

**ERASMUS UNIVERSITY ROTTERDAM
ERASMUS SCHOOL OF ECONOMICS
Bachelor Thesis Economics & Business**

**Analysis of the drivers of target and acquirer stock price performance
following M&A transactions in the European banking sector during the
2009-2020 period**

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Finish date: 19/07/2023

The views stated in this thesis are those of the author and not necessarily those of the supervisor, second reader, Erasmus School of Economics, or Erasmus University Rotterdam.

ABSTRACT

Keywords: Mergers and Acquisitions, European Banking Sector, Event Study, Bank mergers

JEL codes: G14, G21, G34

This study analysed the influence of the recent financial period, from 2009 to 2020, on mergers and acquisitions between European banks. This period is of significant interest because of the low-interest rates due to the global financial crisis, quantitative easing methods implemented by the financial authorities and a strong belief in globalisation. The influence is studied using an event-study methodology, analysing the cumulative abnormal returns (CAR) of the targets and acquirers separately. On top of that, a multivariate cross-sectional regression analysis with variables characterising this period has been run. The event study results show significant positive returns for the targets and inconsistent returns for the acquirers. The multivariate regression leads to no significant impact of the variables of interest on the CAR. Both results lead to the conclusion that the recent financial period does not significantly impact the M&As in the European banking sector.

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CHAPTER 1 Introduction

Mergers and acquisitions within the European banking sector are among the most exciting M&A deals. Recently, UBS reached an agreement for a credit takeover of Credit Suisse (abbreviated as CS). CS was bought for USD3.25 billion by its outperforming longstanding Swiss competitor: UBS. The context of the takeover is the turmoil within the European banking sector created by the Californian Silicon Valley bank filing for bankruptcy. The combined entity will have assets worth 1.7 trillion US dollars on its balance sheet. This balance sheet makes UBS one of the biggest banks in Europe (Jones et al., 2023). However, there are some downsides to acquiring the competing bank. Integrating CS into UBS will lead to material execution risk. Besides that, the investment banking department of CS has been underperforming for ages. These risks will jeopardise the credibility, credit rating and stock price of UBS Group (Wells et al., 2023).

The relationship between the stock price and M&A announcements in the European banking sector has been analysed in previous studies. For example, Beitel et al. (2004) also examined this relationship in their article ‘‘Explaining M&A Success in European Banks’’ from *European Financial Management*. Based on M&A announcements this article studies thirteen value drivers that potentially impact the stock price based on M&A announcements. The dataset used in this study is sourced from Thomson Financial SDC. The dataset consists of a sample of 98 mergers and acquisitions of European banks between 1985 and 2000. The study’s results are of significant importance because, despite the high level of M&A activity from 1985 to 2000, little research has been done about the relationship between value drivers and M&A announcements. The methodology that was used in this article is the event study methodology. Based on cross-sectional regressions, 13 potential value drivers for success in M&A deals are tested on significance. The result of this study is that successful bidders can be identified by their choice of target. Successful bidders choose smaller and faster-growing targets that work relatively inefficiently.

The reaction of stock prices to M&A announcements in the European banking sector has been studied before. There are three papers written, Tourani-Rad and Van Beek (1999), Cybo-Ottone and Murgia (2000), and Beitel and Schiereck (2001), that use a similar type of methodology to analyse the impact of M&A announcements on stock prices. However, these papers mainly focus on whether mergers and acquisitions create or diminish shareholder value. Besides that, these papers use an old database. In this thesis, I aim to replicate the strategy used by Beitel et al. (2004). However, I will use a recent period significantly different from the dataset used by the inspirational article to create a new academic insight into mergers and acquisitions. The period that I will investigate, and use for the dataset, is 2009 to 2020. This period is significantly different because of the low refinancing rate, which makes interbank lending particularly attractive (ECB refinancing rate, 2023). This low rate in

the past decade was caused by the financial and eurozone crises (LePan, 2019). We have decided to stop our investigation period at the end of 2020 because we do not want the pandemic to distort the study results. As a result, we dig deeper into this period from 2009 to 2020 by answering the following research question: **“How did the recent financial period have an impact on the mergers and acquisitions within the European banking sector?”**

To answer the research question, an event study methodology is used (Brown & Warner, 1985). The event will be the announcement of an M&A of a European bank. To determine if the recent period impacted the M&A deal, we conduct the cumulative abnormal returns (CAR) of stocks of both the bidder and the target before and after the announcement. The cumulative abnormal returns are measured by following the market model, which indicates correcting the stock prices before, during, and after the announcement by the market index. The market index that will be used is FTSE 100 because this is the most important index in the United Kingdom and the leading index of the London Stock Exchange, which fits our European perspective. The event window will be used for 41 days (-20; +20). This means the returns will be studied 20 days before and 20 days after the announcement. The day of the announcement will be day 0. The null hypothesis will be tested in this methodology: during day 0, the excess returns are equal to zero. Based on significance, a conclusion can be drawn about the event's effect on abnormal returns. Besides this conclusion, a comparison can be made with the 1985 to 2000 period used in previous studies.

The data used to investigate the relationship between M&A announcements on stock prices are retrieved from Refinitiv Eikon and DataStream. The criteria used to determine the sample of M&A deals in the banking sector are as follows. The sample consists of deals between the first of January 2009 and the 31st of December 2020. The M&A type is Disclosed Dollar Value, meaning the bidders take over more than 50% of the target. The deal's status is public, unconditional, and completed in our timeframe. The region in which the target and the bidder are based is Europe. The mid-level industry classification for the target is alternative Financial Investments, insurance companies, and banks. The mid-level industry classification for the bidder is only a bank. These criteria will lead to a sample that consists of 62 M&A deals.

By answering this thesis's central question, I expect to find a significant positive CAR when the impact on targets is analysed. According to previous studies, the CAR is not particularly positive on the bidder side. However, with the low-interest rate in the recent period, which will make borrowing more manageable, I expect the bidder to be able to bounce back from financial distress easier than before. Therefore, I believe the CAR will also be positive on the bidder side.

CHAPTER 2 Theoretical Framework

2.1. Mergers and Acquisitions: Background

For this thesis, it is crucial to be very clear about the definition of mergers and acquisitions, which are defined as follows:

“Mergers and acquisitions are collaborations between two or more firms. In a merger, two or more companies functioning at the same level combine to create a new business entity. In an acquisition, a larger organisation buys a smaller business entity for expansion. “

(Wallstreetmojo Team & Vaidya, 2022, par. 1)

Academic definitions are similar:

“A merger or an acquisition in a company sense can be defined as the combination of two or more companies into one new company or corporation. The main difference between a merger and an acquisition lies in the way in which the combination of the two companies is brought about. In a merger, there is usually a process of negotiation involved between the two companies prior to the combination taking place. In an acquisition, the negotiation process does not necessarily take place. In an acquisition company A buys company B. “ (Roberts et al., 2003, par. 1.1.2.)

A merger or acquisition typically involves two parties: the buying party is typically referred to as the acquirer, and the party being bought or merged with, is typically referred to as the target.

2.1.1. Process

The structure of the M&A process can be divided into stages. In the history of M&A deals, there have been several stages defined. Each study interprets the stages in its own way. As stated in an overview of Finkelstein and Cooper (2010), one of the simplest ways to divide M&A transactions is into premerger and post-merger.

However, according to the Corporate Finance Institute (2023), the deal process is more complicated. It starts with developing an acquisition strategy. The strategy can include exploiting synergies by expanding the product line or broadening their brand perspective by accessing new markets. After the purpose of the deal has been set, searching for a suitable target will begin. The most used criteria are profit margins, geographical location, and customer base. Setting the proper criteria will lead to specific target companies. Negotiations can take place after the companies are analysed based on their value. When an offer is accepted, M&A due diligence will come into play. The purpose of M&A due diligence is to validate or refine the acquirer’s valuation of the target company’s value. This objective is achieved by thoroughly examining its financial metrics, assets, liabilities, customers, and human resources (Corporate Finance Institute, 2023, paragraph 7). The last stages of the process are executing a final contract, determining how to finance the acquisition, and closing and integrating the acquisition.

2.1.2. Motives

After defining our topic and analysing the lifecycle of an M&A deal, the motives must be explored. In the study of Nguyen et al. (2012), these motives are investigated using a decomposition of the Market-to-Book ratio of corporate acquirers into three factors: firm-specific error, long-run value-to-book, and time series sector error. The study finds evidence for the following motives: agency problems, synergy, response to industry shocks, and market timing.

Agency problems can emerge when managers gain personal advantages at the expense of shareholders. Another example of an agency problem is when managers try to diversify and therefore reduce risk to their human capital. However, the managers will call the shots, making agency problems one of the motives for an M&A deal.

Another motive that is important to mention is synergies. Synergies are the combined profits achieved by working together instead of alone (Combley, 2011). Different types of synergies can drive an M&A transaction. According to Goold and Campbell (1998), there are six forms of synergy. These synergy types are the following: shared know-how, shared tangible resources, pooled negotiation power, coordinated strategies, vertical integration, and combined business creation.

Shared know-how is simply the benefit of two companies combining their knowledge and insights into their work. The shared knowledge about operation techniques will produce a greater value. Shared tangible resources also cause the advantage of being merged. Shared tangible resources are another type of synergy. An example of the benefit of this type of synergy is reducing costs because two companies can use a joint manufacturing facility. Economies of scale emerge when two or more companies share tangible resources. Another form of synergy is pooled negotiation power. When two companies merge, they will increase their market share and, therefore, their influence on the market. This increase in market share will give them more power when negotiating with clients. The power of two companies increases in terms of coordinated strategies too. There is a fine line between corporate intervention and business-unit autonomy. Merging with another company will lead to more experience and tactics in this field.

Vertical integration is another essential type of synergy. Vertical integration is a business strategy that enables a company to expand its production process by acquiring direct ownership of diverse stages in this process instead of relying on other contractors. If the integration is well managed, the integration will benefit the total market access, accelerate product development, and lower inventory costs.

Combined Business Creation is the last type of synergy mentioned by Goold and Campbell (1998). This type of synergy results from the increased concern for corporate growth, leading to companies merging and exploiting the other type of synergies to their advantage.

The third motive for M&A dealmaking is market timing. Market timing concerns the value of the acquiring company and the target. When the market value of the acquiring company's stock is overvalued while the market value of the target company is undervalued, the incentive to acquire the target with a stock swap will increase. Market timing is, therefore, essential when considering an acquisition.

This motive has been highlighted in the study of Nguyen et al. (2012). In this study, examples of advantages arising from working together are a high level of operating efficiency and the possibility of expansion of financial leverage.

The last motive recognised in the history of M&As is industry shocks. In the 1980s, several industries were fundamentally changed and deregulated. In the same period, the amount of M&A activity peaked. One of the reasons for this peak was the four major revisions in tax regulations which led to relative advantages of debt and equity financing (Weston & Chung, 1990).

