Before and After the Introduction of the Euro: Determinants of the Cumulative Abnormal Returns

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ABSTRACT

In this paper, I investigated the differences in the determinants of cumulative abnormal returns (CAR) around announcements of mergers and acquisitions between the period before the Euro and the period when it became the method of payment (1990–2016). I found positive abnormal returns of 0.8% for acquirers in five European countries. Furthermore, significant differences appeared between the periods for the deal-specific, firm-specific, and macro-economic determinants. The target status influenced CAR in the Euro period only, whereas the method of financing of a takeover reversed between these periods. Furthermore, the effect of acquirer size did not change, and its negative relationship with CAR persisted. This negative relationship was also the case for leverage, but its effect was observed for the Euro period only. For the macro-economic determinants, results were significant for cross-border takeovers only. Such takeovers have a negative influence on CAR around the announcement of a merger or acquisition. In sum, differences occurred in all of the determinant groups of CAR in five European countries between the pre-Euro period (1990–1998) and the Euro period (2002–2016, excluding 2007–2008).

I want to thank in the first place my parents. Without them this would never be possible. Also my sister and brother have a great influence on me: thank you. Of course I want to thank my thesis supervisor, Nishad Matawlie. Without his accompaniment this thesis would never be a success in this way. Furthermore, I had a great five years at Erasmus University. I had an amazing time at this university and I have learned a lot. All the teachers and students I have worked with, thank you all!

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1. Introduction

The Euro is the method of payment of 19 European countries. This currency may influence the determinants of the cumulative abnormal return (CAR) around the announcement of a merger or acquisition of firms in these countries. The Netherlands is one of these countries. In 2015, the total value of mergers and acquisitions there was €179 billion (NU.nl, 2016), which was three times their total value in 2014. Even in 2016 this pattern continued (Simons, 2016). In that year, the German pharmaceutical concern Bayern announced a takeover of the American company Monsanto. They had both struggled to expand their market share in the area of seeds and pesticides. Monsanto accepted the bid of $66 billion. This merger is now responsible for a quarter of the supply of seeds and pesticides worldwide (Shen, 2016).

This huge merger occurred in the period in which the Euro was the method of payment —although it had been used for accounting purposes since 1999 (ECB, 2017). In January 2002, 12 European countries accepted it, including Germany, France, Italy, Spain, and the Netherlands. These countries became united under the name Eurozone. A 2011 report by the European Central Bank indicated that the Euro area was responsible for 15% of world imports. This shows in turn that the Euro area is an important export market for many countries outside of the Eurozone. These news articles on the Euro area and other information about it raise interesting issues. In this paper, I seek to answer the following question:

Are there differences in the influences of the most important determinants of the abnormal returns between the period before the Euro (1990–1998) and the Euro period (2002–2016, excluding 2007–2008) for an acquirer in five European countries: Germany, France, Italy, Spain, and The Netherlands?

This research question tries to answer if any differences exist between the determinants of the abnormal returns around an announcement between the time the Euro became the method of payment and the period beforehand. I investigate how the Euro influenced a well-known corporate event. Mergers and acquisitions have been the most examined subject in corporate finance in the past decade. Some of the research focuses on the shareholder returns of the acquiring firm. The returns of the target firms are examined extensively. Empirical research found that 91% of the sample of target firms had positive abnormal returns at the time of the announcement of the merger

or acquisition (Huang & Walkling, 1987). The acquiring firms showed different returns compared to the targets. Andrade et al. (2001) found empirical evidence that acquiring firms received negative abnormal returns in the period from 1973 to 1998, when all European countries had their own currency.

To investigate this research question, I use the periods 1990–1998 (pre-Euro) and 2002–2016, excluding 2007 and 2008. The sample consists of five countries — Germany, France, Italy, Spain, and the Netherlands — that used the Euro as method of payment beginning in 2002. According to 2017 estimates by the International Monetary Fund, they also have the highest gross domestic product (GDP) in the Euro area. This investigation takes all of the mergers and acquisitions from public acquirers founded in one of these five European countries. To explore the research question, I then divide the determinants into three groups: deal-specific, firm-specific, and macro-economic. The deal-specific group consists of two determinants, target status and method of financing a takeover. The firm-specific group has three determinants, firm size, leverage, and agency cost of an acquirer. Last, the investigation of the macro-economic group focuses on diversified and cross-border takeovers.

I use the ordinary least square (OLS) method to regress these determinants to the CAR. One of the variables in these regressions is the interaction term between a certain determinant and the time dummy of the Euro period. If the coefficient of this interaction term is significant, I can conclude that the Euro period plays a significant role in explaining the CAR for this determinant.

With this method, I arrived at some intriguing findings. To answer the research question: differences were definitely found in all three groups (deal-specific, firm-specific, and macro-economic) in the influences of determinants on CAR around announcements of mergers and acquisitions between the pre-Euro and Euro periods. The influence of the determinant target status is different in the Euro period relative to the pre-Euro period. The cash- and stock-financed influences on CAR are reversed between these periods. The determinant firm size is not revised from the traditional literature (which states that large firms receive a negative impact on their stock price compared to small ones). The second firm-specific determinant, leverage, is related negatively to the stock price of acquiring firms, but only for the Euro period. Last, this research showed that a higher level of agency cost led to a negative reaction of investors to the stock price of the acquirer around the announcement of mergers or acquisitions. Cross-border takeovers, an

aspect of the macro-economic determinants, led to significantly lower CAR than did domestic takeovers. Again, this effect was observed for the Euro period only. As expected, the Euro influences the determinants of the CAR of acquirers in the merger and acquisition market, because of more competition between bidders and an increased integration of the market in the Euro area (Holmes et al., 2009).

In sum, this research showed that differences do exist in how the determinants influence the CAR between the pre-Euro and Euro periods. This research adds to the existing literature about the influences of determinants on the stock price around the announcement of a merger or acquisition. For instance, Moeller et al. (2004) found that a cash-financed takeover has a positive influence on stock price at the time the acquirer announces the takeover, but the present research showed this effect to be reversed in the Euro period for five European countries. As a result of my research on mergers and acquisitions during the years in question, firms, investors, and analysts can use this paper to adjust their decisions or actions in this market.

Furthermore, the relevant literature is described extensively in Section 2 of this paper. Section 3 offers a detailed description of the dataset and the methodology used in this investigation, as well as the corresponding hypotheses. In Section 4, the results of this research are given. The last section contains the final conclusions pertaining to the research question.

2. Related Literature

In this section, I discuss briefly several determinants of the CAR of acquirers. First, a short literature review outlines the effect of the Euro on the abnormal return for acquirers around mergers and acquisitions. These determinants are then discussed separately, along with relevant past literature.

Little research exists on the effect of the Euro on mergers and acquisitions in Europe. That of Holmes et al. (2009) found some interesting evidence suggesting that acquirers from the banking industry have seen their gains from mergers and acquisitions fall because of the development of an economic and monetary union. There are also significant differences between the gains of these banks from acquisitions. These authors gave the following reason for this phenomenon:

"These Results are consistent with increased competition among bidders and increased integration of the market in the Eurozone area in the post-Euro era."

2.1 Abnormal Return for an Acquirer

Several studies have looked at abnormal returns of a target firm around the announcement of a merger or acquisition. In general, these firms receive a positive abnormal return around the time of an announcement of a merger or acquisition (Huang & Walkling, 1987; Franks, Harris, & Titman, 1991). In the case of the acquiring firm, this is not the case. The bidder or acquiring firm receives no abnormal returns on their stock price different from zero, according to the empirical evidence of Jensen and Ruback (1983). Others have found empirical evidence that an announcement reduces the stock prices of a bidder. For instance, Morck et al. (1990) found that an announcement has negative effects on the stock price of the acquirer for a sample of mergers and acquisitions in the United States between 1975 and 1987. Moeller et al. (2004) have empirical evidence that an announcement of a merger or acquisition led to an increase in the stock price of the acquirers. Their research is also based on mergers and acquisitions done in the U.S., but for the period 1980–2001. Hence, there is no unambiguous conclusion about the effect of an announcement of a merger or acquisition on the stock price of the acquirer.

2.2 Target Status

The literature distinguishes the status of the target firms into three forms. A company can first have a private status. The target receives this label when the firm had a private ownership before the announcement of the merger or acquisition. Second, a target firm can be characterized as public, meaning it was listed on a stock exchange and its stocks were tradeable in public before the announcement. The last possibility is for the target to have the status of subsidiary. It is labeled as such when more than the half of the total stocks of a target firm are owned by another company before the event.

Draper and Paudyal (2006) found empirical evidence suggesting that acquiring a private firm is a solution to maximize the wealth of your shareholders as acquirer. This indicates that an abnormal return for the acquirer around the time of the announcement is the highest when they acquire a private firm. Fuller et al. (2002) also did research on subsidiary status. Their empirical evidence suggested that the shareholders of an acquirer also gain if it acquires a subsidiary. Moeller et al. (2004) found empirically that acquiring a subsidiary target gives the highest return on the stock price of an acquiring company. Part of the evidence of Fuller et al. (2002) aligns with that of Draper

and Paudyl (2006), that bidding firms gain from acquiring private firms. Fuller et al. (2002) also did research on stock price returns when acquiring a public firm. Their findings were very different when the target was a publicly traded company, in that acquirers lose on their stock price returns when they acquire one. This is in line with the research of Capron and Shen (2007). One of their main findings is that firms acquiring private firms perform better than those acquiring publicly traded companies. Hence, the literature demonstrates the following: (1) positive stock price returns result if a company takes over private or public firms, and (2) announcing takeovers of public firms influences the stock price of the acquiring company negatively.

