers four improvements compared to the normal BHAR method. First, it takes into consideration the variation in firm characteristics. Second, it accommodates variation across time in the chosen firm characteristics. Third, by using the Wealth relative to observe the point estimate of abnormal returns it minimizes the compounding problem of BHARs (see e.g.: Fama, 1998 and Mitchell and Stafford, 2000). Fourth, as long-run BHARs are observed to be skewed and to have fat tails (see e.g.: Barber and Lyon, 1997 and Mitchell and Stafford, 2000) this makes statistical inferences difficult. In contrast, the difference in monthly log returns, which is used as the dependent variable in this specification, has better statistical properties (Bessembinder and Zhang, 2013).

Mean	-0.0246
Kurtosis	33.6427
Skewness	-2.2535
Variance	0.0333
Std. Dev.	0.1825
Min	-2.5476
5th percentile	-0.2666
25th percentile	-0.0869
Median	-0.0173
75th percentile	0.0490
95th percentile	0.2011
Max	1.3072

Table 3. Descriptive statistics of log-log returns between event firms and STOXX600

The crucial part of studying abnormal returns with this methodology is the estimated intercept α which defines the abnormal returns. By the definition provided by Bessembinder and Zhang (2013): “When the equation is estimated without any explanatory variables, the estimated intercept measures the differential in the average continuously

compounded return across event and control firms. When the explanatory variables are included in the regression, the intercept estimates the mean abnormal log return to event firms conditional on no difference in firm characteristics across event firm. Testing the hypothesis that the intercept is zero is equivalent to testing whether the BHAR is zero and whether the wealth relative is one.”.

In line with Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) the regressions formed from equation (12) are pooled OLS regressions with robust standard errors. As noted by Bessembinder and Zhang (2013) clustering the pooled regressions by date greatly reduces the estimated absolute t-statistics compared to clustering by deal, indicating strong correlations in residuals between given dates across the companies. The same results from test regressions were obtained for the data used in this thesis. Therefore, the pooled regressions are clustered by date.

7 Empirical results

Table 4 presents the key results obtained when estimating the pooled regressions formed from equation (12). Column 1 reports the results when equation (12) is estimated without any explanatory variables. The constant indicates the overall abnormal returns when no variables are added. The columns from 2 to 6 presents the results of equation (12) when only single explanatory variable is added to the regression sequentially. This allows to investigate the individual effect of each variable on the abnormal returns. Finally, column 7 shows the results when every explanatory variable is added to equation (12). Thus, Column 7 indicates whether these variables are able to explain the abnormal returns together when observing the linear relationship between firm characteristics and abnormal returns.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Beta		-0.00223 (-0.28)					-0.00114 (-0.16)
Size			0.00000110*** (4.43)				0.000000725** (3.00)
BM				0.0141*** (3.63)			0.0135*** (3.49)
Momentum					0.000212** (2.82)		0.0000963 (1.68)
Idiosyncratic vol						-0.0740*** (-4.84)	-0.0935 (-1.20)
Constant	-0.0246*** (-6.78)	-0.0227*** (-3.28)	-0.0258*** (-6.91)	-0.0318*** (-7.25)	-0.0244*** (-6.79)	-0.0151*** (-3.84)	-0.0195 (-1.63)
Cluster by date	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3774	3774	3774	3725	3774	3774	3725
Adjusted R-squared	0.000	0.000	0.001	0.064	0.005	0.050	0.070
Wealth Relative	0.4125	0.4417	0.3950	0.3183	0.4154	0.5807	0.4956

*T-statistics are reported in parentheses under each coefficient. Superscripts correspond to statistical significances at one percent ***, five percent ** and ten percent * levels.*

Table 4. Main regression results

The negative intercept of -0.0246 in column 1, corresponds to a wealth relative of 0.4125 indicating a 58,8% underperformance of event firms compared to STOXX600. The intercept is statistically significant at the 1% level indicating statistically significant underperformance of event firms compared to STOXX600. These results are in line with Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) and leads to the rejection of the first hypothesis of this thesis.