2.2 Mergers and Acquisitions: Stock market reaction European Banking Sector

This section will review the relationship between M&A and the stock market. The scope of this thesis is on European banks, which will narrow the first topic.

2.2.1 Previous Studies

The reaction of stock prices to M&A transactions in the European banking sector has been studied by Beitel et al. (2004). In this study, the methodology used is called event-study-methodology. The event study methodology works as follows: The event is announcing the M&A deal with a European Bank. The variable of interest is the price of stock gathered before and after the announcement. The timeframe in which this variable of interest will be investigated is called the event window. To gather values, several windows are being used to measure the impact of the M&A announcement in the periods surrounding it. The windows applied in this study are [-20, 0], [-10,0], [-1,0], [-1, +1], [-10, +10] and [-20, +20]. The study uses cumulated abnormal returns as a variable of interest when analysing the relationship between stock market reaction and mergers and acquisitions. In this scenario, the abnormal returns of stock are calculated by subtracting the expected stock return from the observed stock return in the event window. The abnormal returns are calculated for the acquirer and the target. Subsequently, the abnormal returns are tested on significance using the suggestions of Dodd and Warner (1983). The study of Beitel et al. (2004) uses a sample of 98 mergers and acquisitions from 1985 to 2000. Applying the event methodology to this dataset leads to a significantly positive cumulated abnormal return for the shareholders of target companies. This is in line with most US-based research about this topic. However, the same study finds no clear correlation between the CAR and the acquiring companies.

The same results have been found in the study ‘‘Market Valuation of European Bank Mergers’’ by Tourani-Rad and Van Beek (1999) published in the *European Management Journal*. This study investigates cross-border mergers in the European banking sector by determining the shareholder wealth of the target and the acquirer. The study’s sample size comprises 56 acquiring banks and only 17 target banks. The event window which is used is [-40, +40]. The study uses a similar methodology as Beitel et al. (2004). Despite the smaller sample size and the difference in the event window, the same conclusion still holds. Based on the study’s empirical results, we can conclude that European acquiring banks are not experiencing significant abnormal returns when the announcement has been made. Conversely, positive returns can be identified for the target company.

In the study of Cybo-Ottone and Murgia (2000), the relationship between mergers and shareholder wealth in European banking has been investigated by combining the targets and acquiring the company’s CAR. Using the same event-study methodology, based on a sample of large deals from 1988 to 1997, a conclusion can be drawn about the performance of both parties when their size adjusts them. The combined CAR is positive and significantly associated with the announcement of the M&A.

In more recent studies, the impact of M&As in the banking sector around the announcement date tends to be positive and significant. For instance, in the study of Liargovas and Repousis (2011), the impact of M&As on the performance of the Greek banking sector was analysed using the event study methodology from 1996-2008. The study uses an event window of 30 days before and 30 days after the announcement date. The methodology results show that, especially ten days before the announcement, the Cumulative Average Abnormal Return (CAAR) is positively significant for both the target and the acquirer.

In the study of Dilshad (2013), M&A deals are also analysed concerning their influence on the price reaction of stocks. In this study, the sample consists of deals between 2001 and 2010. However, only the M&As between European banks are extracted. This study uses a total of 18 M&A deals for its event study. Despite the small sample size, this study is still respectable and relevant because the findings differ from those of Liargovas and Repousis (2011). The study results from Dilshad showed that, especially around Day 0, the abnormal returns were significant for the targets. Besides that, the M&As create positive abnormal returns for the acquirer over a larger window, namely [-5, +5].

2.2.2. Drivers of excess returns

Positive significant abnormal returns have resulted from several studies following the M&A announcement for target companies. Knowing what drivers cause excess returns is essential to understand the previous studies.

The characteristics of the target and acquiring company that can influence the returns have been studied in the past by Beitel et al. (2004). In this article about explaining M&A success in European Banks, thirteen variables have been investigated which might impact M&A success.

The variables include relative profitability, relative asset size, asset growth, and a dummy for domestic transactions. The variables are retrieved on December 31st of the year before the announcement. To test each variable, the methodology of comparative statistics of Hawawini and Swary (1990) is used. With comparative statistic analysis, the top 30 transactions are compared to the bottom 30 transactions. For example, with relative profitability, measured by each party's return on equity (ROE), the 30 transactions with the highest ROE are compared to the 30 transactions with the lowest ROE. Subsequently, mean difference tests are used to find significant differences between these two groups concerning CAR.

Out of the 13 variables tested, the study's results show that the drivers that influence the success of the M&A transaction the most are determined by the choice of the target. A smaller and faster-growing target, with bad relative efficiency, is more likely to be successful for the acquirer. These characteristics are derived from the regression analysis.

2.3 Mergers and Acquisitions: Recent financial period

This period of interest is different in comparison to other already studied periods. The history of mergers and acquisitions will be analysed first to understand the period of interest.

2.3.1 History of M&A periods

The history of M&A activity is divided into waves. Based on existing literature, several waves can be identified (Malik et al., 2014). According to Harford (2005), a wave can be caused by the following factors: a technological, regulatory, or economic shock, which will lead to the rearrangement of the industry through M&As. This is known as the neoclassical hypothesis. Harford (2005) provides proof for this type of view in his article. Another hypothesis that is mentioned is the behavioural hypothesis. In this view, the wave can occur because of capital liquidity. When the growth opportunities are high, merger activity will spike. The same holds when the discount rates of firms are low. Both factors will lead to a peak in M&A dealmaking.

The first wave of M&A activity occurred from 1897 until 1903. In this period, firms and organisations tended to believe there was a significant benefit to being the single seller in an industry. This resulted in a lot of horizontal mergers. The primary industries in which these mergers occurred were railroads, power, and light (Fatima & Shehzad, 2014). Often the horizontal mergers in these industries led to a combined entity that comprised 80% of the market shares in total. The significant market shares each entity could obtain arose from the economies of scale, generating value for each party after the merger (Banerjee & Eckard, 1998).

Whilst the first wave was more oriented toward creating monopolies, the second wave concentrated on executing M&As that resulted in oligopolies. This merger wave appeared from 1919 to 1929. The economic benefits of the uplifting post-war economy played their part in the peak of the M&A activity (Stigler, 1950). According to Golubov et al. (2013), vertical integration was the key driver of the M&As during this peak. Major manufacturers were founded in this period, with Ford as an example. This wave came to an end because of the stock market crash of 1929 and the start of the Great Depression.

The third wave, occurring from 1965 to 1969, was characterised as the wave of conglomerates, and in this M&A wave, companies expanded into new markets and divisions. This was a reaction to increasing difficulties during dealmaking between companies of the same markets. These difficulties are mainly antitrust efforts. That is why the characterising feature of this third wave was unrelated diversification (Shleifer & Vishny, 1991).

Not only in the third but also in the fourth wave, antitrust enforcement plays a key role. However, during the '80s, this wave significantly differed in three ways. First, the average size of the target acquired has increased compared to the previous peak period of M&A activity. In the third wave, single business companies in the Fortune 500 dropped from 22,8 to 14,8 percent, resulting in a percentage point drop of 8. However, the fraction of the Fortune 500 companies acquired at the end of the fourth wave was 28 percent. Besides that, most takeovers in the fourth wave were hostile, meaning the target's management did not agree with the takeover. The cause of these takeovers lies in the antitrust policy, which made merging within the same market, under agreeing terms, way harder. The last important difference is that during this wave, the common medium of exchange evolved from stock to cash (Shleifer & Vishny, 1991).

The fifth wave of M&As occurred from 1993 to 2000. During this phase of globalisation, competition started to increase, leading to more pressure on managers regarding dealmaking to compete on a higher level. The urge to compete globally led to an increased volume of M&A activity from 300 billion USD in 1992 to 3,3 trillion in 2000 USD. Major mergers came into existence. Examples are the mergers of Exxon and Mobil or Citibank and Travelers (Golubov et al., 2013).

When the dot.com bubble burst, the fifth wave soon ended. However, from 2003 to 2007, another peak in M&A activity arose. In this period, the emphasis lies on utilities, namely oil and gas. Besides that, the banking, telecom, and healthcare sectors were also active in the market during this wave. These mergers were fuelled by the increasing urge to create leading multinationals. The governments of France, Italy, and Russia were determined to be the originators of the following global market leaders. This wave ended when the global financial crisis struck in 2007 (Alexandridis et al., 2012).

2.3.2 Recent Developments

A new era started after the global financial crisis of 2007-2008. This era from 2009 to 2020, called ‘*the recent financial period*’ in this thesis, will be investigated. This period has several characteristics related to the amount of M&As and their values. These characteristics will be vital to answering the central question of this thesis: ‘**How did the recent financial period have an impact on the mergers and acquisitions within the European banking sector?**’.

The first characteristic is the sanction implemented by the ECB to stabilise the economy. The ECB uses three types of interest rates updated every six weeks to achieve this goal. The first interest rate is related to main refinancing operations (MRO). According to European Central Bank (2023), the MRO refers to the rate at which banks borrow funds from the ECB for one week. The second important rate is the rate on the marginal lending facility. The overnight borrowing rate represents the interest rate at which banks can access short-term funding. The last important rate is the rate on the deposit facility. This will be the rate at which the bank will receive interest for depositing its money at the ECB when it is positive. When the rate is negative, the bank must pay this rate to the ECB for deposit purposes. The sanction the ECB implemented was mainly related to the MRO. The ECB decided to drop this type of interest rate by 300 basis points over the period from October 2008 and May 2009. This was the greatest drop in this type of interest rate till that date. Given that price stability is the primary goal of the ECB, inflationary pressures were taken care of by lowering the interest rates to 0,25 percent (European Central Bank, 2023). Besides lowering the interest rate, the ECB engaged in a new role regarding liquidity provision. During the intensification of the crisis in September 2008, the ECB provided easing refinancing methods to banks to sustain their reserves. One of these easing methods was accepting a long list of assets as loan collateral (European Central Bank, 2009). During the recent financial period, the marginal lending and deposit facility rates also reached their all-time low. From 2016 to 2019, the marginal lending facility rate reached its lowest point of 0,25 percent. This led to banks being able to retrieve much credit from the ECB for a relatively low price compared to the period during the financial crisis when this rate was 5 percent. On the other hand, to get the economy out of the dip, the ECB decided to lower the deposit interest rate to a negative rate during the recent financial period. By lowering the rate to a negative amount, the banks had to pay the ECB money to deposit their money. This way, banks are incentivised to spend their money and get the economy back on track (European Central Bank, 2023).