2.3 Method of Financing

Another important determinant of the stock returns around the time of the announcement is the way of financing the merger or acquisition. I consider the following three types of financing a takeover. First, a stock-financed takeover is when a merger or acquisition is financed fully with stocks. Moeller et al. (2004) found significant results indicating that a takeover financed with stocks has a negative influence on the stock price of an acquirer. The reason is that when an acquirer finances a takeover with stocks, investors get the signal that its stock is overvalued (Wansley et al., 1983). Second, it is possible to finance mergers and acquisitions with cash only. On this point, Sudarsanam and Mahate (2003) showed that irrespective of a firm-specific character, acquirers who financed a merger or acquisition with cash generated a higher return than acquirers who did so with stocks. This empirical result from the United Kingdom is in line with research by Wansley et al. (1983). They and Travlos (1987) found empirical results of significant differences in shareholders' return for an acquirer if compared by method of payment. Myers and Majluf (1984) gave substantially the same reason as above: they see the method of payment as an information signal to the investors in the acquiring firm. Last, a hybrid form of financing a takeover can occur when mergers and acquisitions are financed with both stocks and cash. Moeller et al. (2007) found a significant result on this method of payment. If a takeover is financed with a combination of stocks and cash, the acquirer faces negative returns around the announcement. This result accords with research done for the U.K. (Draper & Paudyal, 2006).

2.4 Firm Size

This firm characteristic of the acquirer has significant influence on the stock price return around the announcement. The literature shows that the size effect is never reversed over time. For this effect, researchers have never used a similar proxy for size. In this part, I focus only on the literature. In Section 3.2.4 I discuss the proxies extensively. This effect suggests that a relatively smaller acquirer earns more return around an announcement than a larger one does.

The empirical evidence of Moeller et al. (2004) is congruent with the size effect. They argue that the return around an announcement is two percentage points higher for acquirers who are relatively smaller. This result is still significant, irrespective of the financing method and public status of the acquirer. Loderer and Martin (1990) published some insights about this effect. Congruent with the results of Moeller et al. (2004), their empirical findings demonstrated that acquirers with equity (market value) of more than $150 million receive a significantly lower shareholder return.

2.5 Leverage

This firm-specific determinant is both important and a characteristic for a takeover deal. Leverage is the amount of debt relative to the amount of equity held by a certain firm. In this section, I describe the effect of leverage on the stock price around an announcement.

The literature has some empirical findings on this subject. Investigating several mergers and acquisitions empirically, Maloney et al. (1993) found that the returns of the acquirer around the announcement are greater when the leverage increases. This evidence does not differ between methodologies. And this investigation tells us that debt improves decision making on the managerial level. However, other evidence contradicts that of Maloney et al. somewhat. Garvey and Hanka (1999) see leverage as a takeover-protection method, because if a company has a significant amount of debt, that scenario is unlikely. And Masulis et al. (2007) have evidence that the more takeover protection a firm has, the more return around the announcement is experienced. So, on this determinant the literature gives no clear direction.

The literature suggests that the idea behind this determinant is that if firms have a substantial amount of debt relatively to equity, its debt holders have more control over the board and the investment decisions. When this is the case, the company has fewer problems of agency between

the shareholders and managers, because the debt holders also exert control over decisions. And they want good long-term performance from the company to guarantee their own loans to it. Furthermore, the managers know that the company needs to perform well to pay off its loans and interest. Failure to do so will result in financial distress and the probability of job loss will increase.

2.6 Agency Cost

First, Jensen's "free cash flow" hypothesis says that companies with a great deal of free cash flow combined with low-return projects destroy the value of the acquiring firm (Jensen, 1986). This scenario is not in the interest of the shareholders. I use the asset turnover ratio (ATO) as an inverse proxy for agency cost. This aligns with the methodology of Ang et al. (2000) and Singh and Davidson (2003). This specific ratio is used because it shows exactly how efficient the managers of the company are in using their assets. A low ratio gives the impression that the agency costs are increasing as a result of conflict of interest between shareholders and managers, because of bad investments by the managers. So, this ratio signals that a low ratio will result in a lower shareholders' return around the announcement of a particular merger or acquisition (Ang et al., 2000). The empirical results of Lin et al. (2014) found that excess cash in a company does not explain the cross-sectional variation in post-acquisition performance (in the long-run). In other words, there is no evidence that excess cash results in sustained poor performance. So, conflicts of interest between managers and shareholders do not necessarily result in poor investments by a firm's managers, according to Lin et al. (2014).

2.7 Diversification

Diversification is one of the main reasons to take over a company from another industry. The idea behind it is to attempt to reduce firm risk (Amihud & Lev, 1981), although Morck et al. (1990) have empirical evidence that shareholders from bidding companies receive lower returns if the merger or acquisition can be classified as diversified. I make the distinction in 12 industry divisions characterized by the Standard Industry Classification (SIC). So a merger or acquisition is named "diversified" when the acquirer takes over a company from another division.

Although the standard reason for a diversified takeover is to reduce firm risk, Berger and Ofek (1993) have empirical evidence that diversification led to losses in a firm's actual value by

approximately 13–15% from 1986–1991. So why do managers persist in taking over firms from other industries? The agency problem could provide an answer to this question. It arises when managers act in their own interest instead of for the sake of the company or shareholders (Bebchuk & Fried, 2003). This conflict of interest between the managers and the owners of the company happens because the managers want to enhance their reputations in the short term by making these acquisitions. Otherwise, the shareholders would reject certain ones because they would not be profitable in the long run.

More recent research suggests that diversified takeovers are not negative at all. Campa and Kedia (2002) have empirical findings showing that diversifying firms receive discounts, proving that diversification per se is not value-destroying for a firm. Hence, there is no clear pattern as regards the effect of diversified takeovers on shareholder returns.

2.8 Cross-Border Takeovers

I define a cross-border merger or acquisition as a takeover in which the nation of the target is different from that of the acquirer. The expectations about the number of these takeovers are clear. Because of the introduction of the Euro, one obstacle is gone, making it more attractive to take over a foreign company. So, the number of cross-border takeovers will be higher in the Euro period than they were in the pre-Euro period.

The literature displays extensive research on foreign takeovers. Cross-border mergers and acquisitions generate synergies, while more diversified risk creates value for the acquiring firm (Morck & Yeung, 1992). This literature finds that announcing a foreign takeover has significant positive influence on stock price. This research was done for U.S. acquirers taking over non-U.S. firms. But other empirical results also suggest that a cross-border takeover destroys value for the acquiring firm. Kaplan and Weisbach (1992) argue that diversifying is not always succesful. Their empirical evidence shows that diversifying takeovers involve more risk of divestment than takeovers with related targets. So, unfortunately these two sources contradict each other regarding diversification.

3. Data and Methodology

The sample used in this research consists of mergers and acquisitions in five countries from the Euro area: Germany, France, Italy, Spain, and the Netherlands. Since 2002, all of them have used the Euro for payments. According to estimates by the International Monetary Fund (2017), they are also the countries with the highest GDP in the Euro area. The period analyzed includes 1990–1998 and 2002–2016, and excludes 2007 and 2008. (The period 1999–2001 is excluded because it is the run-up period.) From 1999 on, the Euro was already in use for accounting purposes, but it was introduced as the method of payment in 2002. According to the OECD (2010), the crisis years of 2007 and 2008 would disturb the dataset (Huwart & Verdier, 2013). The OECD (2010) published observations that mergers and acquisitions declined during the financial crisis by more than 50%. Also, the value of transactions declined by almost 60%, from 1 trillion to 454 billion USD.

The dataset for this research consists of 9,465 observations, and the data were extracted in two parts. First, the firm-specific characteristics before the announcement were extracted from ThomsonONE (T1), the new database of the former Thomson One Banker. The stock prices around the announcement were streamed from the EDSC Datastream Service. As sources, EDSC uses the databases of Bloomberg, CRSP, OECD iLibrary, OptionMetrics, and World Development Indicators. Also, the data had to meet the following criteria:

1. The merger or acquisition is complete.
2. The announcement data are in the analyzed period.
3. The acquirer has a public status.
4. The acquirer is not a finance, insurance, or real estate firm.
5. The target has a public, private, or subsidiary status.
6. The method of financing is known.

Appendix A displays the restrictions regarding this sample, whereas this section discusses the computation of the CAR for several event windows. The computation of the variables is then described fully. Table 1 provides descriptive statistics for the dependent and independent variables.