When observing the sequential inclusion of firm characteristics in columns 2-6 we can see that only stock Beta is not statistically significant at any level, indicating no relation or effect to the underperformance of the acquirers. On the contrary, Size, BM (Book-to-market), Momentum and Idiosyncratic volatility have statistically significant effects on the abnormal returns of the event firms. Momentum being statistically significant at the 5% level and rest being significant at the 1% level. The effect is positive for Size, BM, and Momentum indicating that an increase in these variables has a positive effect on the stock's performance after the acquisition while an increase in idiosyncratic volatility has a negative effect.

However, as the constant stays statistically significant for all these four variables, this indicates that these variables are able to explain very little of the underperformance of European cross-border acquirers alone. The effect is also economically non-significant as the constant stays between -0.0151 and -0.0381 for every variable. Thus overall, none of these four variables are able to alone explain the underperformance. This is also in line with the results of Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013).

When observing column 7 with all of the five firm characteristics added to the regression, we can see that only Size and BM are statistically significant with Size being significant at a 5% level and BM at a 1% level. The effects are economically non-significant. However, opposed to the previous regressions adding all five characteristics to the regression results in a statistically non-significant constant of -0.0195 (wealth relative of 0.4956),

implying that these variables are able to explain the underperformance of European cross-border acquirers. This supports the second hypothesis of this thesis and the results of both Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) which states that possible abnormal returns are not linked to the actual event but to the firm characteristics of firms partaking in these events. However, it is worth noting that opposed to Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) this thesis uses reference portfolio in favor of firm matching which might bring bias to these results. Moreover, the possible nonlinear relationship of the abnormal returns and firm characteristics is not taken into account in this thesis. The limitations of these results are further discussed in the conclusion chapter and in chapter 4.2.

7.1 Robustness check: year and country effects

Table 5 presents the results obtained when estimating the pooled regressions formed from equation (12) with the sample divided in specified ways to check the robustness of the results presented in table 4. Column 1 and 2 contains results when the sample is divided into different periods according to the event date. Column 1 presents the results when only deals before 2012 are considered, and consequently, column 2 presents the results from pooled regressions for deals performed after 2011. The two periods reflect the main results from table 4 with BM and Size being the only statistically significant variables and the constant having both economically and statistically insignificant values for both columns.

Interestingly, in 2003-2011 BM is the main factor explaining the abnormal returns with 1 percent significance level while in 2012-2020 Size is the main explaining variable with 5 percent significance level. The wealth relatives of ~ 0.41 (2003-2011) and ~ 0.57 (2012-2020) results in 59,3% and 43% underperformance of acquirers compared to the STOXX600 index respectively. Overall, the results from columns 1 and 2 are mostly in line with the main regressions results of table 4.

	(1) 2003-2011	(2) 2012-2020	(3) UK	(4) Sweden	(5) Germany	(6) France	(7) Finland
Beta	-0.00548 (-0.46)	0.0150* (2.03)	-0.00603 (-0.69)	0.0268 (1.48)	0.00120 (0.06)	0.00275 (0.29)	0.00552 (0.09)
Size	0.00000452* (2.55)	0.000000532** (3.23)	0.0000253*** (4.50)	0.00000804** (2.65)	0.0000187 (1.09)	0.00000495 (1.88)	0.0000510 (1.62)
BM	0.0153*** (11.82)	-0.00706 (-0.86)	0.0144*** (3.49)	0.00307 (0.76)	-0.0322** (-2.78)	-0.0338* (-2.07)	0.0483 (1.48)
Momentum	0.000141 (1.66)	0.000000249 (0.01)	0.000102 (1.58)	-0.0000410 (-0.34)	-0.0000633 (-0.43)	-0.0000938 (-0.55)	0.000232 (0.80)
Idiosyncratic vol	-0.0676 (-1.49)	-0.0376 (-0.25)	-0.121 (-0.94)	-0.0292 (-0.25)	-0.0695 (-0.23)	0.224 (1.14)	0.0717 (0.45)
Constant	-0.0250 (-1.90)	-0.0156 (-0.95)	-0.0234 (-1.42)	-0.0377 (-1.67)	0.0166 (0.37)	-0.0191 (-0.78)	-0.0788 (-1.57)
Cluster by date	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2023	1702	1985	666	444	444	186
Adjusted R-squared	0.119	0.05	0.123	0.003	0.026	0.024	0.001
Wealth Relative	0.4066	0.5703	0.4307	0.2574	1.8178	0.5028	0.0586