Another meaningful sanction implemented by the European authorities that characterises this period is the introduction of the Basel III framework in December 2010. This framework, created by the Basel Committee on Banking Supervision, reacted to the weaknesses in capital bases revealed during the global financial crisis. This international agreement aimed to improve the strength of banks' capital foundations and raise the mandated level of regulatory capital. The stricter financial restrictions,

obliged by this agreement, will lead to an implementation of buffer capital in the form of so-called Tier 2 capital. Tier 1 capital is capital that covers losses when they occur. Tier 2 capital, which is also called gone concern capital, is capital that can be acquired when a bank goes bankrupt. This Tier 2 capital will absorb losses before creditors knock on the banks' doors. The overall restructuring of the rules regarding bank capital will lead to more reassurance and stability in covering losses (Definition of capital in Basel III - Executive Summary, 2019).

The third important characteristic of this period related to M&A is the view of global collaboration. Because of the financial crisis, a change in behaviour and approaches regarding M&As was needed. To diversify risks, the view of global collaboration originated. Geographic diversification will lead to potential growth benefits in secondary markets outside the home country (Grave et al., 2012).

These consequences of the financial crisis will have a major impact on our period which is being studied. The financial crisis led to the ECB stimulating the economy by dropping the interest rate in every aspect. Besides that, several refinancing easing methods were implemented by fiscal authorities. On top of that, the view of global mergers and acquisitions being critical for diversification leads to the following **hypothesis**: *The recent financial period has led to a significant positive return for both the target and acquirer parties.*

CHAPTER 3 Data

3.1 Sample

The dataset used to analyse the relationship of the recent financial period on M&As in the European banking sector is extracted from two databases. At first, Refinitiv Eikon was used for its app called Screener. Screener is a flexible idea-generation tool that allows you to find securities in the investable universe that display specific characteristics and match your investment philosophy or style. To achieve the list of M&As, the primary filter called *universe* must be put on Deals. The list of quick filters which are of importance are the following:

1. The sample consists of deals announced from the 1st of January 2009 to the 31st of December 2020. The year 2009 was selected because the financial crisis had peaked, and the fear of bank funding, according to the TED Spread of Bloomberg, started to drop, indicating faith in the economy returned (European banks: Ted Spread, 2011).
2020 was chosen as the endpoint of our data sample because the world health organisation declared the coronavirus outbreak a pandemic. The pandemic might distort our sample. We chose 2020 as our endpoint (*Coronavirus disease (COVID-19) pandemic*, 2023).
2. The M&A type is Disclosed Dollar Value. This means the acquirers take over at least 50% of the target.
3. The deal's status is public, unconditional, and completed in our timeframe. This is essential when you want to know the abnormal returns because the stock needs to be publicly available.
4. The acquirer and target are based in region Europe.
5. The mid-level industry classification for the acquirer is Banks, and the macro industry for the target will be Financials.

The criteria have led to a sample consisting of 62 deals. From the sample, we are required to obtain the DataStream codes of the targets and acquirers. The DataStream codes will be used to gather the historical performance of each party before and after the merger.

The methodology requires the targets' and acquirers' returns and stock market prices. To acquire these details, we will use a tool based on the data of Refinitiv Eikon DataStream.

This tool is called the DataStream Event Study tool. This tool was invented by Arco van Oord and based on 'Event studies in Economics and Finance' from A. Craig Mackinlay (Craig Mackinlay, 1997). In this tool, the following characteristics are essential:

- The DataStream codes
- The respective announcement dates

- The event window, which was used [-20, +20]
- The estimation period: [-272, -20], which means 252 days before the event window
- The market index which is used: FTSE100

We have chosen the FTSE100 market index to incorporate the macroeconomic changes. The Financial Times Stock Exchange is of major significance in the London Stock Exchange and is even the most important index in the UK. Therefore, this index will fulfil our needs. The index needs to impact the banking sector, which it does significantly. Besides that, the geographical advantage of being staged in London also counts (*FTSE 100 INDEX TODAY / LIVE TICKER / FTSE 100 QUOTE & CHART / Markets Insider*, 2023). On top of that, the FTSE100 has been used in previous studies, such as the study by Dilshad (2013) regarding the impact of M&A announcements on stock prices.

Using the tool allows us to gather the market index and stock returns, which will be necessary for calculating abnormal returns. However, the tool's usage led to a dilution of the sample for the following reasons. In some cases, the stock price was unknown during the estimation period. In these cases, we extracted these transactions from our sample because an estimation period of one full trading year, read 252 days, was one of the key features to determine the CAR during the event window. Another important cause of the slimming of the data sample is because, in some cases, the price of an acquirer or target was constant during the whole estimation period. This leads to an abnormal return of 0, which our regression cannot evaluate. That is why the number of acquirers has dropped to 58, and the number of targets will be lowered to 51. The target's characteristics are stated in Table 6 (see Appendix A). The characteristics of the sample of acquirers are displayed in Table 7 (see Appendix B).

3.2 Variables of Interest

We have seen in the theoretical framework that several characteristics of the recent financial period make this period of particular interest. From 2009 to 2020, the interest rate was historically low, the diversification via globalisation was hot, and the banks implemented more regulations to ensure financial stability at banks.

Tier 2 capital. The first variable characterising this period is the buffer capital implemented by fiscal authorities to strengthen the quality of European banks' capital bases in 2010. This variable is called Tier 2 capital. To measure the impact on the M&As during the recent financial period, the **Tier 2 Capital** of each bank, target and acquirer will be retrieved from the Worldscope Database. The Tier 2 Capital is stated in the natural logarithm of US dollars. For some targets and acquirers, the Tier 2 capital was not published in the Worldscope Database, which reduces the sample for this variable. One

trading year before the event window, the number of target banks at which the Tier 2 capital is known is 30. For the acquiring bank, this amount is equal to 46.

Cross-Border. The second interesting variable during this period is the degree of globalisation. In the aftermath of the financial crisis, the feeling of diversification played a more prominent role in M&A deals. To accomplish diversification, banks tend to make more deals across borders. To analyse if the impact of the degree of globalisation was significant, the M&A deals in our sample will be divided into two categories. The **Cross-Border** variable would hold a one if the M&A deal were cross-border and a 0 if the deal was within the home country. By testing for significance on the CAR, the influence can be measured. The data regarding this variable is gathered from Refinitiv Eikon.

3.3. Control variables

To test if these factors caused a difference in M&A activity during this timeframe, variables of previous studies will be tested on the impact on the CAR to compare the outcomes with previous studies eventually.

Relative ROE. The relative Return on Equity (ROE) consists of a division of the target's ROE by the acquirer's ROE. The ROE can be calculated as follows:

$$ROE = \frac{(Net\ Income - Bottom\ Line - Preferred\ Dividend\ Requirement)}{Average\ of\ last\ year's\ and\ current\ year's\ common\ equity * 100} \quad (1)$$

To analyse the impact of this variable on the CAR, the balance sheets provided by Worldscope Fundamentals are used to calculate the ROE a year before the announcement date. Using the essentials in the balance sheets, the ROE of both parties will be retrieved. The correct data before the announcement date will be gathered using time series. We control for this variable because the ROE is the most important profitability measure among capital markets analysts and, therefore, can impact our dependent variable (Beitel et al., 2004). The profitability of targets and acquirers has also been studied before by Banerjee and Cooperman (2000). They investigated a sample of 62 target banks and 30 bidding banks in the timespan 1990 to 1995. According to their studies, banks with higher profitability than their targets tend to experience tremendous success in bidding (Beitel et al., 2004). Besides that, in the studies of Hawawini et al. (1990), similar results were obtained. The study states that if bidders are more profitable than the acquirers, this will benefit the value of the M&A deal.

Relative Size. Another interesting variable is the relative size of the firm. The relative size is calculated as follows:

$$Relative\ Size = \frac{\ln(Total\ Assets\ Target)}{\ln(Total\ Assets\ Acquirer)} \quad (2)$$

The total assets for banks represent the sum of cash and cash due from banks, total investments, net loans, customer liability on acceptances (if included in total assets), investment in unconsolidated subsidiaries, real estate assets, net property, plant and equipment and other assets. This information is retrieved from Worldscope. In prior research by Hawawini et al. (1990), the relationship between the size of the target relative to the acquirer was studied too. After analysing 123 US bank mergers from 1972 to 1987, they found that smaller targets (relative to bidders) will cause more value. In the study of Beitel et al. (2004), proof has been provided for this statement. This variable will be implemented in the regression to determine if this is still true.

Growth total assets. The third independent control variable will be the growth of the total assets before the M&A announcement of both the acquirer and the target. The growth of a target can have a significant impact on the returns after the M&A. As Beitel et al. (2004) stated, the returns are significantly lower when slowly-growing targets are acquired than fast-growing targets. We will also implement the assets' growth in both regression analyses to control if this holds for the acquirer. The following formula will calculate the growth:

$$Growth\ Total\ Assets = \frac{(Total\ Assets\ 1\ year\ prior) - (Total\ Assets\ 2\ years\ prior)}{Total\ Assets\ 1\ year\ prior} \quad (3)$$

Earnings per share. Earnings per share (EPS) is crucial when considering a firm's stock performance. Since we are interested in the drivers of an M&A deal that tend to declare an inevitable significant return, the EPS of both parties will be retrieved from DataStream one year before the announcement date. In the study of Beitel et al. (2004), the EPS of only the targets were analysed. However, this thesis will investigate the difference between both parties.

Debt to Equity. The debt-to-equity ratio can be formulated as follows:

$$Debt\ to\ Equity = \frac{(Long\ Term\ Debt + Short\ Term\ Debt)}{Common\ Equity * 100} \quad (4)$$

The targets' and acquirers' debt-to-equity ratio (DER) will be analysed. Especially their influence on the CAR of the parties will come into play. Worldscope database is used to retrieve this dataset. The relationship between the debt-to-equity and the CAR has been studied from 1998-2006. In the study of

Kumar and Panneerselvam (2009), a merger analysis comprised 165 acquirer and 18 target firms. The results of the study showed that there is a negative non-significant relation between the DER and the CAR. By controlling for this variable, we can see if this is still the case in the recent financial period.

The descriptive statistics of the independent variables are displayed in Table 1. What is interesting is the difference in maximum earnings per share between the targets and the acquirers. Another interesting statistic is that the mean of the cross-border variable is around 0.3 means that around 30 percent of the M&A deals in our sample are cross-border. The difference in minima and maxima of the control variable debt-to-equity of the targets compared to the acquirers is also noteworthy.