Table 1. Descriptive Statistics

Variable	Mean	SD	Maximum	Minimum	Number
CAR (–5, 5) (%)					
Pre Euro	0.490	6.785	46.724	–50.979	2,864
Euro	1.012	9.162	215.692	–84.192	5,798
CAR (–3, 3) (%)					
Pre Euro	0.419	5.641	47.020	–25.490	2,863
Euro	1.064	7.672	203.045	–64.467	5,798
CAR (–1, 1) (%)					
Pre Euro	0.407	3.980	49.679	–16.625	2,863
Euro	1.000	5.524	146.486	–36.080	5,798
Priv. Status (%)					
Pre Euro	51.112	49.995	1	0	3,461
Euro	56.296	49.606	1	0	6,004
Publ. Status (%)					
Pre Euro	13.320	33.984	1	0	3,461
Euro	10.127	30.171	1	0	6,004
Subs. Status (%)					
Pre Euro	35.568	47.879	1	0	3,461
Euro	33.578	47.230	1	0	6,004
Fin. Cash (%)					
Pre Euro	71.818	45.040	1	0	440
Euro	77.123	42.022	1	0	1,154
Fin. Stock (%)					
Pre Euro	24.773	43.218	1	0	440
Euro	14.211	34.932	1	0	1,154
Fin. Hybrid (%)					
Pre Euro	3.409	18.167	1	0	440
Euro	8.666	28.145	1	0	1,154
Sales (× Mil. €)					
Pre Euro	5,653.691	9,642.506	63,425.760	0.109	3,239
Euro	8,772.276	22,849.950	347,689	–7.319	5,787
Leverage					
Pre Euro	0.656	3.206	121.144	0.000	3,045
Euro	0.689	1.502	45.919	0.000	5,166
ATO					
Pre Euro	1.269	0.716	5.401	0.019	3,221
Euro	1.032	0.641	8.510	–0.104	5,786
Diversification (%)					
Pre Euro	52.413	49.949	1	0	3,461
Euro	43.404	49.567	1	0	6,004
Cross-Border (%)					
Pre Euro	48.021	49.968	1	0	3,461
Euro	51.332	49.986	1	0	6,004

Notes. Descriptive statistics are given for several variables. The dependent variables for the CARs are given in percentages for various event periods. Number = number of observations. The first row for each variable gives data for the period before the Euro, 1990–1998. The second row provides data for the period when the Euro was the method of payment, 2002–2016, excluding 2007 and 2008. The means of dummy variables with a maximum of 1 and a minimum of 0 need to be interpreted differently. These means give the representativeness of a certain variable in the total sample in percentages. For example, in the pre-Euro period, 51.112% of the targets had a private status. ATO (asset turnover) is the sales divided by the total assets. ATO and leverage (debt to equity) are ratios.

3.1 Event Study – Cumulative Abnormal Return

The CARs of acquiring firms around an announcement of a merger or acquisition are the dependent variables in this research. The calculation of these is based on the event study of MacKinlay (1997). An event study examines the stock price reaction to an event. In this case, it is the stock price reaction of the acquirers to a merger or acquisition announcement. An event study to compute the abnormal return of a certain acquirer is done in three parts. First, it is important to identify the event date. Second, the normal returns must be computed. And last, the abnormal return of a firm around the event date must be calculated. The first hypothesis of this research is as follows:

(1) *There are no significant CARs for the acquirers in this sample around the announcement of a merger or acquisition, and there is no difference in the amplitude of the CAR between the pre-Euro and Euro periods.*

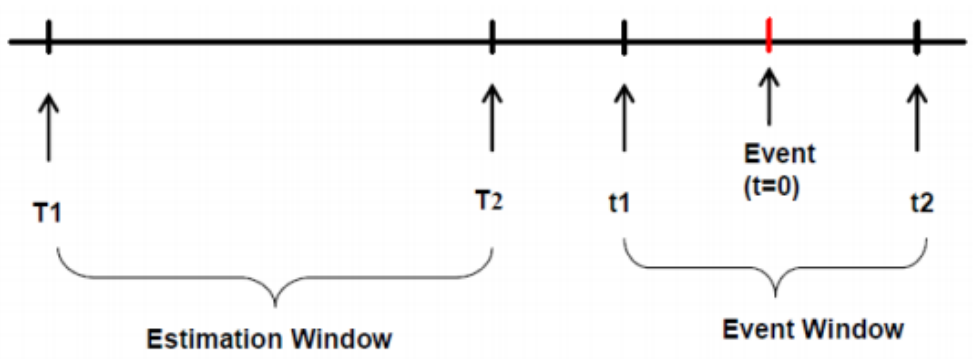
This hypothesis implies that the CARs for the acquirors are not different from zero. (A more extensive description appears further in this section.) So, in this case the null hypothesis and the alternative hypothesis, respectively, are as follows:

$$H_0: CAR = 0 \textit{ and}$$
$$H_A: CAR \neq 0.$$

3.1.1 Event date

This is the date when a firm announced a takeover of another company publicly. This research chooses the day of the announcement of a merger or acquisition as the event date. In this session an event date is designated $t = 0$. This research is interested not only in the announcement date, but also in the stock price returns around that date. This period is known as the event window $[t_1, t_2]$. Another important period, the estimation window $[T_1, T_2]$, gives the normal returns for a certain stock. Between these windows are several days that are not part of them. This was done deliberately to make a clear separation between the normal return and the stock return around an announcement, to make sure that the event does not influence the computation of the normal return (see Figure 1).

Figure 1: Graphic illustration of the two windows



3.1.2 Normal returns

A normal stock return is the return of a stock that is not significantly different from the market return when there is no event. In this research this normal return is computed as done by MacKinlay (1997). In this literature, the market model was chosen as a means of estimating normal returns. The market model is calculated in the formula below for the estimation period [T_1, T_2] to estimate the expected normal return.

$$E(R_{it}) = \alpha_i + \beta_i * R_{mt} + \varepsilon_{it}$$

This equation shows the expected normal return for a certain stock, $E(R_{it})$. This calculation results in an expected alpha (α_i) and beta (β_i) as output. To obtain them, I use the "return of the market" (R_{mt}), which is defined as the return in the estimation period of one market index from one of the five countries in the sample. This estimation period is from 120 days before the event date until 20 days before the announcement [–120, –20]. Each merger or acquisition has its own estimation period and, of course, its own event period. It is possible for a company to take over more companies in a short period and for the estimation windows to overlap. In rare situations, acquirers have taken over more than one company in a day. This research assumes that one acquirer can only take over one company a day. In the case of more than one takeover, this research keeps only the first announced takeover of that day in the sample.

As mentioned before, this research is based on five countries in the Euro area: Germany, France, Italy, Spain, and the Netherlands. For each country I use one of its top indexes to estimate the normal return. For Germany, this research uses the DAX 30 index, formed by the 30 largest companies listed there. CAC 40 is the index used to estimate the normal returns for French companies announcing a merger or acquisition. The MSCI Italy index is used to estimate the normal return in the estimation window for Italian companies. Formed by the 35 companies with the highest trading volumes in Spain, the IBEX 35 index is used here to compute the normal return in the selected 100 days before the announcement. Last, the AEX 25 index is used to estimate the normal returns for the Dutch companies. All of the data for the indices were extracted from the EDSC Datastream Service.

3.1.3 Abnormal Returns

The section above briefly explained how normal returns are calculated. To calculate the abnormal returns around an event date, of course I use these normal returns. The formula below shows how I calculate the abnormal return for a certain stock, *i*, on a certain day, *t*.

$$AR_{it} = R_{it} - E(R_{it})$$

AR_{it} is the abnormal return for stock *i* on time *t*. This abnormal return is the difference between the actual and observed return and the expected normal return. So, for every day there is a percentage of abnormal return for a certain stock *i*.

The CAR for the stock *i* is the sum of all of the abnormal returns in the event window. For example, for an event window of –5 to 5, the CAR is the sum of the abnormal returns five days before the event, the abnormal return of the event date, and the abnormal returns five days afterwards. This concept is given in formula form below. The start and end dates of the event window are t_1 and t_2 in the formula.

$$CAR = \sum_{t=t_1}^{t=t_2} AR_{it}$$

To make the results more robust, this research uses three different event periods. The three event windows are [–5, 5], [–3, 3], and [–1, 1]. These windows have 11, 7, and 3 days, respectively, incorporated in the calculation of abnormal returns. In Table 2 (Appendix) the CARs are given for different event windows for different years, and in Figure 2 (Appendix) they appear in graph form.

After the calculation of the CARs, it is important to test them statistically to test the first hypothesis of this research. The CARs are of interest only if they have a significant share in the stock price returns. This aspect is tested with a simple t-test, in which the null hypothesis is CAR = 0. This means that the CAR has no significant share in the stock price returns around the announcement of a merger or acquisition, H_0. This null hypothesis is rejected if the p-value is less than a certain significance level. If the null hypothesis is rejected, it is replaced by the alternative hypothesis H_A: CAR ≠ 0. The alternative hypothesis says that the CARs have a significant share in the stock price returns around a merger or acquisition.