*T-statistics are reported in parentheses under each coefficient. Superscripts correspond to statistical significances at one percent ***, five percent ** and ten percent * levels.*

Table 5. Year and country effects

Columns 3-7 presents the results when the data for the pooled regression is sampled based on the acquirers' country of origin. The results are in line with columns 1-2 and with the main regression results from table 4. The constant is both economically and statistically insignificant throughout all columns 3-7 and Size and BM are the main explaining variables for the abnormal returns when observing the significance levels. As expected, United Kingdom with the most observations has the most statistically significant results with both BM and Size being statistically significant at 1 percent levels for the whole sample period of 2003-2020.

Notably, the signs of the coefficients change depending on the country suggesting variance in how the variables affect the abnormal returns. For example, higher Book-to-market has positive effect on the post-deal returns in UK while the opposite is true in Germany. However, country specific conclusions are to be made with caution due to the variance in observations within this specific data.

The wealth relatives' range between 0.0586 (Finland) and 1.8178 (Germany) suggesting 94,1% underperformance in Finland and 81,8% overperformance in Germany compared to STOXX600. From the whole sample Germany is the only country where cross-border acquisitions have been profitable for the whole sample of 2003 to 2020. It is also notable, that apart from rest of the countries neither France nor Finland has statistically significant variables. This could be the result of insufficient observations as the significance seems to disperse when observations decrease. This is evident when comparing the results of UK with Finland and France. Overall, the results of column 3-7 are also mostly in line with the main regressions results supporting the main results presented in table 4.

8 Conclusions

This thesis examines the long-run impact of cross-border acquisitions on the acquirer's stock performance in Europe. More specifically, how cross-border acquisitions affect the acquirer's stock market performance in Germany, France, UK, Finland and Sweden. The thesis also includes a theory section that discusses the relevant theories regarding M&As. In addition, the theory section gives an overview of some of the most common methodologies used in M&A literature to measure stock market performance. The hypotheses of this thesis are built upon existing literature and the methodology to study the hypotheses is based on previous studies relevant to this subject.

Numerous previous studies focusing on this subject have found significant abnormal returns (e.g., Faccio et al. 2006, Chari et al., 2010 and Dutta et al., 2013). However, most of these studies attribute the abnormal returns to the corresponding events without further studying the causation behind the abnormal returns. As proposed by Bessembinder and Zhang (2013), the observed abnormal returns might not be always linked to the observed event itself but rather to the firm characteristics of the firms partaking in these events. The implication of this is that the possible abnormal returns that cross-border acquirers experience can be explained by the differences in firm characteristics between the firms partaking in these events rather than just the event.

Following the work of Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) a regression-based method is used to 1. Study whether European cross-border acquirers experience abnormal returns in the long run and 2. Can the abnormal returns be explained by the firm characteristics of the firms partaking in these events. The findings of this thesis propose that cross-border acquirers in Europe experience statistically significant negative abnormal returns in the long run, rejecting the first hypothesis of this thesis. Moreover, the results imply that these abnormal returns can be explained by the firm characteristics of the firms partaking in these events, which in turn supports the second hypothesis.