Table 1^a
Descriptive statistics independent variables

Variables	Obs.	Mean	Std. Deviation	Min	Max
<i>Targets</i>					
Tier 2 Capital ^b	30	11.998	2.058	5.883	15.606
Cross-Border ^c	51	.255	.440	0	1
Relative ROE ^d	47	1.131	5.548	-8.286	34.331
Relative Size ^e	51	.900	.094	.596	1.045
Growth Assets ^f	49	-.019	.181	-.381	.536
EPS ^g	50	1.201	2.243	0	14.08
Debt-to-Equity ^h	50	388.787	953.920	-3583.52	5137.23
<i>Acquirers</i>					
Tier 2 Capital ^b	46	13.656	2.549	4.431	17.334
Cross-Border ^c	58	.293	.459	0	1
Relative ROE ^d	53	1.095	5.248	-8.286	34.331
Relative Size ^e	50	.897	.098	.596	1.045
Growth Assets ^f	56	.014	.175	-.396	.601
EPS ^g	58	33.592	183.579	0	1276.12
Debt-to-Equity ^h	55	282.078	497.573	-1532.5	1085.81

^a This table demonstrates the descriptive statistics of every independent variable for the targets (N=51) and the acquirers (N=58)

^b The Tier 2 Capital is defined as the natural logarithm of the Tier 2 capital per firm.

^c Cross-Border is a dummy variable with a value of 1 when an M&A deal is cross borders; otherwise zero.

^d The relative ROE is a ratio of the ROE of the target one year before the announcement divided by the ROE of the acquirer one year prior to the announcement date.

^e The relative size is a ratio of the total assets of the target divided by the total assets of the acquirer one year prior to the announcement date.

^f Growth of the assets is a percentage of the total assets growth one year before the announcement compared to two years before the announcement.

^g EPS is the earnings per share one year prior to the announcement date.

^h Debt to equity is retrieved one year prior to the announcement

CHAPTER 4 Method

The methodology used to answer the research question of this thesis is the event study methodology. According to Peterson (1989), an event study evaluates whether investors obtain unusual or excessive returns during specific events (such as earnings announcements, merger announcements, or stock splits). An abnormal or excess return is determined by comparing the actual return with the expected return predicted by a specific return-generating model. Several return-generating models can be used for the event method. The general formula for the return of a security is as follows (Brown and Warner (1985) and Dodd and Warner (1983)):

$$R_{jt} = \alpha_j + \beta_j R_{Mt} + \varepsilon_{jt} \quad \text{Eq. 1}$$

The three most common approaches are the Mean-Adjusted Returns Model, the Market-Adjusted Return model, and the Market Model. In this thesis, the market model approach has been prioritised. According to Dyckman et al. (1984), this approach has the best ability to show the presence of abnormal performance. Besides that, this approach is considered superior compared to the other approaches.

In the market model approach, an OLS regression is applied to estimate the parameters for each stock. To estimate the parameters α_j and β_j of each stock, an estimation period of 252 days before the start of the event window is chosen. This period equals the number of trading days yearly (Samuelsson, 2023). The expected returns for each stock will be retrieved from the following formula:

$$\hat{R}_{jt} = \hat{\alpha}_j + \hat{\beta}_j R_{Mt} \quad \text{Eq. 2}$$

In the formula of expected returns, we have chosen to use the FTSE100 index as a value of the market return. Therefore the variable R_{mt} will consist of a value of the FTSE100 index at time t .

Subsequently, the abnormal returns can be calculated by subtracting the expected return from the observed return. The observed return of the stock is retrieved from the event window. The expected return is calculated using the OLS regression based on an estimated 252 days before the event window.

$$AR_{jt} = R_{jt} - \hat{R}_{jt} \quad \text{Eq. 3}$$

When the abnormal returns are calculated, the variance of the abnormal returns needs to be calculated. There are different approaches to calculating the variance of the abnormal return. The most common

method, which Brown and Warner (1985) used, is based on time series of data from estimating the expected returns separately of each stock. The variance of the AR can be defined as the variance of the residuals, $E(u_{jt}^2)$, from the market model. The following formula, in which T denotes the number of observations in the estimation period, will be applied:

$$\hat{\sigma}^2(AR_{jt}) = \frac{1}{T-2} \sum_{t=2}^T \hat{u}_{jt}^2 \quad \text{Eq. 4}$$

After calculating the abnormal returns and their variances, the Cumulative Abnormal Returns (CAR) can be calculated by summing the abnormal returns of every stock during the event window.

The CAR is calculated with different event windows to see the difference in significance on the CAR when the timespan is changing. The event windows used are the following: [-20, 0], [-10,0], [-1,0], [-1, +1], [-10, +10] and [-20, +20]. For each of these windows, the time series CAR of every stock is retrieved according to the following formula, which is also used in Introductory to Econometrics in Finance by Brooks (2019):

$$C\hat{A}R_j(T_1, T_2) = \sum_{t=T_1}^{T_2} \hat{A}R_j \quad \text{Eq. 5}$$

In this equation, T_1 denotes the beginning date of the event window, while T_2 denotes the ending date. The t tells the point of time to analyse, and the j indicates the stock. With the CAR estimated, the variance of the CAR is necessary for the test statistic of every stock. The variance of the estimated CAR will be denoted as the number of days in the event window plus one multiplied by the daily abnormal return variance. The corresponding formula is as follows:

$$\hat{\sigma}^2(C\hat{A}R_j(T_1, T_2)) = (T_2 - T_1 + 1) \hat{\sigma}^2(\hat{A}R_{jt}) \quad \text{Eq. 65}$$

Subsequently, the cumulative abnormal returns of every stock can be assessed for significance using the T-test statistic. In this case, the null hypothesis will be no abnormal returns because of the M&A announcement. Therefore, the alternative hypothesis will be that there are abnormal returns due to M&A announcements in the recent financial period. The hypotheses of interest will be as follows:

$$H_0 : C\hat{A}R_i = 0$$

$$H_a : C\hat{A}R_i \neq 0$$

The test which will be used can be written down as the following:

$$t = \frac{(C\hat{A}R_j(T_1, T_2))}{\left(\hat{\sigma}^2 CAR_j(T_1, T_2)\right)^{0,5}} \quad \text{Eq. 7}$$

The $C\hat{A}R_j$ is the cumulative abnormal return for the chosen window in this equation. The denominator in this equation is the variance of the CAR in that window. When we have retrieved the t-statistic, we can figure out the p-value of every stock. Excel uses the TDIST function for a two-sided test to obtain the P-values. The degrees of freedom inserted is the total amount of companies minus two because this is a two-sided test.

After calculating each of these metrics for every company in our sample, the total CAR and the variance of this sample need to be found. First, the average of the abnormal returns of the whole sample needs to be calculated as follows:

$$\overline{AR}_t = \frac{1}{n} \times \sum_{j=1}^n AR_{jt} \quad \text{Eq. 86}$$

In this formula, n is the number of analysed stocks and t is the point of time to analyse. The results of calculating the average abnormal returns for the targets and the acquirer each day of the event window can be found in Table 8 (See Appendix C). Subsequently, the Cumulative Average Abnormal Return (CAAR) of the entire sample is calculated by a summation of the average of the abnormal returns every day during the event window:

$$CA\hat{A}R_{t_1, t_2} = \sum_{[t_1, t_2]} \overline{AR}_t \quad \text{Eq. 97}$$

Next, we can calculate the variance of the CAAR over the whole sample in two separate ways. The variance can be calculated using the average variance over all firms or the cross-sectional variance over all firms. The variance using the average over all firms is calculated as follows:

$$\hat{\sigma}^2(CA\hat{A}R_{t_1, t_2}) = (T_2 - T_1 + 1) * \frac{1}{n} \sum_{j=1}^N \hat{\sigma}^2(\hat{A}R_{jt}) \quad \text{Eq. 10}$$

The cross-sectional variance is calculated by taking the average of the variance of the CAARs of the stock. This will look like this:

$$\hat{\sigma}^2(CA\hat{A}R_{t_1, t_2}) = \frac{1}{n}(\hat{\sigma}^2_{jt}(C\hat{A}AR_j(T_1, T_2))) \quad \text{Eq. 118}$$

Now we can calculate the overall test statistic with both sample variances. The formula which will be used is the same as in equation 11. However, in both these instances, the stocks are not weighted according to their returns. That is why we apply an average function to resolve this issue. This way, the test statistic will be:

$$t \text{ stat overall sample} = (\sqrt{N}) * AVG(C\hat{A}AR_{jz}(T_1, T_2)) \quad \text{Eq. 12}$$

After we have completed all the calculations above, we can evaluate if our independent variables are significant regarding the CAR. We are able to test the significance of every independent variable by running a simple regression of the form:

$$CAR = \beta_0 + \sum_{i=1}^m \beta_i \times F_i + \varepsilon \quad \text{Eq. 9}$$

In this regression formula the following applies:

- β_0 = the regression constant
- F_i = independent variable
- B_i = coefficient for the independent variable
- m = number of independent variables
- ε = error term

The CAR over the window [-1; +1] is used for the regression analysis to ensure the slightest data leakage. The independent variables regressed against the CAR are **Tier 2 Capital, Cross-Border, Relative ROE, Relative Size, Growth Assets, EPS** and **Debt-to-equity**. The input for the regression regarding the targets is stated in Table 9 (see Appendix D). The same methodology is applied to the acquirers. The values displayed in Table 10 (see Appendix E) are used to run the regression for the acquirers.

CHAPTER 5 Results

5.1 Results Event study

The results of the event study are displayed in Table 2. Using equation 5 of the methodology, the CAR of every stock has been calculated for every event window we were interested in. As a result, we could compute the CAAR for the whole sample for each event window. This return has been calculated using equation 9 and is stated in column 2. Important to notice is that, in every event window, the CAAR regarding the target is positive and significant at the 1% level. This significance is assessed by computing the T-statistics and the p-values, stated in columns 8 and 9. For the T-statistic, equation 12 has been used. The P-values have been calculated by using the T-DIST formula in Excel. The P-values of the targets are all lower than the significance level of $\alpha = 0,01$, meaning that the returns of every window are statistically significant. The greatest return of the targets is 14,5 percent meaning that the cumulative average abnormal return is 14,50 after the M&A announcement.

The outcomes of the acquirers' CAAR in our event study differ from the target. The greatest return is 2,3 percent over the event window of $[-1, +1]$. Among the seven time periods analysed, this period is one where the CAAR demonstrates a significant impact surrounding the announcement. The other windows with a significant and positive return are $[-10,0]$, and the announcement date is $\{0\}$.

Interestingly, the window $[-1,0]$ is insignificant in our sample. Besides that, it is worth noticing that the CAAR of every window regarding the acquirers is smaller in comparison with the CAAR of the targets. In fact, in windows $[-10, +10]$ and $[-20, +20]$, the CAAR is negative. This means the merger has destroyed value instead of creating it if you evaluate the return over these timespans.

Corresponding to the negative CAAR is the amount of positive and negative CAR in the sample. These are displayed in columns 3 and 4. Noticeably, the positive CARs regarding the targets have the upper hand in every event window. However, the positive and negative CARs are almost equally distributed in the acquirer sample. This has an impact on the mean stated in the second column.