The t-test statistic is calculated by the formula below.

$$t = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}}$$

In this formula, $\bar{x}$ is the mean of the entire sample. So, in this case it is the mean of all of the CARs in a certain event window. μ_0 is zero, because in the null hypothesis the CAR is equal to zero. s is the standard deviation of the CAR in the same event window from which I took the mean for $\bar{x}$. The size of the sample is captured by n. With this input, a t-value can be obtained. The t-value table provides the probability density (p-value) that corresponds with the t-value. If this p-value is less than a certain significance level, the null hypothesis is rejected. Otherwise, it is replaced by the alternative hypothesis.

3.2 Variables and Methodology

In this section, the variables used in the regression are described, and the other hypotheses concerning these determinants are introduced. The computation of the dummies and the variables used in the regressions are also discussed, as well as the methodology.

3.2.1 Methodology and Interaction Effect

In this research, it is important to estimate the difference in the effects of different determinants on the CARs in the two time periods. To estimate this possible difference, I created a time dummy called Euro-period. Representing observations in the periods from 1/1/2002 to 31/12/2006 and 1/1/2009 to 31/12/2016, it takes the value 1 if the observations appear in these periods (otherwise, it is 0). This time dummy interacts with several determinants of this research. In the rest of this section, the interaction terms for each determinant are discussed separately.

The methodology thus makes it possible to estimate the effect of a determinant for the Euro period. To estimate this effect, I use the ordinary least square (OLS) method for the regressions to estimate the influences of the independent variables on CAR:

$$CAR_i(t_1,\ t_2\ ) =\ \alpha_i\ +\ \beta_{i1} * X_{i1} +\ \beta_{i2} *\ X_{i1} * TD +\ \beta_3 * TD + FE +\ \varepsilon$$

$CAR_i(t_1, t_2)$	= The CAR of firm *i* in the event window [t_1, t_2]
X_{i1}	= The first independent variable (determinant) for firm *i*
β_{i1}	= The coefficient or effect of the first independent variable
X_{i1}*TD	= The interaction term between the first variable of firm *i* with the time dummy (TD)
β_{i2}	= The coefficient or effect of the first variable of firm *i* in the Euro period
TD	= Time dummy, Euro-period dummy (2002–2006 and 2009–2016)
β_3	= The coefficient or effect of the Euro-period on the dependent variable
FE	= Fixed effects (industry and country)

This method of regression is also known as the "treatment" method (Tian et al., 2014). First, beta one (β_1) estimates the effect of a determinant on the CAR for the whole sample. Next, the second beta (β_2) gives the influence of this determinant on the CAR in the Euro period. When β_2 is significant, it indicates that the Euro period plays a role in the explanation of the CAR, besides β_1, for this determinant. The effect of a determinant on CAR in the pre-Euro period is just β_1, while the effect for this same determinant on CAR in the Euro period is $\beta_1 + \beta_2$. So, if the second beta (β_2) is significant, there is a difference between the effect of the determinant on the CAR for the pre-Euro and Euro periods.

Per the methodology of Coles et al. (2006), I control for fixed effects in the regressions. Also, Jarrell and Bradley (1980) made clear that fixed effects are important for the analysis of mergers and acquisitions. There are different fixed effects, but I control for those relating to country and industry. These fixed effects capture country- and industry-specific elements, regulations, and restrictions that could influence the stock price return around an announcement of a merger or acquisition.

3.2.2 Target Status Hypothesis

The second hypothesis of this research is formulated in this section. It also includes an extensive description of the computation of the final variables for this hypothesis. The second hypothesis is as follows:

(2) *There is a negative effect on the CAR if the target has a public status; a positive effect occurs when acquiring a private or subsidiary firm; and this effect remain in the Euro period.*

Both this hypothesis and the following ones are consistent with the literature as discussed in Section 2.2. To test this second hypothesis, this research used three dummies. The first, a public dummy, has the value of 1 if the acquirer took over a public firm and 0 if the target had another status than public. The second dummy is the private one. It takes the value 1 when the target has a private status and 0 otherwise. Last, is the subsidiary dummy, which has the value 1 when the target is a subsidiary firm and 0 otherwise. Consistent with the hypothesis, I expect a significant negative coefficient for the first dummy. For the second and third ones, a positive coefficient is expected to confirm the hypothesis formulated above.

I create multiple interaction dummies between the time dummy and the three target status dummies to test this hypothesis. The first interaction dummy is created by the interaction between the public status and the Euro-period time dummies. This means that this dummy receives the value of 1 if the observation has a public status and is visible in the Euro period. The second interaction term is computed by the interaction between the private status dummy and the Euro-period time dummy. Last is the interaction term between the subsidiary status and time dummies. Using these three

interaction terms, each status is incorporated into one regression to regress on the CAR. The regression is designed as follow:

$$CAR(t_1, t_2) = \beta_1 * Public + \beta_2 * Private + \beta_3 * Subs. + \beta_4 * Public * TD + \beta_5 * Private * TD + \beta_6 * Subs. * TD + FE + \varepsilon$$

Therefore, the betas of the interaction terms (β_4, β_5, and β_6) indicate any other significant effect on the stock price around the announcement of taking over a public, private, or subsidiary firm. This regression has no constant, since in this sample only these three target status types are possible, and the constant has no value to accept.

3.2.3 Method of Financing Hypothesis

Hypothesis 3, below, is a deal-specific determinant of an abnormal return around an announcement. In this section I describe the computation of the variables I used to test this determinant.

(3) *There is a negative effect on CAR if the merger or acquisition is financed with stocks or with a combination of stocks and cash, while there is a positive effect on CAR if it is financed with cash; and this effect is not changed in the Euro period.*

For this hypothesis, I consider three types of financing a merger or acquisition. First, is it possible for either to be financed with stocks only. Second, acquiring companies can use cash to take over a company. Also possible for the financing subject behind a takeover is a combination of stocks and cash. This last option is called the hybrid form of financing a merger or acquisition.

Thomson One (T1) provided me with percentages of each financing type — cash, stock, and other methods — to enable me to pinpoint their representations in a takeover. To test this hypothesis, I use dummies. First, the value of the dummy cash is 1 if the takeover is financed mainly or fully with cash. So, the dummy cash technically has the value 1 if the transaction is 100 percent cash, or if the cash percentage is greater than that of stock and others, respectively. Otherwise, this dummy has the value 0. Second, the dummy stock has a value of 1 if the merger or acquisition is financed mainly or fully with stocks. This happens if the percentage of stock is 100, or if it is

greater than the percentages of cash and others. Otherwise, it has a value of 0. Third, the dummy other has a value of 1 if the takeover is mainly or fully financed with methods other financing than cash or stocks. Technically, this dummy has the value 1 if the percentage of other is 100, or if it is greater than the percentages of cash and stock. Otherwise, it has the value 0. Last is the dummy hybrid. Because Thomson One do not provide a hybrid percentage, I create a percentage hybrid variable by adding up the percentages of cash and of stock, only if both is greater than zero. Then I create the dummy hybrid, which has the value 1 if the hybrid percentage is greater than the percentage cash, percentage stock, and the percentage others. Last, I replace the dummies cash, stock, and other with 0 if their percentages are smaller than the hybrid percentage.

To test this hypothesis, I have the dummies cash, stock, and hybrid interact with the time dummy for the Euro period, and I regress each method of financing separately on the CAR. This is the same methodology as described in Section 3.2.1. So, for example, the dummy stock interacts with the time dummy Euro-period, and I run the following regression for a stock-financed merger or acquisition:

$$CAR(t_1, t_2) = \alpha + \beta_1 * Stock + \beta_2 * Stock * TD + \beta_3 * TD + FE + \varepsilon$$

Stock is the stock dummy with a value of 1 if the merger or acquisition is mainly or fully financed with stocks. I observe an estimation of the coefficient of the interaction term as output, and (as in Section 3.2.1), I observe the p-value of the beta of this coefficient to reject the null hypothesis if it is lower than a certain significance level. This is the same method for the cash-financed- and hybrid-financed mergers and acquisitions.

3.2.4 Firm Size Hypothesis

This hypothesis is based on the firm-specific characteristic of size, and the hypothesis linked to it appears below.

(4) *Small acquiring firms have a higher CAR than relatively larger acquiring firms, and this phenomenon does not change in the Euro period.*

To test this hypothesis, I use sales as a proxy for firm size. Thomson One provided me with the net sales of an acquirer over the 12 months prior to the announcement of a merger or acquisition. Net sales constitute the primary source of revenue after taking into account returned goods and

allowances for price reductions for the latest 12 months (Thomson One, 2017). This proxy is also used by Niresh and Velnampy (2014), and is in line with their methodology. Also, it was chosen because of the availability of data type. Furthermore, because there are no restrictions on the value of sales, very small and very large acquirers appear in the sample. To neutralize these extreme outliers, I use the natural logarithm. The regression formula for this hypothesis is as follows:

$$CAR(t_1, t_2) = \alpha + \beta_1 * LN(Sales) + \beta_2 * LN(Sales) * TD + \beta_3 * TD + FE + \varepsilon$$

The independent variable is the natural logarithm of the sales. This variable forms an interaction effect with the time dummy. The coefficient of this interaction term (β_2) indicates if the effect of size on the CAR changes in the Euro period. This methodology is consistent with the formulations in Section 3.2.1.