From the five variables which were chosen in this thesis to explain the abnormal returns especially Size, BM (Book-to-market), Momentum and Idiosyncratic volatility seems to have effects in some degree on the abnormal returns of cross-border acquirers. The effect was positive for Size, BM, and Momentum which suggests that increase in these characteristics would lessen the negative impact of the event to some degree. The evidence suggests the opposing for idiosyncratic volatility, which seems to further enhance the negative returns following the event. Size and BM seem to have the biggest effect on the abnormal returns evidenced by the statistical significance of these variables even when adding all five of the variables into the regression. From these variables Beta had the least impact on the abnormal returns.

Overall, the results of this thesis propose that cross-border acquisitions are not a profitable strategy for European firms on average. This does not necessarily mean that cross-border acquisition is always non-profitable, but that firms should take extra caution when partaking in them. This is highlighted by the observation that the firm characteristics of these firms partaking in these events have a notable effect on the returns of the acquiring firms. Therefore, ultimately the decisions to acquire should be made with great consideration and careful analysis of these factors involved to ensure positive performance. Additionally, people looking to invest in European firms partaking in cross-border acquisitions should pay extra attention to the characteristics of the acquiring firm.

It is also notable that as evidenced by the results of previous studies some countries experience significant positive abnormal returns on average more often than others, even within the same markets. For example, multiple studies regarding Canada have reported significant positive abnormal returns while most of the studies focusing on the UK found significant negative abnormal returns post cross-border acquisitions. Moreover, compared to developed markets, countries from emerging markets seem to experience more significant abnormal returns. This suggests that studies focusing on multiple countries might find it difficult to argue conclusive evidence for the whole sample, as opposed to studies which focus on one country.

Finally, as discussed previously this thesis uses an index (STOX600) as a reference portfolio opposed to firm matching preferred by Jensen-Vintrup et. al (2018) and Bessembinder and Zhang (2013) to study the abnormal returns. This method exposes the results to different biases (rebalancing bias, new listing bias and skewness bias) which might affect the results. However, the usage of the regression-based model opposed to regular BHAR mitigates the effects of these biases to some degree as explained in chapter 6.2.

In the light of conclusive evidence additional robustness measures such as Fama-MacBeth regression and collinearity regressions should be carried out. Firm matching for the sample could also be performed to further mitigate the biases mentioned above. Additionally, to further enhance the results additional countries could be added to the sample to fully capture the effects within the entirety of Europe.

References

Agyei-Boapeah, H. (2019). Foreign acquisitions and firm performance: The moderating role of prior foreign experience. *Global Finance Journal*, 42, 100415. <https://doi.org/10.1016/j.gfj.2018.02.001>

Ali-Yrkkö, J. (2002). *Mergers and acquisitions: Reason and results* (No. 792). ETLA Discussion papers. <http://hdl.handle.net/10419/63797>

Andrade, G., Mitchell, M., & Stafford, E. (2001). New evidence and perspectives on mergers. *Journal of economic perspectives*, 15(2), 103-120. [10.1257/jep.15.2.103](https://doi.org/10.1257/jep.15.2.103)

Aybar, B., & Ficici, A. (2009). Cross-border acquisitions and firm value: An analysis of emerging-market multinationals. *Journal of International Business Studies*, 40(8), 1317-1338. <https://doi.org/10.1057/jibs.2009.15>

Barber, B. M., & Lyon, J. D. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of financial economics*, 43(3), 341-372. [https://doi.org/10.1016/S0304-405X\(96\)00890-2](https://doi.org/10.1016/S0304-405X(96)00890-2)

Ben-Amar, W., & André, P. (2006). Separation of ownership from control and acquiring firm performance: The case of family ownership in Canada. *Journal of Business Finance & Accounting*, 33(3-4), 517-543. <https://doi.org/10.1111/j.1468-5957.2006.00613.x>

Berkovitch, E., & Narayanan, M. P. (1993). Motives for takeovers: An empirical investigation. *Journal of Financial and Quantitative analysis*, 28(3), 347-362. <https://doi.org/10.2307/2331418>

Bessembinder, H., & Zhang, F. (2013). Firm characteristics and long-run stock returns after corporate events. *Journal of Financial Economics*, 109(1), 83-102. <https://doi.org/10.1016/j.jfineco.2013.02.009>.