Table 2
Results Event Study^a

Event Window	CAAR ^b in %	Std. Dev.	Min.	Max.	Pos.	Neg.	T-test	P-value
<i>Targets</i>								
<i>(N=51)</i>								
[-20;0]	12,50***	24,03	-24,91	103,57	38	13	6,06	1,913E-07
[-10;0]	11,37***	23,65	-36,34	104,24	35	16	7,97	2,146E-10
[-1;0]	9,89***	19,69	-22,72	96,74	37	14	16,60	9,445E-22
{0}	9,29***	20,07	-21,64	95,95	35	16	21,71	8,700E-27
[-1; +1]	13,18***	20,14	-30,07	97,43	38	13	20,78	5,952E-26
[-10; +10]	13,03***	24,97	-50,72	95,06	36	15	7,50	1,118E-09
[-20; +20]	14,50***	26,20	-54,15	91,39	38	13	6,79	1,397E-08
<i>Acquirers</i>								
<i>(N=58)</i>								
[-20;0]	0,51	25,73	-141,46	74,56	27	31	0,62	0,540
[-10;0]	1,45**	23,74	-133,28	96,82	34	24	2,05	0,045
[-1;0]	1,92	11,11	-34,13	66,71	32	26	0,20	0,840
{0}	2,02***	8,53	-12,21	57,17	34	24	5,25	2,462E-06
[-1; +1]	2,29***	10,13	-44,84	41,54	36	22	4,64	2,150E-05
[-10; +10]	-1,80	24,40	-130,26	72,91	32	26	-0,11	0,916
[-20; +20]	-2,75	24,80	-130,78	50,52	27	31	-1,59	0,118

^a This table shows the results of an event study analysing 51 targets- and 58 European acquiring banks. Abnormal returns were calculated using OLS regressions. The OLS parameters have been estimated for 252 trading days before the event window [-20, +20]. The FTSE100 index is used as a market index. The test for significance is based on the studies of Dodd and Warner (1983) and Hawawini et al. (1990). The calculation of the T-stat and P-value is based on Brooks (2019).

^b * = significant at 10% level, ** = significant at 5% level, *** = significant at the 1%-level.

5.2 Results Cross-sectional Regression Analysis

After retrieving the CAR of every stock using equation 5, we can analyse the variables of interest: **Tier 2 Capital** and **Cross-Border**. Six regressions are run for both the targets and the acquirers. In Tables 3 and 4, the results of these cross-sectional regressions are displayed. In Table 4, the focus is on the targets, while in Table 5, we scope the acquirers. In every table, we add a control variable at each row to see the impact on our variables of interest. The results are gathered in rows 2 to 6. The control variables used are **Relative ROE**, **Relative Size**, **Growth Assets**, **EPS** and **Debt-to-Equity**. Since the data was unavailable in WorldScope for all our targets and acquirers, we stated the number of analysed units in Column 2 with N.

Cross-sectional regression analysis Targets. First, we see in row 1 that the variables of interest hurt the CAR in the window [-1, +1]. To be specific, if the **Tier 2 capital** has been raised with 1 percent, this will result in a decrease of the CAR of 0,00017 percent. For the **Cross-Border** variable, we decided that if the M&A is across borders, the variable will hold a value of 1, otherwise 0. The result in our regression tells us that when the M&A is cross-border, the CAR of the targets will decrease by 9,4 percent. Adding the control variable, **Relative ROE**, results in a minor negative impact on the variables of impact. The Tier 2 capital and the Cross-Border variables' negative impact will decrease to 1,4 percent and 9,0 percent. The **Relative ROE** has a value of -0,046 and a significance level of 5%. This variable is a division of the target's ROE divided by the acquirer's ROE. The sign of this value tells us that if the target's ROE is relatively higher than the bidder, this will result in a more significant negative impact on the CAR of the targets. In other words, if the ROE of the target is negative while the ROE of the acquirer is positive, the M&A deal will create a positive return. Adding the first control variable has not resulted in our variables of interest being significant at any level. To try and achieve this goal, the second control variable, **Relative Size**, has been implemented in the regression. The **Relative Size** hurts the targets' CAR. The negative value of this variable in row 3 indicates that the CAR is higher if the assets in a total of the target are relatively lower than the acquirers' assets. The value of -0,306, in the regression of row 3, indicates that the return will decrease by 30,6 percent when the **Relative size** increases by one. Another variable which is controlled for is the **Growth of Assets**. This variable determines the growth two years prior to the announcement in comparison to 1 year prior to the announcement. We see that the growth of the assets is negatively correlated with the return, meaning that targets decreasing in assets before the announcement tends to have a positive effect on the CAR. The same negative impact will occur regarding adding the control variables **EPS** and **Debt-to-Equity**. Despite adding the control variables, our variables of interest will not obtain a significance level. We see that the variables of interest are not changing much concerning the added control variables. The control variable Relative ROE, however, is significant in every regression.

Cross-sectional regression analysis Acquirers. Table 4 demonstrates the result of the cross-sectional regression for the acquiring banks. The same variables and control variables will be analysed in comparison to the targets. Nonetheless, different results are obtained. To start with the variables of interest, we see that the sign of the **Cross-Border** variable has changed from negative to positive in every regression run. This means that the cross-border M&A had a positive impact on the CAR. Implementing a new control variable in every row positively impacts the Cross-Border variable's coefficient. The opposite holds for the coefficient of the **Tier 2 capital**. This value does not change much when controlling for our variables. On top of that, the **Tier 2 Capital** has a smaller value than the targets indicating that the negative impact on the CAR is lower.

Regarding the coefficients of the control variables themselves, the following applies:

The impact of the **Relative ROE** on the CAR is considerably low compared to the targets. Besides that, this control variable is not significant anymore. The more intriguing variable is the **Relative Size**. This variable is positive in every regression and tends to have a more significant impact than the **Relative ROE**. In row 3, the value 0,116 states that if the **Relative Size** increases with 0,1, the CAR increases by 1,16 percent. The **Growth Assets** negatively impact the CAR, as is the case with the targets. The coefficients of the last two control variables, EPS and Debt-to-Equity, are so low that we find them negligible.

In conclusion, the hypothesis that states that the recent financial period has led to a significant positive return for both the target and acquirer parties can be rejected based on the following results:

In our event study, the cumulative average abnormal returns of the acquirers are not all positive and significant (see Table 2). Besides that, the variables of interest, which characterised this period, do not have a significant impact on the CAR in this period, regardless of implementing the control variables Relative ROE, Relative Size, Growth Assets, EPS and Debt-to-Equity (see Tables 3 and 4).

Table 3
Cross-sectional OLS-regressions of Target - CAR [-1;1]^a

No.	N	Adj. R ² (F-value)	Constant (t-value)	Independent variables						
				Tier 2 Capital ^b	Cross-Border ^c	Relative ROE ^d	Relative Size ^e	Growth Assets ^f	EPS ^g	Debt to equity ^h
1	30	-0.0215 (0.5080)	.3562256 (1.36)	-.017113 (-0.81)	-.0942587 (-0.93)					
2	28	0.2149 (0.0320)	.3101005 (1.37)	-.013547 (-0.75)	-.0903832 (-1.04)	-.0456495** (-3.10)				
3	28	0.1874 (0.0660)	.6017284 (0.84)	-.0141809 (-0.77)	-.0968047 (-1.08)	-.0420161 (-2.45)**	-.3060741 (-0.43)			
4	28	0.1773 (0.0954)	.7720498 (1.04)	-.0134651 (-0.72)	-.0935111 (-1.04)	-.0374673 (-2.07)**	-.4994987 (-0.67)	-.2014073 (-0.85)		
5	28	0.1506 (0.1483)	.874315 (1.12)	-.0189258 (-0.89)	-.0925962 (-1.01)	-.0416884 (-2.10)**	-.5152501 (-0.68)	-.1573158 (-0.62)	-.0210212 (-0.55)	
6	28	0.1298 (0.2000)	1.071025 (1.28)	-.0187791 (-0.87)	-.0927607 (-1.00)	-.0389037 (-1.90)*	-.7216493 (-0.88)	-.1726366 (-0.67)	-.0178651 (-0.46)	-.0000364 (-0.71)

^a This table demonstrates the results of the OLS-regressions run for the CAR of the targets. The CAR is measured in 3-day interval around the announcement date. The F- and T values are given in brackets.

^b The Tier 2 Capital is defined as the natural logarithm of the Tier 2 capital per firm.

^c Cross-Border is a dummy variable with a value of 1 when an M&A deal is cross borders; otherwise zero.

^d The relative ROE is a ratio of the ROE of the target one year before the announcement divided by the ROE of the acquirer one year prior to the announcement date.

^e The relative size is a ratio of the total assets of the target divided by the total assets of the acquirer one year prior to the announcement date.

^f Growth of the assets is a percentage of the total assets growth one year before the announcement compared to two years before the announcement.

^g EPS is the earnings per share one year prior to the announcement date.

^h Debt to equity is retrieved one year prior to the announcement

* = significant at 10% level, ** = significant at 5% level, *** = significant at the 1%-level.

Table 4
Cross-sectional OLS-regressions of Acquirer - CAR [-1;1]^a

No.	N	Adj. R ² (F-value)	Constant (t-value)	Independent variables						
				Tier 2 Capital ^b	Cross-Border ^c	Relative ROE ^d	Relative Size ^e	Growth Assets ^f	EPS ^g	Debt to equity ^h
1	46	-0.0037 (0.4075)	.1218434 (1.76)	-.0067762 (-1.33)	.0017639 (0.06)					
2	44	-0.0217 (0.5598)	.1258009 (1.56)	-.0073061 (0.26)	.0067385 (-0.55)	-.0012479 (1.56)				
3	39	-0.0471 (0.6843)	.0054513 (0.03)	-.0060405 (-0.91)	.0176371 (0.53)	-.0015354 (-0.63)	.1167912 (0.70)			
4	39	-0.0701 (0.7725)	-.0023391 (-0.01)	-.0053821 (-0.79)	.0176704 (0.52)	-.0016515 (-0.67)	.1170206 (0.69)	-.0450959 (-0.52)		
5	39	-0.0892 (0.8172)	-.0575332 (-0.27)	-.005044 (-0.73)	.0258801 (0.71)	-.0017442 (-0.70)	.1687882 (0.90)	-.0382903 (-0.43)	.0000461 (0.65)	
6	39	-0.1199 (0.8830)	-.0364837 (-0.16)	-.0052937 (-0.75)	.0242823 (0.65)	-.0016698 (-0.66)	.1534772 (0.79)	-.0360131 (-0.40)	.0000399 (0.54)	-.0000114 (-0.35)

^a This table demonstrates the results of the OLS-regressions run for the CAR of the acquirers. The CAR is measured in a 3 interval around the announcement date. The F- and T values are given in brackets.

^b The Tier 2 Capital is defined as the natural logarithm of the Tier 2 capital per firm.