3.2.5 Leverage Hypothesis

This sixth hypothesis is based on a firm-specific characteristic as well. This characteristic is the leverage of an acquiring company, and the hypothesis is as follows:

(5) *There is a positive relation between the leverage of an acquirer and its CAR, and this relation does not change in the Euro period.*

Leverage is nothing else than the debt-to-equity ratio. To compute the leverage I use the straight debt, which is the non-convertible debt due at least one year from the date of the most recent information prior to the announcement (Thomson One, 2017). For the other part of the debt-to-equity ratio, I use the common equity of the acquirer. The latter includes the par value of common stock, additional paid-in capital, and retained earnings, less foreign currency transactions and treasury shares as of the date of the most current financial information prior to the announcement (Thomson One, 2017). These two components form the leverage by dividing the debt component by the equity component (debt-to-equity ratio).

Subsequently, I again use the time dummy, to interact with the debt-to-equity ratio. Following the methodology of Section 3.2.1, I obtain a relation as shown below:

$$CAR(t_1, t_2) = \alpha + \beta_1 * Debt/Equity + \beta_2 * Debt/Equity * TD + \beta_3 * TD + FE + \varepsilon$$

Again, the sensitivity of the interaction between the debt-to-equity ratio and the time dummy gives more information about the hypothesis I have formulated. If this sensitivity is significant, I can conclude that the Euro period has an additional influence on the explanation of the CAR and is not in line with the influence of the debt-to-equity ratio of the pre-Euro period on the CAR.

3.2.6 Agency Cost Hypothesis

The following hypothesis is the only one in this research concerning conflict of interest between managers and shareholders.

(6) *There is a positive relation between the ATO and the CAR of an acquirer at the time of a merger or acquisition, and this relation is not changed in the Euro period.*

Also called the asset utilization ratio, the asset turnover ratio (ATO) is an inverse proxy for agency cost. This usage corresponds with the methodology of Ang et al. (2000). This ratio indicates how efficient managers are in using their total assets. To compute it, I divide net sales by total assets. Net sales constitutes the primary source of revenue after taking into account returned goods and allowances for price reductions for the latest 12 months (Thomson One, 2017). Also, I use the total assets over the last 12 months prior to the announcement. The total assets include current assets, long-term investments and funds, net fixed assets, tangible assets, and deferred charges for the acquiring company for the last 12 months (Thomson One, 2017).

When I compute the ATO, I make an interaction term between this variable and the time dummy. Again, I use the continuous variable for the regression. This time it is the ATO. The time dummy itself is an independent variable in the regression, which looks like this:

$$CAR(t_1, t_2) = \alpha + \beta_1 * ATO + \beta_2 * ATO * TD + \beta_3 * TD + FE + \varepsilon$$

In line with the methodology described in Section 3.2.1, I observe the p-value of the beta of the interaction term to reject the null hypothesis if it is lower than a certain significance level.

3.2.7 Diversification Hypothesis

The formulation of the cross-industry hypothesis and its computation are discussed below. The hypothesis says:

(7) *There is a negative effect on CAR if the merger or acquisition is diversified, and this effect remains unchanged in the Euro period.*

Again I use the time dummy to interact with the dummy of this hypothesis. This dummy has the value 1 if the takeover is labeled as diversified (i.e., when an acquirer takes over a firm from another industry). First, this research streamed the SIC of the acquirer and the target. The SIC code is a four-digit number. The first two digits give the industry of a certain firm, and the third and fourth digits specify a certain industry in which a company operates. I consider only the first two digits to compute the diversification dummy. If the two-digit SIC code of the acquirer is not the same as the two-digit SIC code of the target, the dummy is given the value 1. Otherwise, the dummy takes the value 0.

This diversification dummy interacts with the time dummy. Furthermore, the following regression is also fully in line with the methodology of Section 3.2.1.

$$CAR(t_1,\ t_2\ ) = \alpha\ +\ \beta_1 * Diversif. + \beta_2 *\ Diversif. * TD +\ \beta_3 * TD + FE +\ \varepsilon$$

The second beta is the sensitivity to a diversified takeover in the period 2002–2006 and 2009–2016. This beta also demonstrates any additional influence of diversifying takeovers in this period. So, with this coefficient I can reject the seventh null hypothesis if it is lower than a certain significance level.

3.2.8 Cross-Border Hypothesis

After looking at the cross-industry effects on CAR, I look to cross-border takeovers as well for Hypothesis 8.

(8) *Cross-border mergers and acquisitions have a positive influence on the CARs of acquiring firms, and this effect remains in the Euro period.*

I speak of a cross-border takeover when the acquirer announces the takeover of a company from a different country than its own. After Thomson One provided me with the country names of the acquirers and their targets, I created a dummy variable that takes the value of 1 when the country name of the acquirer is not the same as the country name of the target. Otherwise, this dummy has the value of 0.

As this cross-border dummy interacts with the time dummy, I get the interaction term cross-border*time dummy, which has the value of 1 if the announced takeover is in the Euro period and is classified as a cross-border takeover. This interaction term is used in the following regression:

$$CAR(t_1, t_2) = \alpha + \beta_1 * CB + \beta_2 * CB * TD + \beta_3 * TD + FE + \varepsilon$$

CB stands for the cross-border dummy, and it takes the value 1 if the acquirer announced a takeover of a company from another country than theirs. Again, the second beta is important for the hypothesis because it indicates that the null hypothesis must be rejected if it is lower than a certain significance level.

4. Results

In this section, I present the results of this research from the perspective of the research question and the hypotheses. First, I discuss the results around the CAR as formulated in Hypothesis 1. Subsequently, I publish the results of the regressions, with the determinants as independent variables.

4.1 Results – Cumulative Abnormal Return

First, the first hypothesis suggests that there are no abnormal returns for the acquirers in the five European countries in the periods 1990–2016 (exclusive of 1999–2001 and 2007–2008), 1990–1998 (pre-Euro period), and 2002–2016 (exclusive of 2007–2008, Euro period). Second, this hypothesis suggests that there is no difference in amplitude of the acquirers between the Euro and pre-Euro periods. Table 3 shows the results regarding Hypothesis 1.

Table 3. Cumulative Abnormal Returns (Hypothesis 1)

I. CAR	**Mean (μ)**	**H_A: μ≠0 (p value)**	**Observations**
1990–2016			
[–5, 5]	0.840	0.000	8,662
[–3, 3]	0.851	0.000	8,661
[–1, 1]	0.804	0.000	8,661
1990–1998			
[–5, 5]	0.490	0.000	2,864
[–3, 3]	0.419	0.000	2,863
[–1, 1]	0.407	0.000	2,863
2002–2016			
[–5, 5]	1.012	0.000	5,798
[–3, 3]	1.064	0.000	5,798
[–1, 1]	1.000	0.000	5,798

II.	**Difference(δ)**	**H_A: δ ≠0 (p-value)**	**Observations**
[–5, 5]	0.522	0.007	8,662
[–3, 3]	0.645	0.000	8,661
[–1, 1]	0.593	0.000	8,661

The null hypothesis is in Part 1 of this table, μ = 0. Columns 3, 4, and 5 present the p-values of this null hypothesis and the corresponding alternative hypothesis. The means (μ) and differences (δ) are in percentages. The difference (δ) is the difference between the mean of the CAR with a certain event window of the Euro period and the mean of the CAR with the corresponding event window of the pre-Euro period. So, difference = mean (CAR[t_1, t_2] of Euro-period) – mean (CAR[t_1, t_2] of pre-Euro period), tested with a one-sample t-test.

In Table 3.1, I observe the mean of the CAR for a certain period and a certain event window. For all of the periods, I can conclude that there were significant positive abnormal returns. For instance, a firm that announced a merger or acquisition in the pre-Euro period received an average CAR of 0.49% in the 5 days before and after the announcement. So, an acquirer received on average a positive abnormal return in the periods 1990–2016 (exclusive of 1999–2001 and 2007–2008), 1990–1998 (pre-Euro period), and 2002–2016 (exclusive of 2007–2008, Euro period). This is a remarkable finding, because most of the literature has empirical evidence that the abnormal returns are not different from zero for acquirers (Jensen & Ruback, 1983). These empirical results are in line with the empirical evidence of Moeller et al. (2004).

The second part of the table presents results on the difference between the Euro and pre-Euro periods, tested with a one-sample t-test. I observe a positive difference for all three of the event windows. For example, for the event window [–5, 5], acquirers received on average 0.52% more abnormal return in the Euro than in the pre-Euro period. These differences are positive for all event windows and are significant at a 1% level. In other words, an acquirer in the Euro period received more return on their stock price on average than in the pre-Euro period. So, there is a difference in amplitude of the CAR of acquirers between the Euro period, 2002–2016, and the pre-Euro period, 1990–1998.

4.2 Results – Determinants

This section covers the findings of the ordinary least-square regressions introduced in Section 3. I do this separately per hypothesis. Table 4 publishes the results for the best estimate of the CAR (i.e., the CAR with a certain event window that gives the most significant results for this determinant). To check the robustness of the results, I present and discuss the results for each CAR of an event window in the Appendix (Tables 5, 6, and 7), as well as discussing them here.