Bhagat, S., Malhotra, S., & Zhu, P. (2011). Emerging country cross-border acquisitions: Characteristics, acquirer returns and cross-sectional determinants. *Emerging markets review*, 12(3), 250-271. <https://doi.org/10.1016/j.ememar.2011.04.001>

Bhagwat, V., Dam, R., & Harford, J. (2016). The real effects of uncertainty on merger activity. *The Review of Financial Studies*, 29(11), 3000-3034. <https://doi.org/10.1093/rfs/hhw061>

Bloom, N. (2009). The impact of uncertainty shocks. *Econometrica*, 77(3), 623-685. <https://doi.org/10.3982/ECTA6248>

Bonaime, A., Gulen, H., & Ion, M. (2018). Does policy uncertainty affect mergers and acquisitions?. *Journal of Financial Economics*, 129(3), 531-558. <https://doi.org/10.1016/j.jfineco.2018.05.007>

Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of financial economics*, 14(1), 3-31. [https://doi.org/10.1016/0304-405X\(85\)90042-X](https://doi.org/10.1016/0304-405X(85)90042-X)

Cao, C., Li, X., & Liu, G. (2019). Political uncertainty and cross-border acquisitions. *Review of Finance*, 23(2), 439-470. <https://doi.org/10.1093/rof/rfx055>

Chakrabarti, R., Gupta-Mukherjee, S., & Jayaraman, N. (2009). Mars–Venus marriages: Culture and cross-border M&A. *Journal of International Business Studies*, 40(2), 216-236. <https://doi.org/10.1057/jibs.2008.58>

Chang, S. (1998). Takeovers of privately held targets, methods of payment, and bidder returns. *The Journal of Finance*, 53(2), 773-784. <https://doi.org/10.1111/0022-1082.315138>

Chari, A., Ouimet, P. P., & Tesar, L. L. (2010). The value of control in emerging markets. *The Review of Financial Studies*, 23(4), 1741-1770. <https://doi.org/10.1093/rfs/hhp090>

Chari, A., Ouimet, P., & Tesar, L. L. (2004). Cross border mergers and acquisitions in emerging markets: The stock market valuation of corporate control. <http://dx.doi.org/10.2139/ssrn.559923>

Chen, Y. Y., & Young, M. N. (2010). Cross-border mergers and acquisitions by Chinese listed companies: A principal–principal perspective. *Asia Pacific Journal of Management*, 27(3), 523-539. <https://doi.org/10.1007/s10490-009-9150-7>

Conn, C., & Michie, J. (2001). *Long-run share performance of UK firms engaging in cross-border acquisitions*. ESRC Centre for Business Research, University of Cambridge. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.6041&rep=rep1&type=pdf>

Conn, R. L., Cosh, A., Guest, P. M., & Hughes, A. (2005). The impact on UK acquirers of domestic, cross-border, public and private acquisitions. *Journal of Business Finance & Accounting*, 32(5-6), 815-870. <https://doi.org/10.1111/j.0306-686X.2005.00615.x>

Danbolt, J., & Maciver, G. (2012). Cross-border versus domestic acquisitions and the impact on shareholder wealth. *Journal of Business Finance & Accounting*, 39(7-8), 1028-1067. <https://doi.org/10.1111/j.1468-5957.2012.02294.x>

Dong, M., Hirshleifer, D., Richardson, S., & Teoh, S. H. (2006). Does investor misvaluation drive the takeover market?. *The Journal of Finance*, 61(2), 725-762. <https://doi.org/10.1111/j.1540-6261.2006.00853.x>

Doukas, J., & Travlos, N. G. (1988). The effect of corporate multinationalism on shareholders' wealth: Evidence from international acquisitions. *The Journal of finance*, 43(5), 1161-1175. <https://doi.org/10.1111/j.1540-6261.1988.tb03962.x>