^c Cross-Border is a dummy variable with a value of 1 when an M&A deal is cross borders; otherwise zero.

^d The relative ROE is a ratio of the ROE of the target one year prior to the announcement divided by the ROE of the acquirer one year prior to the announcement date.

^e The relative size is a ratio of the total assets of the target divided by the total assets of the acquirer one year prior to the announcement date.

^f Growth of the assets is a percentage of the total assets growth one year before the announcement compared to two years before the announcement.

^g EPS is the earnings per share one year prior to the announcement date.

^h Debt to equity is retrieved one year prior to the announcement

CHAPTER 6 Discussion

6.1 Discussion Event study

Based on the results in Table 2, we can conclude that the returns of the targets were significantly positive in every window. Positive significant CAARs for the targets are in line with the results of Beitel et al. (2004), Tourani-Rad and Van Beek (1999) and Liargovas and Repousis (2011). Another similarity which comes across is about the acquirers. In prior research in the early 2000s, the CAAR regarding the acquirer were sometimes positive and sometimes negative, depending on the window chosen. In our case, the same holds: the returns for the acquirers were slightly negative during the windows [-10,+10] and [-20,+20] and positive in the other windows.

6.2 Discussion Cross-sectional Regression Analysis

Regarding our cross-sectional regression analysis, three important differences can be identified compared to prior research. In the study of Beitel et al. (2004), the following similar variables are tested for significant impact on the CAAR: **Cross-Border**, **Relative ROE**, **Relative Size**, **Growth Assets** of the target, and the **EPS** of the target.

In this study, the **Relative ROE** significantly negatively impacted the CAR regarding the acquirers in every regression run. At the same time, in our case, this result was only obtained in the regression of the targets (see Table 3). Therefore during the period from 1985 to 2000, the following holds: if the ROE of a target in comparison to an acquirers' ROE is smaller, then a target is less profitable.

However, in our investigation period, a switch has been made. If the ROE of a target is smaller than an acquirer's ROE, this will reflect on the profitability of the acquirer instead of the target. This switch could be because acquirers more carefully picked their targets during the recent financial period due to the global financial crisis. Therefore the acquirers will take the ROE of the targets as a serious indicator of the success of the M&A.

Another important difference related to this article is the impact of the variable **Relative Size** on the CAR. In the regression analysis of Beitel et al. (2004), this variable played a minor part in the analysis. The greatest impact measured was about 0,345 percent, while in our regression analysis, this variable has a greater impact on the CAR (see Tables 3 and 4). This could be again related to more meticulously choosing targets to merge with due to the crisis. Smaller companies tend to be easier to acquire, and therefore the cost, which will impact the CAR of the M&A, will be lower.

CHAPTER 7 Conclusion

This paper evaluates if the recent financial period influenced M&A transactions in the European banking sector. Previous research has investigated whether an M&A deal in this sector creates or destroys shareholder value. However, previous studies have not correlated this relationship to a particular period. In this thesis, the aftermath of the global financial crisis was investigated concerning the impact on the M&A deals in the European banking sector. The related question that was studied was: ‘‘How did the recent financial period have an impact on the mergers and acquisitions within the European banking sector?’’.

We have analysed 62 M&A deals from 2009 to 2020 to answer this research question. This dataset was obtained from the databases Refinitiv Eikon, DataStream and WorldScope. The methodology that was used was the event-study methodology and multivariate regression analysis. For the event study, the FTSE100 was used as the market index, and the following windows around the announcement date were tested [-20, 0], [-10,0], [-1,0], [-1, +1], [-10, +10] and [-20, +20]. The event-study methodology enabled us to see if the announcement of the M&A positively or negatively impacted the cumulative average abnormal returns of every stock in our sample. To further analyse if the recent financial period had an impact on the M&A activity in the banking sector, we have conducted a multivariate cross-sectional regression of 7 independent variables. The variables of interest characterised this period were **Tier 2 Capital** and **Cross-border**. The variables controlled for were the following: **Relative ROE**, **Relative Size**, **Growth Assets**, **EPS** and **Debt-to-equity**.

The most important results of our event study were significant positive returns for the target banks in every window and inconsistent returns on the bidder side. We can learn from these results that the impact on value creation concerning the M&A announcement does not differ from previous research. The same conclusion can be drawn about the multivariate regression analysis. In this more profound analysis of the impact of the variables of interest on the cumulative abnormal return, we have seen no significant impact in any regression run. Regardless of adding our five control variables, we have not seen a significant result of the **Tier 2 Capital** of the **Cross-Border** variable. Therefore, we can learn from these results that the recent financial period has not impacted the M&As in the European banking sector’s M&A transactions from 2009 to 2020.

A potential limitation of this study is that we have used disclosed dollar value as a search criterion for our sample creation, meaning that the acquirer takes over more than 50% of the target. This is a common approach when analysing M&As and has been used in the previous studies by Beitel et al. (2004) and Cybo-Ottone and Murgia (2000). However, it could be attractive for future researchers to investigate if releasing this criterion will have the same outcome as in this thesis and previous studies.

Another potential limitation of the approach in the thesis is the selection of the FTSE100 as a market index. This index is not a specified banking index which could hypothetically harm the quality of the event study methodology. However, we have consciously selected this index for the following reasons. The index is significant in the London Stock Exchange and the most important in the UK. Besides that, the geographical advantage of being staged in the European financial centre is a key characteristic to impact the banking sector. On top of that, the FTSE100 has been used in previous studies, for example, the study by Dilshad (2013) regarding the impact of M&A announcements on stock prices.

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APPENDIX A: Targets Characteristics Event Study Methodology

This appendix shows the characteristics of the target sample used in the event study methodology. In Table 5, the Target's Name is the name of the target bank according to Refinitiv Eikon. The correlated DataStream codes and Announcement date are crucial for the DataStream Event Study tool, creating abnormal returns. Furthermore, the M&A SDC Deal number is stated to retrieve the deal easily. The location of the headquarters of the target's bank determines the target nation. The deal value is stated in millions of USD.

Table 5

Target's Name	DataStream Codes	M&A SDC Deal Number	Announcement date	Target Nation	Deal Value
Sparebanken Telemark	9339K8	3666316040	30/11/2020	Norway	45,77458022
Den Jyske Sparekasse A/S	93779W	3664981040	26/11/2020	Denmark	197,731457
Liberbank SA	88540M	3644426040	05/10/2020	Spain	716,0949383
Bankia SA	77436R	3630360040	03/09/2020	Spain	5140,085298
Brabank Asa	2629EW	3587737040	12/06/2020	Norway	35,47401247
Komercijalna Banka ad Beograd	53705R	3368576040	26/02/2020	Serbia	421,0171643
Unione di Banche Italiane SpA	27217K	3515232040	17/02/2020	Italy	4772,953899
Banco di Sardegna SpA	505337	3335401040	08/02/2019	Italy	282,8912602
Bank Cler AG	779431	3271752040	20/06/2018	Switzerland	214,4622195
Virgin Money Holdings (UK) PLC	9175RA	3241968040	07/05/2018	United Kingdom	2114,707099
Banco BPI SA	741585	3242558040	06/05/2018	Portugal	122,8868439
Nordjyske Bank A/S	740636	3236402040	18/04/2018	Denmark	604,1223758
Banco BPI SA	741585	2948220040	18/04/2016	Portugal	718,7721646
Bank BPH SA	143564	2941686040	01/04/2016	Poland	366,8119789
Banca Popolare di Milano Scarl	505838	2896940040	23/03/2016	Italy	3498,072308

AKB Bank Moskvyy OAO	29999X	2814228040	16/10/2015	Russia	81,46600534
Deutsche Postbank AG	29095T	2746954040	27/04/2015	Germany	270,1905821
Cacanska Banka ad Cacak	67287P	2603220040	20/03/2015	Serbia	5,84148036
BNP Paribas Bank Polska SA	143703	2690458040	10/10/2014	Poland	101,674966
A/S Norresundby Bank	307190	2684115040	09/10/2014	Denmark	301,6204568
UBS AG	936458	2680802040	29/09/2014	Switzerland	65898,44617
DAB Bank AG	278267	2656449040	31/07/2014	Germany	473,850644
Bank Gospodarki Zywnosciowej SA	77190R	2520780040	25/12/2013	Poland	1330,132032
Credito Bergamasco SpA	702805	2587750040	26/11/2013	Italy	273,297868
Diba Bank A/S	307189	2573749040	11/11/2013	Denmark	82,80223632
Vordingborg Bank A/S	307199	2558236040	14/08/2013	Denmark	5,176000296
Yapi Kredi B Tipi Yatirim Ortakligi AS	362607	2549288040	18/07/2013	Turkey	36,97665937
TT Hellenic Postbank SA	36055W	2546892040	09/07/2013	Greece	889,5216698
Nordea Bank Polska SA	881573	2499472040	12/06/2013	Poland	825,8295867
Sparekassen Faaborg A/S	307080	2525352040	28/05/2013	Denmark	28,14109974
Hol Sparebank	686517	2498913040	21/01/2013	Norway	3,938815882
Banco Espanol de Credito SA {Banesto}	929470	2478391040	17/12/2012	Spain	346,702031
General Bank of Greece SA	777328	2432212040	19/10/2012	Greece	1,302100288
Eurobank Ergasias SA	308696	2457674040	05/10/2012	Greece	708,763424
Sparbank A/S	307083	2451200040	18/09/2012	Denmark	56,24549179
A/S Vinderup Bank	307198	2449590040	12/09/2012	Denmark	9,598663372
Denizbank AS	29579Q	2197168040	08/06/2012	Turkey	3861,652116
Kredyt Bank SA	142975	2311184040	28/02/2012	Poland	1425,464099

Aarhus Lokalbanc A/S	772450	2382759040	25/01/2012	Denmark	23,71481481
Banco Pastor SA	755777	2351959040	07/10/2011	Spain	1464,861033
OA0 "TransKreditBank"	51618P	2290359040	28/04/2011	Russia	582,9798202
Dias Investment Portfolio Co SA	308714	2232637040	22/10/2010	Greece	90,61793835
Bank Zachodni WBK SA	259335	2170285040	10/09/2010	Poland	5630,003181
Finibanco Holding SGPS SA	682938	2207530040	30/07/2010	Portugal	437,8616713
Banco Guipuzcoano SA	504289	1924662040	25/06/2010	Spain	419,0410196
Fortis Bank AS	309206	2016312040	03/06/2010	Turkey	932,9217687
Skaelskor Bank A/S	772485	2187483040	27/05/2010	Denmark	6,141194079
Fionia Bank A/S	307303	2083712040	31/08/2009	Denmark	173,4099005
Toscana Finanza SpA	50317M	2090196040	09/07/2009	Italy	53,27213462
Banco de Andalucia SA	933312	2074838040	19/05/2009	Spain	218,7480417
Banca Italease SpA	31200H	2057584040	15/03/2009	Italy	187,3001925

APPENDIX B: Acquirer Characteristics Event Study Methodology

Appendix B shows the characteristics of the sample of acquirers used in the event study methodology. In Table 6, The Acquirer's Name is the name of the target bank according to Refinitiv Eikon. The correlated DataStream codes and Announcement date are crucial for the DataStream Event Study tool, creating abnormal returns. Furthermore, the M&A SDC Deal number is stated to retrieve the deal easily. The location of the headquarters of the acquirers' bank determines the target nation. The deal value is stated in millions of USD.