Table 4. Results – Determinants

		CAR[–1, 1]	CAR[–3, 3]			CAR[–1, 1]				
	Expected	Target Status	Cash	Stock	Hybrid	Size	Leverage	Agency Cost	Diversi-fication	Cross-Border
Public	(–)	–0.319								
		(–0.33)								
Euro*		1.071***								
		(3.22)								
Private	(+)	–0.059								
		(–0.06)								
Euro*		0.225								
		(1.35)								
Subsidiary	(+)	0.036								
		(0.04)								
Euro*		0.835***								
		(4.18)								
Cash	(+)		1.666**							
			(2.01)							
Euro*			-2.081**							
			(–2.14)							
Euro-Period			1.574*							
			(1.85)							
Stock	(–)			–1.927**						
				(–2.24)						
Euro*				2.063**						
				(1.96)						
Euro-Period				–0.449						
				(–0.90)						
Hybrid	(–)				0.803					
					(0.37)					
Euro*					–0.070					
					(–0.03)					
Euro-Period					0.007					
					(0.02)					
Log (Sales)	(–)					–0.263***				
						(–5.03)				
Euro*Log						–0.041				
						(–0.71)				

Euro-Period					0.811*				
					(1.90)				
Debt-to-Equity	(+)					–0.007			
						(–0.27)			
Euro*						–0.099*			
						(–1.77)			
Euro-Period						0.491***			
						(3.89)			
ATO	(+)						0.043		
							(0.28)		
Euro*							0.356**		
							(2.00)		
Euro-Period							0.131		
							(0.54)		
Diversification	(–)							–0.176	
								(–0.84)	
Euro*								0.103	
								(0.40)	
Euro-Period								0.506	
								(3.46)	
Cross-Border	(+)								–0.066
									(–0.34)
Euro*									–0.642***
									(–2.76)
Euro-Period									0.896***
									(5.31)
Fixed Effects									
Industry		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2		4.54%	5.90%	5.92%	5.66%	3.46%	2.26%	2.09%	1.85%	2.15%
Observations		8,661	1,486	1,486	1,486	8,347	7,612	8,339	8,661	8,661

This table presents the best results of the determinants of a certain event window for the CAR. These event windows are given in the first column. Public, private, subsidiary, cash, stock, hybrid, diversification, and cross-border are dummies. Other underlined determinants are continuous variables. The variable Euro*('determinant') is the interaction term between the Euro period and a determinant. These are the results of regressions for five European countries (Germany, France, Italy, Spain, and The Netherlands) for the period 1990–1998 and 2002–2016, excepted 2007–2008. The coefficient are given in percentage point and the values into brackets are t-values. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$

4.2.1 Results – Target Status

I begin with the target status that was the most often the target in both the pre-Euro and Euro periods (Table 1). Table 4 shows a positive significant result for the interaction term between the Euro-period and public status dummies on a significance level of 10%. This result indicates that acquiring a public firm in the Euro period has a positive influence on the stock price of the acquiring company. If I look at the results for the CAR with another event window, I see no significant results for the coefficient of this interaction term. Furthermore, I found no significant effects for the period before the Euro. So, considering CAR [–1, 1] only, I can conclude that acquiring a public firm in the Euro period has a positive influence of 0.615% on the CAR of an acquirer. But this result must be taken into perspective, because I have not found significant results for the other CAR with another event window. So, acquiring a public firm in the Euro period results in a positive reaction for the CAR.

Second, I investigate the case of an acquirer taking over a private firm. These types of company were the most frequent targets for acquirers in both the pre-Euro and Euro periods (Table 1). Furthermore, this research gives no significant relationship between this target status and the CAR of an acquirer for both periods. This is also observed for the other event windows. So, there is no relationship between taking over a private firm and the cumulative abnormal return of the acquirer.

Last, I researched the possibility of taking over a subsidiary target. In the 2002–2016 period (excluding 2007–2008), 33.578% of the targets have a subsidiary status (Table 1). This interaction term showed a significant effect of taking over a subsidiary in the Euro period. This effect is positive on a significance level of 10%. This remains the same for the dependent variables CAR[–3, 3] and CAR[-5, 5]. Given this robustness, I can conclude that announcing the takeover of a subsidiary company in the period in which the Euro is the method of payment results in a positive effect of 0.461% on the CAR in the event window encompassing the day before the announcement, the day of it, and the day after.

Regarding the pre-Euro period, I can conclude that no relationship exists between the target status and the CAR of an acquirer. In all of the estimations of CAR, I found no significant results for any target status during the pre-Euro period. The null hypothesis is therefore rejected, because there is

a positive effect on the CAR if the target has a public or subsidiary status in the Euro period. Second, because these relationships were not found in the pre-Euro period, the effect of this determinant changed in the Euro period.

4.2.2 Results – Method of Financing

For the second determinant, the method of financing a takeover, it is important to take the number of observations into account. This is the variable with the fewest observations (Table 1). Still, I noted that acquirers chose to finance their merger or acquisition with either cash or stocks, doing so less often with a combination of these two. For the most common method of financing, cash-financed mergers and acquisitions, I find two significant coefficients. When the announcement was before the Euro period, a cash-financed merger or acquisition results in a 1.666% higher CAR for the acquirer. This result is significant on a level of 5%. The second coefficient is significant on the same level, but this coefficient has a negative sign. This indicates that a cash-financed takeover in the Euro period has a negative influence on the shareholders' return, with a magnitude of 2.081%. When an acquirer announced a cash-financed takeover in the Euro period, the CAR was influenced negatively by 0.415% (= 1.666–2.081%). So, the influence of cash-financed mergers and acquisitions is reversed in the Euro period.

A merger or acquisition can also be financed with stocks. In our sample, this method of financing was used for 24.773% of the mergers and acquisitions for the pre-Euro period and 14.211% of the cases in the Euro period (Table 1). Furthermore, I found empirical evidence that a stock-financed takeover results in a negative stock price return if announced in the period before the Euro, 1990–1998. This result has a significance level of 5%. To be concrete, this type of financing results in a 1.927% lower CAR for the acquirers, whereas this is not the case for the Euro period. For the latter, my results show that a stock-financed takeover has a positive influence on the stock price of an acquirer. The coefficient is 2.063%, with a significance level of 5%. So, an acquirer who announced a stock-financed merger or acquisition received a 0.136% (= 2.063–1.927%) higher CAR as result of this determinant (the opposite of the result found for the period before the Euro).

Last, a combination of cash and stocks is also a method of financing a merger or acquisition. For this hybrid method of financing, I found no significant results. Those for this section are not robust, because for any other event window than [–3, 3], no significant results are found.

Altogether, the null hypothesis is rejected, because for the cash- and stock-financed mergers and acquisitions, the effect reversed in the Euro period, and I found no significant results for the hybrid-financed mergers and acquisitions. Again, I need to place the results of this determinant in perspective, because of the low number of observations.

4.2.3 Results – Firm Size

This firm-specific characteristic is determined as the natural logarithm of the sales of an acquirer to neutralize the outliers, because, as shown Table 1, there are extreme outliers. This same table illustrates that the average sales of an acquirer increase by approximately 3 billion Euros between the periods (= 8,772 million Euros – 5,653 million Euros, Table 1). Furthermore, I have empirical evidence that the size of an acquirer has predictable power for the stock price around an announcement. For the pre-Euro period, I found a negative coefficient for the continuous variable log(sales) of 0.263% on a significance level of 1%. This coefficient should be interpreted differently than the others, because it is a function of the natural logarithm. It shows that the CAR decreases by 0.263% if the natural logarithm of sales increases by one, and vice versa. In other words, if the sales are approximately 2.718 million Euros higher for an acquirer relative to another acquirer, the CAR of the second acquirer decreases by 0.263 percentage points.

This is also the result I find for dependent variables with other event windows. In all three regressions with different event windows as dependent variables, the results are significant on a level of 1%.

For the Euro-period, no significant coefficient was found in this investigation for the interaction term. For all of the estimates of the CARs, no additional relationship was found between the natural logarithm of sales and the CARs for the Euro period. In sum, I can conclude that a larger firm (one with greater sales) receives a lower stock price return around the announcement of a merger or acquisition. So the null hypothesis is not rejected.

4.2.4 Results – Leverage

For this ratio I observe an average debt-to-equity ratio of 0.689 in the Euro period (Table 1). This figure indicates that on average the equity of a company is larger than the debt holding by this firm. Furthermore, I observe a significant coefficient for the interaction term between the debt-to-

equity ratio and the Euro-period dummy (see Table 4). This coefficient is significant on a level of 10% and takes the value of –0.099%. To interpret this coefficient, it is important to look at the debt-to-equity ratio. The CAR of an acquirer decreases with 0.099% if the debt-to-equity ratio increases with one, and vice versa. The debt-to-equity ratio only increases with one if the debt capacity doubles, assuming the equity stays constant; or the equity need to be halved, assuming the debt capacity remains constant. Altogether, it is clear that an announcement in the Euro period has a negative influence on the stock price of an acquirer if its debt-to-equity ratio is high relative to that of other acquirers.