Duchin, R., & Schmidt, B. (2013). Riding the merger wave: Uncertainty, reduced monitoring, and bad acquisitions. *Journal of Financial Economics*, 107(1), 69-88. <https://doi.org/10.1016/j.jfineco.2012.07.003>

Dutta, S., & Jog, V. (2009). The long-term performance of acquiring firms: A re-examination of an anomaly. *Journal of Banking & Finance*, 33(8), 1400-1412. <https://doi.org/10.1016/j.jbankfin.2009.02.004>

Dutta, S., Saadi, S., & Zhu, P. (2013). Does payment method matter in cross-border acquisitions?. *International Review of Economics & Finance*, 25, 91-107. <https://doi.org/10.1016/j.iref.2012.06.005>

Faccio, M., McConnell, J. J., & Stolin, D. (2006). Returns to acquirers of listed and unlisted targets. *Journal of Financial and Quantitative Analysis*, 41(1), 197-220. <https://doi.org/10.1017/S0022109000002477>

Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, 49(3), 283-306. [https://doi.org/10.1016/S0304-405X\(98\)00026-9](https://doi.org/10.1016/S0304-405X(98)00026-9)

Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-56. [https://doi.org/10.1016/0304-405X\(93\)90023-5](https://doi.org/10.1016/0304-405X(93)90023-5)

Fama, E. F., & French, K. R. (1998). Value versus growth: The international evidence. *The journal of finance*, 53(6), 1975-1999. <https://doi.org/10.1111/0022-1082.00080>

Floreani, A., & Rigamonti, S. (2001). Mergers and shareholders' wealth in the insurance industry. <http://dx.doi.org/10.2139/ssrn.267554>

Fuller, K., Netter, J., & Stegemoller, M. (2002). What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *The journal of finance*, 57(4), 1763-1793. <https://doi.org/10.1111/1540-6261.00477>

Garfinkel, J. A., & Hankins, K. W. (2011). The role of risk management in mergers and merger waves. *Journal of Financial Economics*, 101(3), 515-532. <https://doi.org/10.1016/j.jfineco.2011.03.011>

Goel, A. M., & Thakor, A. V. (2010). Do envious CEOs cause merger waves?. *The Review of Financial Studies*, 23(2), 487-517. <https://doi.org/10.1093/rfs/hhp088>

Goergen, M., & Renneboog, L. (2004). Shareholder wealth effects of European domestic and cross-border takeover bids. *European Financial Management*, 10(1), 9-45. <https://doi.org/10.1111/j.1468-036X.2004.00239.x>

Gregory, A. & McCorriston, S. (2005). Foreign acquisitions by UK limited companies: short- and long-run performance. *Journal of Empirical Finance*. 99-125. <https://doi.org/10.1016/j.jempfin.2003.10.003>

Gregory, A., & McCorriston, S. (2005). Foreign acquisitions by UK limited companies: short-and long-run performance. *Journal of Empirical Finance*, 12(1), 99-125. <https://doi.org/10.1016/j.jempfin.2003.10.003>

Gregory, A., & O'Donohoe, S. (2014). Do cross border and domestic acquisitions differ? Evidence from the acquisition of UK targets. *International Review of Financial Analysis*, 31, 61-69. <https://doi.org/10.1016/j.irfa.2013.09.001>

Gubbi, S. R., Aulakh, P. S., Ray, S., Sarkar, M. B., & Chittoor, R. (2010). Do international acquisitions by emerging-economy firms create shareholder value? The case of Indian firms. *Journal of International Business Studies*, 41(3), 397-418. <https://doi.org/10.1057/jibs.2009.47>

Hackbath, D. & Morellec, E. (2008, June). Stock Returns in Mergers and Acquisitions. *The Journal of Finance*. 1213-1252. <https://doi.org/10.1111/j.1540-6261.2008.01356.x>

Harford, J. (2005). What drives merger waves? *Journal of financial economics*, 77(3), 529-560. <https://doi.org/10.1016/j.jfineco.2004.05.004>