Table 6

Acquirer's Name	DataStream Codes	M&A SDC Deal Number	Date Announced	Acquiror Nation	Deal Value
Sparebank 1 BV	142461	3666316040	30/11/2020	Norway	45,77458022
Vestjysk Bank A/S	307188	3664981040	26/11/2020	Denmark	197,731457
Unicaja Banco SA	91113X	3644426040	05/10/2020	Spain	716,0949383
CaixaBank SA	51170Q	3630360040	03/09/2020	Spain	5140,085298
Easybank ASA	2732YR	3587737040	12/06/2020	Norway	35,47401247
Nova Ljubljanska Banka dd Ljubljana	9376GP	3368576040	26/02/2020	Slovenia	421,0171643
Intesa Sanpaolo Spa	929420	3515232040	17/02/2020	Italy	4772,953899
BPER Banca SpA	307041	3335401040	08/02/2019	Italy	282,8912602
Monobank ASA	2629EW	3361347040	08/02/2019	Norway	27,93789123
Erste Group Bank AG	893617	3426718040	30/08/2018	Austria	91,86193554
Basler Kantonalbank AG	531893	3271752040	20/06/2018	Switzerland	214,4622195
CYBG PLC	8898PW	3241968040	07/05/2018	United Kingdom	2114,707099
CaixaBank SA	51170Q	3242558040	06/05/2018	Spain	122,8868439
Alior Bank SA	87938M	3279075040	30/04/2018	Poland	0,732776016
Ringkjøbing Landbobank A/S	92174Z	3236402040	18/04/2018	Denmark	604,1223758

Powszechna Kasa Oszczednosci Bank Polski SA	29727C	3285521040	12/03/2018	Poland	0,575019157
Bank Otkritie Financial Corp PJSC	75806E	2951925040	22/04/2016	Russia	1,266307197
CaixaBank SA	51170Q	2948220040	18/04/2016	Spain	718,7721646
Alior Bank SA	87938M	2941686040	01/04/2016	Poland	366,8119789
Banco Popolare SC	682797	2896940040	23/03/2016	Italy	3498,072308
Bank VTB PAO	50608R	2814228040	16/10/2015	Russia	81,46600534
Turkiye Halk Bankasi AS	50500Q	2603220040	20/03/2015	Turkey	5,84148036
Banco de Sabadell SA	258990	2732282040	12/03/2015	Spain	2529,761905
Bank Gospodarki Zywnosciowej SA	77190R	2690458040	10/10/2014	Poland	101,674966
Nordjyske Bank A/S	740636	2684115040	09/10/2014	Denmark	301,6204568
UBS AG	936458	2680802040	29/09/2014	Switzerland	65898,44617
BNP Paribas SA	309449	2656449040	31/07/2014	France	473,850644
Banco Di Desio E Della Brianza SpA	143712	2620628040	01/04/2014	Italy	192,7426696
BNP Paribas SA	309449	2520780040	25/12/2013	France	1330,132032
Banco Popolare SC	682797	2587750040	26/11/2013	Italy	273,297868
Sydbank A/S	740637	2573749040	11/11/2013	Denmark	82,80223632
Lollands Bank A/S	307185	2558236040	14/08/2013	Denmark	5,176000296
Yapi ve Kredi Bankasi AS	504824	2549288040	18/07/2013	Turkey	36,97665937
Unicredit SpA	929395	2288609040	16/07/2013	Italy	166,3505521
Eurobank Ergasias SA	308696	2546892040	09/07/2013	Greece	889,5216698
Powszechna Kasa Oszczednosci Bank Polski SA	29727C	2499472040	12/06/2013	Poland	825,8295867

Nes Prestegjelds Sparebank	688579	2498913040	21/01/2013	Norway	3,938815882
Banco Santander SA	702853	2478391040	17/12/2012	Spain	346,702031
Bank of Piraeus SA	308699	2432212040	19/10/2012	Greece	1,302100288
National Bank of Greece SA	922649	2457674040	05/10/2012	Greece	708,763424
Spar Nord Bank A/S	531866	2451200040	18/09/2012	Denmark	56,24549179
Salling Bank A/S	142425	2449590040	12/09/2012	Denmark	9,598663372
Sberbank Rossii PAO	872749	2197168040	08/06/2012	Russia	3861,652116
Bank Zachodni WBK SA	259335	2311184040	28/02/2012	Poland	1425,464099
Vestjysk Bank A/S	307188	2382759040	25/01/2012	Denmark	23,71481481
Banco Popular Espanol SA	929530	2351959040	07/10/2011	Spain	1464,861033
Bank VTB PAO	50608R	2290359040	28/04/2011	Russia	582,9798202
Eurobank Ergasias SA	308696	2232637040	22/10/2010	Greece	90,61793835
Deutsche Bank AG	505686	2219194040	12/09/2010	Germany	1527,402609
Banco Santander SA	702853	2170285040	10/09/2010	Spain	5630,003181
Banco de Sabadell SA	258990	1924662040	25/06/2010	Spain	419,0410196
Turk Ekonomi Bankasi AS	276822	2016312040	03/06/2010	Turkey	932,9217687
Max Bank A/S	307181	2187483040	27/05/2010	Denmark	6,141194079
Nordea Bank AB	671068	2083712040	31/08/2009	Sweden	173,4099005
BANIF SGPS SA	307716	2090331040	10/07/2009	Portugal	207,983599
Banca IFIS SpA	307032	2090196040	09/07/2009	Italy	53,27213462
Banco Popular Espanol SA	929530	2074838040	19/05/2009	Spain	218,7480417
Banco Popolare SC	682797	2057584040	15/03/2009	Italy	187,3001925

APPENDIX C: Average Abnormal Returns Targets and Acquirers

Appendix C displays the average abnormal returns of both targets and the acquirer (see Table 7). The returns are displayed for each day of the event window. The returns were crucial for the CAAR and, therefore, the event-study methodology.

Table 7

Day	Average Abnormal Returns Targets	Average Abnormal Returns Acquirers
-20	-0,005634229	-0,005986067
-19	-0,002585643	-0,007671913
-18	0,005167279	-0,000909899
-17	0,00996576	0,002792996
-16	0,002367953	-0,006017307
-15	0,002680246	-0,002734551
-14	-0,009635717	0,002987001
-13	0,006414502	0,005768819
-12	0,006237757	0,003031964
-11	-0,003640567	-0,000633195
-10	-3,29773E-05	0,002977976
-9	0,001074237	-0,00511108
-8	-0,002902329	-0,007243338
-7	0,007856349	-0,000528939
-6	-0,002170286	8,86775E-05
-5	-0,003833071	-0,003384411
-4	0,005862069	-0,003867508
-3	0,00399386	0,00362204
-2	0,0049774	0,008693782
-1	0,005920044	-0,000964987
0	0,092941211	0,020168453
1	0,032916082	0,003728034
2	-0,008723259	-0,00015594
3	-0,002990875	-0,000845386
4	-0,000400542	-0,012217384
5	-0,001983535	-0,002719521
6	-0,00039018	-0,004842249
7	-0,000564351	-0,001913142

8	0,002949221	-0,00415789
9	-0,003229174	-0,010593966
10	-0,000993577	0,001244148
11	-0,003486051	0,005811293
12	0,005367028	0,011892907
13	0,00490581	0,001505418
14	-0,001088431	-0,003130378
15	0,00169534	-0,002079594
16	-0,006092441	-0,011499531
17	0,003116545	0,005088131
18	0,00233053	-0,004411885
19	-0,0025928	-0,005370676
20	-0,0007672	0,002126488

APPENDIX D: Values for OLS regressions of the Targets

In Appendix D, the input for the regressions of each target bank is displayed (see Table 8). The CAR of the window [-1;+1] was regressed against the seven independent variables explained in Chapter 3 Data. The variables of interest are elaborated in section 3.2, and the variables which are controlled for are stated in section 3.3. When the cells are white in the table, the variable for this particular target bank could not be retrieved from the WorldScope database.

Table 8

Name of Targets	Tier 2 Capital	Cross- border	Relative ROE	Relative Size	Growth Assets	EPS	Debt-to- equity	CAR [-1;+1]
Sparebanken Telemark	10,5516	0	0,4432	0,9745	0,0161	1,61	14,79	0,0240
Den Jyske Sparekasse A/S		0	0,5236	0,9779	0,0105	1,08	1431,57	0,3457
Liberbank SA	12,6258	0	0,8878	0,9835	0,0443	0,04	312,95	0,1348
Bankia SA	14,4537	0	0,6431	0,9670	-0,0101	0,25	442,84	0,3215
Brabank Asa		0	-1,4127	1,0448		0	6,55	0,3609
Komercijalna Banka ad Beograd	8,0239	1	0,9497	0,9243	0,0500	4,79	10,48	-0,0081
Unione di Banche Italiane SpA	14,6604	0	0,2689	0,9094	-0,0162	0,39	328,99	0,2854
Banco di Sardegna SpA		0	0,9894	0,9059	0,0397	0,56	54,01	-0,0753
Bank Cler AG	5,8833	0	0,4414	0,9518	0,0239	2,79	539,26	0,2503
Virgin Money Holdings (UK) PLC	9,8039	0	2,6501	0,9974	0,0113	0,41	589,95	0,1163
Banco BPI SA	12,4915	1	0,0553	0,8717	-0,2360	0,11	161,92	0,1999
Nordjyske Bank A/S	10,6195	0	3,6770	1,0443	0,0447	1,52	19,87	0,0197
Banco BPI SA		1	3,2384	0,8929	-0,1994	0	168	-0,0735
Bank BPH SA	12,0868	0	-2,4900	0,9849	-0,1693	0,34	21,06	-0,0846
Banca Popolare di Milano Scarl	13,7179	0	1,2158	0,9535	-0,1257	0,07	385,75	-0,0220