This finding is robust, because the sensitivity of this interaction term is significant on other estimations of the CAR, even to a level of 5 and 1%. Also, in all three of the CAR estimations, I observe no relationship between the debt-to-equity ratio and the CAR in the period before the Euro. Hence, the null hypothesis is rejected, because the relationship is negative in the Euro period and in the period before the Euro there is no relationship.

4.2.5 Results – Agency Cost

For this determinant, I use the inverse proxy ATO to test agency cost. In the descriptive statistics table, I see that the ATO ratio is average for both the pre-Euro and Euro periods above one, but this ratio was larger for the pre-Euro period. A ratio of one or higher indicates that the sales are equal or greater than the total assets of the company. So, on average the companies worked with their assets efficiently in both periods. To discuss the relationship between ATO and CAR, we turn to Table 4. On a 5% significance level and a coefficient of 0.356%, empirical evidence indicates that ATO has a positive influence on CAR if the takeover is announced in the Euro period. This is a robust relation, because CAR[–3, 3] and CAR[–5, 5] also found significant coefficients. The coefficient of 0.356% says that the CAR increases by 0.356 percentage point for the acquirer if ATO increases by 1 and if the announcement is made in the Euro period. ATO can only increase by 1 if the sales double or if the total assets are halved, assuming that the other part of the ratio remains constant. Altogether, an increasing ATO which decreases agency cost results in a higher CAR around a merger or acquisition announcement.

For the pre-Euro period, I observe no significant relationship between ATO and the stock price of the acquirer. So the null hypothesis is rejected, because the relationship between ATO and CAR is different between the pre-Euro and Euro periods.

4.2.6 Results – Diversification

The percentage of cross-industry mergers and acquisitions is decreased from 52.413% in the pre-Euro period to 43.404% in the Euro period. The hypothesis suggests that diversification has a negative influence on CAR around an announcement, and that this effect is not changed in the Euro period. This null hypothesis is rejected, because I have no empirical evidence to support it. For all of the CAR estimations, no significant results were found. I can therefore conclude that taking over a company from another industry has no significant influence on the stock price return of acquirers from Germany, France, Italy, Spain, and the Netherlands in the periods 1990–1998 and 2002–2016, excluding 2007–2008.

4.2.7 Results – Cross-Border

Last, I discuss the results around cross-border takeovers. Table 1 shows that the percentage of such takeovers increased slightly, from 48.021% in the pre-Euro period to 51.332% in the Euro period. So, more than the half of the announced mergers and acquisitions in the Euro period were cross-border ones. For this same period, I also found empirical evidence that cross-border mergers or acquisitions led to a significant negative effect on the stock price of the acquirer. Table 4 shows a coefficient of –0.642% and a significance level of 1%, indicating that an acquirer who announced a cross-border takeover received 0.642 percentage point less CAR in the Euro period. The estimations of the CAR with other event windows present the same relationship for the cross-border takeovers.

For the pre-Euro period, I found no significant evidence of a relationship between a cross-border takeover and the CAR of the acquirer announcing it. Consequently, the null hypothesis is rejected, because a negative relationship exists between a cross-border takeover and the CAR, and this relationship was not observable in the pre-Euro period.

5. Conclusion

For this thesis I have tried to answer the following research question:

Are there differences in the influences of the most important determinants of the abnormal returns between the period before the Euro (1990–1998) and the Euro period (2002–2016; excluding 2007–2008) for an acquirer in five European countries: Germany, France, Italy, Spain, and The Netherlands?

First, I obtained empirical evidence that the acquirers from these countries received positive CARs for the periods 1990–1998 (0.407%), 2002–2016 (1.000%; excluding 2007–2008), and these periods together (0.804%). The CARs between these two periods, pre-Euro and Euro, are significantly different from each other. The acquirers in the Euro period received more return on their stock price around the announcement of a takeover than those who announced their merger or acquisition in the pre-Euro period.

To answer the research question, I first addressed the CARs by investigating deal-specific, firm-specific, or macro-economic determinants. I began with deal-specific determinants, target status, and method of financing. For target status, I have empirical evidence for the Euro period only. For the pre-Euro period, I found no influence on stock price of a certain status of a target around the announcement of a merger or acquisition. Acquiring a public firm in the Euro period results in a negative reaction of the shareholders to the stock price of the acquiring firm. No effect is observed if the target has a private status. Last, it is possible to take over a subsidiary company. Taking over this type of firm results in a positive influence on the CAR around an announcement of a merger or acquisition. Only this result is in line with the existing literature (Fuller et al., 2002).

Second, the method of financing of a merger or acquisition is also addressed in this paper. For this determinant I needed to take into account that the results could be distorted because it has the fewest observations. Altogether, the empirical evidence indicates that in the pre-Euro period the cash- and stock-financed mergers and acquisitions have the same effect on the CAR as the literature claimed (Moeller et al., 2004; Sudarsanam & Mahate, 2003). Namely, a cash-financed takeover has a positive effect on the stock price of the acquirer, but a stock-financed merger or acquisition has a negative influence on the stock price of the acquiring company. In the Euro period, these effects are reversed. Then, a cash-financed takeover has a negative influence on the

CAR, whereas a stock-financed takeover has a positive impact. The traditional effects of cash- and stock-financed takeovers were reversed in the Euro period. Last, for a takeover financing method in which the acquirer combines cash and stocks, no significant empirical results were found, because too few observations exist for this type of financing. In sum, I can conclude that differences exist in the influences that deal-specific determinants have on the stock price of an acquirer between the pre-Euro and Euro periods.

Furthermore, I researched three firm-specific determinants. The first is the relationship between acquirer size and its CAR around an announcement of a takeover. This research showed empirical evidence that a larger company loses on the stock price relative to small companies. The empirical evidence of Moeller et al. (2004) is in line with these results. When the sales of an acquirer increase (a proxy for size), the stock price declines relatively more around an announcement of mergers and acquisitions. This effect is not reversed in the Euro period and is the same for both periods. Another firm-specific determinant investigated is the leverage of the acquirer. I observed an influence of this determinant in the Euro period only. The debt-to-equity ratio influences the stock price negatively around the announcement if it increases in the Euro period. So, when an acquiring company is more leveraged, it loses more on their stock price in the Euro period around the time of the announcement of a merger or acquisition. This accords with the findings of Masulis et al. (2007). As the last firm-specific determinant, I found empirical evidence for the ATO ratio, which is the inverse proxy for agency cost. Again, there were no empirical findings for this determinant in the pre-Euro period. For the Euro period, there is a positive relation between the ATO and the CAR. This result indicates that higher agency costs between the shareholders and managers in the acquiring company lead to a lower stock price return for this firm around the announcement of a merger or acquisition, and vice versa. Ang et al. (2000) has the same empirical results for this determinant. Altogether, differences exist between the pre-Euro and Euro periods in the influences of the deal-specific determinants on the stock price return of an acquirer around an announcement of a takeover.

Last, macro-economic determinants were examined in this paper. First, I investigated the case of a takeover being diversified. This cross-industry determinant showed no influence on the stock price of an acquirer around the announcement for both the pre-Euro and Euro periods. Another determinant, the cross-border characteristic, affected the Euro period only. For the period

beforehand, no empirical evidence was found indicating a relationship. In the Euro period, a cross-border takeover had a negative influence on the stock price of the acquirer around the announcement of this takeover. This finding contradicts the empirical findings of Morck and Yeung (1992). Again, differences exist regarding the effect on of the macro-economic determinants have on the stock price of an acquirer between the pre-Euro and Euro periods.

A possible explanation of these results could be financial integration as a result of the introduction of the Euro as the method of payment. This argument is also given by Pieterse-Bloem et al. (2016) for the fact that industry factors became more important relative to country factors as an outcome of the Euro being introduced. The financial intergration in the European bond market is the subject of their paper. After the introduction of the Euro, industry factors became more important relative to country factors in the explanation of return variation, implying that its arrival assisted financial integration.

My findings when I compared the period before the Euro with the time when it became the method of payment revised the determinants. These interesting findings suggest that their traditional effects need to be revised. This research is also unique in the field, because it takes the introduction of the Euro as the breakpoint to use in comparing the determinants of the CAR around an announcement of a merger or acquisition. This perspective is rarely addressed in the traditional research around them.

Furthermore, this research provides insights for potential acquiring firms from Germany, France, Italy, Spain, or The Netherlands regarding the possible direction of their stock price if they decided to announce a takeover. Other stakeholders who can profit from these findings are investors, who can use them to adjust pertinent actions. For instance, if a investor has stocks of a firm that intends to acquire a company from abroad, he or she needs to anticipate a potential stock price decline.

The limitations of this research were mainly based on data availability. Compared to other determinants, I had relatively few observations for the method of financing. Despite this drawback, I found some interesting empirical results. The Euro as the method of payment influences certain determinants of the CAR of acquirers around an announcement of a merger or acquisition. As investigated in this paper, these determinants are target status, method of financing, leverage, agency cost, and cross-border mergers or acquisitions. The fact that the Euro has a certain influence on the determinants is as expected. As Holmes et al. (2009) argued, the Euro area fosters more

competition between bidders and an increased integration of the market. As I expected, this situation influences the determinants of the CARs of acquirers in the merger and acquisitions market.