Hitt, M. A., Hoskisson, R. E., Ireland, R. D., & Harrison, J. S. (1991). Effects of acquisitions on R&D inputs and outputs. *Academy of Management journal*, 34(3), 693-706. <https://doi.org/10.5465/256412>

Hoechle, D., & Zimmermann, H. (2007). *A generalization of the calendar time portfolio approach and the performance of private investors* (No. 14/07). WWZ Working Paper. <http://hdl.handle.net/10419/123379>

Jaffe, J. F. (1974). Special information and insider trading. *The Journal of Business*, 47(3), 410-428. <https://www.jstor.org/stable/2352458>

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)

Jensen-Vinstrup, M., Rigamonti, D. & Wulff, J. (2018) European cross-border acquisitions: Long-run stock returns and firm characteristics. *Journal of Multinational Financial Management*. 31-45. <https://doi.org/10.1016/j.mulfin.2018.09.003>

John, K., Freund, S., Nguyen, D., & Vasudevan, G. K. (2010). Investor protection and cross-border acquisitions of private and public targets. *Journal of Corporate Finance*, 16(3), 259-275. <https://doi.org/10.1016/j.jcorpfin.2010.02.001>

Lim, M. H., & Lee, J. H. (2016). The effects of industry relatedness and takeover motives on cross-border acquisition completion. *Journal of Business Research*, 69(11), 4787-4792. <https://doi.org/10.1016/j.jbusres.2016.04.031>

Loughran, T., & Ritter, J. R. (1995). The new issues puzzle. *The Journal of finance*, 50(1), 23-51. <https://doi.org/10.1111/j.1540-6261.1995.tb05166.x>

Loughran, T., & Ritter, J. R. (2000). Uniformly least powerful tests of market efficiency. *Journal of financial economics*, 55(3), 361-389. [https://doi.org/10.1016/S0304-405X\(99\)00054-9](https://doi.org/10.1016/S0304-405X(99)00054-9)

Loughran, T., & Vijh, A. M. (1997). Do long-term shareholders benefit from corporate acquisitions? *The Journal of finance*, 52(5), 1765-1790. <https://doi.org/10.1111/j.1540-6261.1997.tb02741.x>

Lubatkin, M., & O'Neill, H. M. (1987). Merger strategies and capital market risk. *Academy of Management Journal*, 30(4), 665-684. <https://doi.org/10.5465/256154>

Lyon, J. D., Barber, B. M., & Tsai, C. L. (1999). Improved methods for tests of long-run abnormal stock returns. *The Journal of Finance*, 54(1), 165-201. <https://doi.org/10.1111/0022-1082.00101>

Mandelker, G. (1974). Risk and return: The case of merging firms. *Journal of financial economics*, 1(4), 303-335. [https://doi.org/10.1016/0304-405X\(74\)90012-9](https://doi.org/10.1016/0304-405X(74)90012-9)

Mitchell, M. L., & Mulherin, J. H. (1996). The impact of industry shocks on takeover and restructuring activity. *Journal of financial economics*, 41(2), 193-229. [https://doi.org/10.1016/0304-405X\(95\)00860-H](https://doi.org/10.1016/0304-405X(95)00860-H)

Moeller, S. B., & Schlingemann, F. P. (2005). Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions. *Journal of Banking & Finance*, 29(3), 533-564. <https://doi.org/10.1016/j.jbankfin.2004.05.018>

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221. [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0)

Nguyen, H. T., Yung, K., & Sun, Q. (2012). Motives for mergers and acquisitions: Ex-post market evidence from the US. *Journal of Business Finance & Accounting*, 39(9-10), 1357-1375. <https://doi.org/10.1111/jbfa.12000>

Nguyen, N. H., & Phan, H. V. (2017). Policy uncertainty and mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, 52(2), 613-644. <https://doi.org/10.1017/S0022109017000175>

Nicholson, R. R., & Salaber, J. (2013). The motives and performance of cross-border acquirers from emerging economies: Comparison between Chinese and Indian firms. *International Business Review*, 22(6), 963-980. <https://doi.org/10.1016/j.ibusrev.2013.02.003>