AKB Bank Moskvyy OAO	14,0954	0	-3,2571	0,9112	0,2380	4,03	599,57	-0,0703
Deutsche Postbank AG	15,0662	0	1,6148	0,8890	-0,0051	2,34	391,95	0,1537
Cacanska Banka ad Cacak		1	-0,3734	0,7086	-0,0370	0	207,18	0,0349
BNP Paribas Bank Polska SA	11,8411	1	1,2614	0,9671	0,0465	0,55	429,95	-0,0091
A/S Norresundby Bank		0	1,6140	1,0026	0,0332	2,69	37,17	0,0257
UBS AG	15,6065	0	1,0000	1,0000	-0,1799	0	371,34	0,0002
DAB Bank AG		1	0,9792	0,7303	0,2758	0,24	7,1	0,1348
Bank Gospodarki Zywnosciowej SA		1	0,5476	0,7504	-0,0968	0,9	174,27	0,0004
Credito Bergamasco SpA		0	-0,3953	0,8811	-0,2440	2,11	370,25	0,1797
Diba Bank A/S	10,1633	0	-5,5462	0,8018	-0,1597	2,17	251,65	0,9743
Vordingborg Bank A/S		0	-8,2863	0,9748	-0,2280	4,5	164,76	0,3487
Yapi Kredi B Tipi Yatirim Ortakligi AS		1	0,6986	0,5955	-0,0155	0,07	0	0,0472
TT Hellenic Postbank SA		0		0,9056	-0,2416	0		-0,0052
Nordea Bank Polska SA		0	0,4293	0,9015	-0,2377	1,66	748,27	0,3162
Sparekassen Faaborg A/S	10,0089	0		0,9334	-0,2589	0	155,36	0,4916
Hol Sparebank		0	0,7047	0,9351	-0,1067	0,77	841,41	-0,0203
Banco Espanol de Credito SA {Banesto}	12,6976	0	0,3267	0,8856	0,0598	1,13	884,4	0,2060
General Bank of Greece SA	11,6683	0	0,1484	0,8502	-0,1057	0	755,78	-0,0939
Eurobank Ergasias SA	12,6171	0	0,9852	0,9819	0,0181	0	-3583,52	0,1331
Sparbank A/S	11,4117	0	-3,3552	0,8994	0,0515	0,57	461,05	0,2301
A/S Vinderup Bank		0	-0,4885	0,9372	0,1830	0,27	0,46	0,2342
Denizbank AS	13,4907	1	0,9132	0,8666	0,2809	0,14	222,41	0,0136
Kredyt Bank SA	12,9439	1	0,6549	0,9789	0,1620	0,34	310,64	0,2022

Aarhus Lokalbank A/S		0	4,0562	0,8792	-0,1782	0	786,9	0,3607
Banco Pastor SA	12,2849	0	0,6076	0,9243	-0,1491	0,42	935,9	0,2653
OA0 "TransKreditBank"	13,0460	0	2,8403	0,8726	0,5363	0,06	296,31	0,0046
Dias Investment Portfolio Co SA		0	2,5009	0,6488	0,1994	0,5	0	0,2786
Bank Zachodni WBK SA		1	1,1475	0,7859	-0,3808	3,06	89,96	0,0690
Finibanco Holding SGPS SA	11,7006	0		0,8997	-0,0939	0	202,59	0,4343
Banco Guipuzcoano SA	12,8423	0	0,4085	0,8881	-0,1429	0,57	647,09	-0,0405
Fortis Bank AS	10,8478	1	0,4566	0,9783	-0,2891	0,09	177,51	0,0175
Skaelskor Bank A/S	10,5415	0	8,1162	0,9454	0,1144	0	1094,57	-0,3007
Fionia Bank A/S	12,1357	1	-4,3819	0,7655	0,2077	2,82	1458,81	0,0183
Toscana Finanza SpA		0		0,8366			82,11	-0,0019
Banco de Andalucia SA		0	0,8084	0,8899	0,2888	14,08	240,91	0,1907
Banca Italease SpA		0	34,3313	0,9123	0,0267	0	5137,23	0,1019

APPENDIX E: Values for OLS regressions of the Acquirers

In Appendix E, the input for the regressions of each acquiring bank is displayed (see Table 9). The CAR of the window [-1;+1] was regressed against the seven independent variables explained in Chapter 3 Data. The variables of interest are elaborated in section 3.2, and the variables which are controlled for are stated in section 3.3. When the cells are white in the table, the variable for this particular acquirer could not be retrieved from the WorldScope database.

Table 9

Name of Acquirer	Tier 2 Capital	Cross- border	Relative ROE	Relative Asset size	Growth Assets	EPS	Debt-to- equity	CAR [-1; +1]
Sparebank 1 BV	11,0051	0	0,4432	0,9745	0,0072	0,63	323,39	0,03364
Vestjysk Bank A/S	10,8706	0	0,5236	0,9779	0,0154	0,05	18,39	0,07422
Unicaja Banco SA	12,7408	0	0,8878	0,9835	-0,0439	0,11	156,16	0,10896
CaixaBank SA	15,1102	0	0,6431	0,9670	-0,0142	0,34	218,04	0,11290
Easybank ASA		0	-1,4127	1,0448	0,0345	0,15	16,76	-0,00854
Nova Ljubljanska Banka dd Ljubljana	10,8294	1	0,9497	0,9243	0,0819	11,54	25,14	-0,02400
Intesa Sanpaolo Spa	16,0070	0	0,2689	0,9094	0,0086	0,27	398,49	0,03998
BPER Banca SpA	13,8389	0	0,9894	0,9059	0,0303	0,68	480,23	0,11868
Monobank ASA		0				0,00		0,11127
Erste Group Bank AG	15,5139	1	0,0000		0,0480	3,27	337,8	-0,02046
Basler Kantonalbank AG	7,1091	0	0,4414	0,9518	0,0450	4,40	1022,77	0,01213
CYBG PLC	13,5846	0	2,6501	0,9974	-0,0657	0,00	252,85	0,00721
CaixaBank SA	15,5291	1	0,0553	0,8717	0,0903	0,22	304,58	0,01911
Alior Bank SA	12,9262	0	0,0000		0,1625	0,37	41,51	-0,03058
Ringjobing Landbobank A/S		0	3,6770	1,0443	-0,1928	4,26	0	-0,01320

Powszechna Kasa Oszczednosci Bank Polski SA	13,0102	1	3,8780	0,7277	0,0644	0,58	93,27	0,03413
Bank Otkritie Financial Corp PJSC	14,4492	0	0,0000		-0,1715	1,12	1085,81	0,00750
CaixaBank SA	15,4146	1	3,2384	0,8929	-0,1479	0,16	275,65	-0,01438
Alior Bank SA	12,3870	0	-2,4900	0,9849	0,1106	0,27	55,43	0,12441
Banco Popolare SC	14,1576	0	1,2158	0,9535	-0,1734	0,00	478,56	-0,03094
Bank VTB PAO	15,6650	0	-3,2571	0,9112	0,3246	0,00	614,43	-0,01611
Turkiye Halk Bankasi AS	12,9448	1	-0,3734	0,7086	-0,0010	0,97	221,51	0,09283
Banco de Sabadell SA	13,9452	1	2,6218	0,9201	0,0332	0,08	412,06	-0,10637
Bank Gospodarki Zywnosciowej SA	11,6687	1	1,2614	0,9671	-0,0095	0,77	135,85	0,00578
Nordjyske Bank A/S		0	1,6140	1,0026	0,1058	1,39	10,51	0,03759
UBS AG	15,6065	0	1,0000	1,0000	-0,1799	0,00	371,34	0,00022
BNP Paribas SA	15,9394	1	0,9792	0,7303	-0,0110	5,68	185,47	0,02070
Banco Di Desio E Della Brianza SpA	11,4754	0			0,0917	0,05	366,83	0,25461
BNP Paribas SA	16,4067	1	0,5476	0,7504	-0,1566	6,34	230,45	-0,00687
Banco Popolare SC	14,4938	0	-0,3953	0,8811	-0,1432	0,00	830,51	0,04749
Sydbank A/S	10,5438	0	-5,5462	0,8018	-0,1328	0,73	438,2	-0,01027
Lollands Bank A/S		0	-8,2863	0,9748	-0,1071	0,00	0,02	-0,00915
Yapi ve Kredi Bankasi AS	15,0130	1	0,6986	0,5955	-0,0044	0,18	196,31	-0,01361
Unicredit SpA	16,7048	1	0,0000		-0,1351	0,00	526,3	0,01321
Eurobank Ergasias SA		0		0,9056	-0,2419	0,00	-1508,63	-0,44838
Powszechna Kasa Oszczednosci Bank Polski SA	13,0419	0	0,4293	0,9015	-0,1795	0,92	63,3	0,04827

Nes Prestegjelds Sparebank		0	0,7047	0,9351	-0,0263	0,90		0,04437
Banco Santander SA	16,9277	0	0,3267	0,8856	0,2078	0,76	567,6	0,01747
Bank of Piraeus SA	13,4617	0	0,1484	0,8502	-0,0113	0,00	-1125,75	0,01225
National Bank of Greece SA	13,8301	0	0,9852	0,9819	0,0314	597,96	-1532,5	0,12879
Spar Nord Bank A/S	10,9095	0	-3,3552	0,8994	0,2187	0,26	484,71	-0,02867
Salling Bank A/S		0	-0,4885	0,9372	0,1813	6,05	10,23	-0,02133
Sberbank Rossii PAO	16,4035	0	0,9132	0,8666	0,3906	0,37	106,91	-0,01004
Bank Zachodni WBK SA		1	0,6549	0,9789	0,3515	5,01	40,76	0,01108
Vestjysk Bank A/S	12,1094	1	4,0562	0,8792	0,0170	0,02	693,49	0,41542
Banco Popular Espanol SA	10,4860	0	0,6076	0,9243	-0,1111	1,49	694,13	-0,00433
Bank VTB PAO	15,7542	0	2,8403	0,8726	0,2046	0,00	251	-0,06332
Eurobank Ergasias SA	13,6089	0	2,5009	0,6488	-0,0913	1276,12	649,23	0,01175
Deutsche Bank AG	15,4027	0	0,0000		-0,3956	0,00	845,46	0,01317
Banco Santander SA	17,3342	1	1,1475	0,7859	-0,0609	0,97	625,56	-0,01994
Banco de Sabadell SA	14,1492	0	0,4085	0,8881	-0,0826	0,45	686,02	0,04331
Turk Ekonomi Bankasi AS		1	0,4566	0,9783	-0,2292	0,11	241,96	0,00510
Max Bank A/S		0	8,1162	0,9454	-0,1042	0,00	840,8	0,17220
Nordea Bank AB	15,9227	1	-4,3819	0,7655	0,6008	1,45	771,98	-0,02060
BANIF SGPS SA		0				0,54		0,07430
Banca IFIS SpA	4,4308	0		0,8366	0,2402	0,82	663,3	0,02310
Banco Popular Espanol SA	14,1633	0	0,8084	0,8899	0,1992	3,46	780,19	0,02766
Banco Popolare SC	15,3306	0	34,3313	0,9123	0,0929	6,07	539,92	-0,07369