Rau, P. R., & Vermaelen, T. (1998). Glamour, value and the post-acquisition performance of acquiring firms. *Journal of financial economics*, 49(2), 223-253. [https://doi.org/10.1016/S0304-405X\(98\)00023-3](https://doi.org/10.1016/S0304-405X(98)00023-3)

Rhodes-Kropf, M., & Viswanathan, S. (2004). Market valuation and merger waves. *The Journal of Finance*, 59(6), 2685-2718. <https://doi.org/10.1111/j.1540-6261.2004.00713.x>

Roll, R. (1986). The hubris hypothesis of corporate takeovers. *Journal of business*, 197-216. <https://www.jstor.org/stable/2353017>

Savor, P. G., & Lu, Q. (2009). Do stock mergers create value for acquirers?. *The Journal of Finance*, 64(3), 1061-1097. <https://doi.org/10.1111/j.1540-6261.2009.01459.x>

Seth, A., Song, K. P., & Pettit, R. (2000). Synergy, managerialism or hubris? An empirical examination of motives for foreign acquisitions of US firms. *Journal of international business studies*, 31(3), 387-405. <https://doi.org/10.1057/palgrave.jibs.8490913>

Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions. *Journal of financial Economics*, 70(3), 295-311. [https://doi.org/10.1016/S0304-405X\(03\)00211-3](https://doi.org/10.1016/S0304-405X(03)00211-3)

Smith, R. L., & Kim, J. H. (1994). The combined effects of free cash flow and financial slack on bidder and target stock returns. *Journal of business*, 281-310. <https://www.jstor.org/stable/2353106>

Song, M. H., & Walkling, R. A. (2005, March). Anticipation, acquisitions and bidder returns. *AFA 2006 Boston Meetings Paper*. <http://dx.doi.org/10.2139/ssrn.686875>

Sudarsanam, S. (2003). *Creating value from mergers and acquisitions: The challenges: An integrated and international perspective*. Pearson Education. https://books.google.fi/books?hl=fi&lr=&id=ycxPOp2UuUwC&oi=fnd&pg=PR16&dq=+C+reating+Value+from+Mergers+and+Acquisitions:+The+Challenges&ots=IHDuzMFNC-&sig=CK-vK5p72KFw3MlrnHTpQbOHdKo&redir_esc=y#v=onepage&q&f=false

Sudarsanam, S., & Mahate, A. A. (2003). Glamour acquirers, method of payment and post-acquisition performance: the UK evidence. *Journal of Business Finance & Accounting*, 30(1-2), 299-342. <https://doi.org/10.1111/1468-5957.00494>

Tao, F., Liu, X., Gao, L., & Xia, E. (2017). Do cross-border mergers and acquisitions increase short-term market performance? The case of Chinese firms. *International Business Review*, 26(1), 189-202. <https://doi.org/10.1016/j.ibusrev.2016.06.006>

Tao, F., Liu, X., Gao, L., & Xia, E. (2017). Do cross-border mergers and acquisitions increase short-term market performance? The case of Chinese firms. *International Business Review*, 26(1), 189-202. <https://doi.org/10.1016/j.ibusrev.2016.06.006>

Uddin, M., & Boateng, A. (2009). An analysis of short-run performance of cross-border mergers and acquisitions: Evidence from the UK acquiring firms. *Review of Accounting and Finance*, 8(4), 431-453. <https://doi.org/10.1108/14757700911006967>

United Nations Conference on Trade and Development. (2021). *World Investment Report 2021*. United Nations publication. <https://unctad.org/webflyer/world-investment-report-2021>

Vasconcellos, G. M., Madura, J., & Kish, R. J. (1990). An empirical investigation of factors affecting cross-border acquisitions: the United States vs. United Kingdom experience. *Global Finance Journal*, 1(3), 173-189. [https://doi.org/10.1016/1044-0283\(90\)90007-A](https://doi.org/10.1016/1044-0283(90)90007-A)