These results raise other questions. For instance, is the difference in influences of CAR determinants the result of financial and monetary integration, whatever the countries in the sample might be? Or is this difference only the case for these particular European countries? This potential research could provide more insights about these differences in determinant influences.

6. Appendix: Selection Restrictions

Thomson One (Code)	Selection
Database	All mergers and acquisitions
Acquirer nations	Germany, France, Italy, Spain,
Acquirer public status	Netherlands
Date effective/unconditional	Public
Status	01/01/1990 to 12/31/2016
Standard industrial classification	Completed
	Exclude finance, insurance, or real estate industries
Target status	Only public, private, or subsidiary
Method of financing	Exclude unknown
Acquirer net sales last 12 months	All
Acquirer straight debt last 12 months	All
Acquirer common equity last 12 months	All
Acquirer total assets	All
Target nation	All

Table 2. CAR per Year

CAR (%)	90	91	92	93	94	95	96	97	98	02	03	04	05	06	09	10	11	12	13	14	15	16
[–1, 1]	2.4	0.1	0.0	0.1	0.2	0.0	0.8	0.8	0.8	0.8	1.4	0.9	1.3	1.0	1.0	0.8	0.7	1.1	0.5	1.2	1.4	1.0
[–3, 3]	0.3	0.3	0.0	0.3	0.1	–0.2	0.8	0.9	0.9	1.0	2.0	1.2	1.6	1.0	0.7	0.9	0.4	1.1	0.6	1.3	1.4	0.9
[–5, 5]	–0.3	0.4	0.2	0.6	0.4	–0.1	0.6	1.2	0.8	0.2	2.2	0.8	1.3	1.2	0.8	0.6	0.6	1.1	0.8	1.2	1.5	1.2

Figure 2: Graph of the CAR

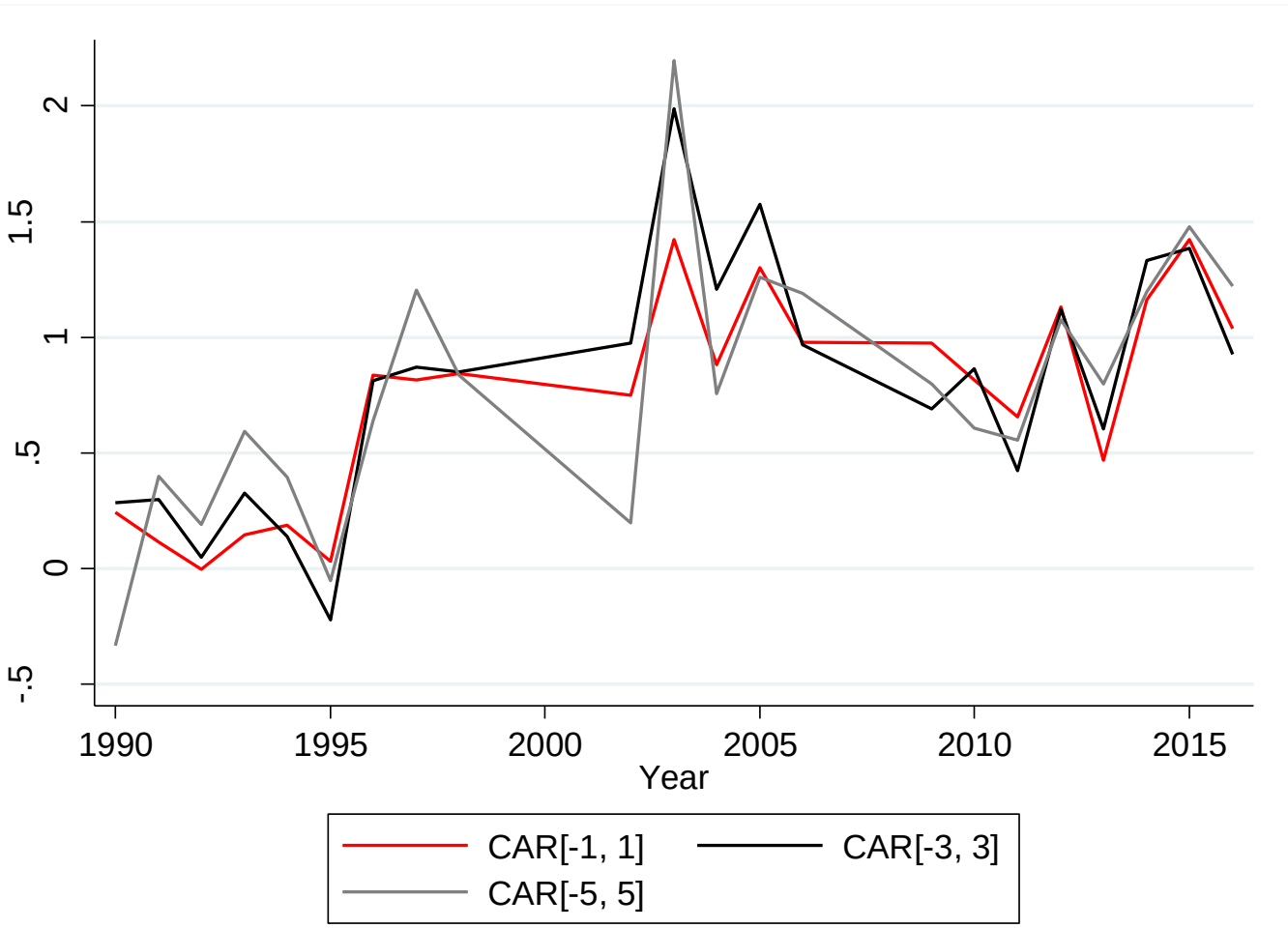


Table 5. Results of CAR[–1, 1] Determinants

CAR[–1, 1]	Expected	Public Status	Cash Fin.	Stock Fin.	Hybrid Fin.	Size	Leverage	Agency Cost	Diversif.	Cross-Border
Public	(–)	–0.319								
		(–0.33)								
Euro*		1.071***								
		(3.22)								
Private	(+)	–0.059								
		(–0.06)								
Euro*		0.225								
		(1.35)								
Subsidiary	(+)	0.036								
		(0.04)								
Euro*		0.835***								
		(4.18)								
Cash	(+)		0.294							
			(0.46)							
Euro*			–1.136							
			(–1.52)							
Euro-Period			1.376**							
			(2.10)							
Stock	(–)			–0.412						
				(–0.62)						
Euro*				1.167						
				(1.44)						
Euro-Period				0.294						
				(0.76)						
Hybrid	(–)				0.540					
					(0.33)					
Euro*					0.163					
					(0.09)					
Euro-Period					0.462					
					(1.31)					
Log (Sales)	(–)					–0.263***				
						(–5.03)				
Euro*Log						–0.041				
						(–0.71)				
Euro Period						0.811*				
						(1.90)				

Debt-to-Equity	(+)					–0.007			
						(–0.27)			
Euro*						–0.099*			
						(–1.77)			
Euro-Period						0.491***			
						(3.89)			
ATO	(+)						0.043		
							(0.28)		
Euro*							0.356**		
							(2.00)		
Euro-Period							0.131		
							(0.54)		
Diversification	(–)							–0.176	
								(–0.84)	
Euro*								0.103	
								(0.40)	
Euro-Period								0.506	
								(3.46)	
Cross-Border	(+)								–0.066
									(–0.34)
Euro*									–0.642***
									(–2.76)
Euro-Period									0.896***
									(5.31)
Fixed Effects									
Industry		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)		4.54	5.00	4.88	4.78	3.46	2.26	2.09	1.85	2.15
Observations		8,661	1,486	1,486	1,486	8,347	7,612	8,339	8,661	8,661

This table presents the results of the determinants with the dependent variable CAR with event window [–1, 1]. These event windows are given in the first column. Public, private, subsidiary, cash, stock, hybrid, diversification, and cross-border are dummies. Other underlined determinants are continuous variables. The variable Euro*('determinant') is the interaction term between the Euro period and a determinant. These are the results of regressions for five European countries (Germany, France, Italy, Spain, and the Netherlands) for the period 1990–1998 and 2002–2016; 2007–2008 excepted. The coefficients are given in percentage point and the values into brackets are t-values. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

Table 6. Results for CAR[–3, 3] Determinants

CAR[–3, 3]	Expected	Target Status	Cash Fin.	Stock Fin.	Hybrid Fin.	Size	Leverage	Agency Cost	Diversif.	Cross-Border
Public	(–)	–0.709								
		(–0.53)								
Euro*		0.601								
		(1.29)								
Private	(+)	–0.813								
		(–0.62)								
Euro*		0.272								
		(1.17)								
Subsidiary	(+)	–0.534								
		(–0.41)								
Euro*		0.969***								
		(3.47)								
Cash	(+)		1.666**							
			(2.01)							
Euro*			-2.081**							
			(–2.14)							
Euro-Period			1.574*							
			(1.85)							
Stock	(–)			-1.927**						
				(–2.24)						
Euro*				2.063**						
				(1.96)						
Euro-Period				–0.449						
				(–0.90)						
Hybrid	(–)				0.803					
					(0.37)					
Euro*					–0.070					
					(–0.03)					
Euro-Period					0.007					
					(0.02)					
Log (Sales)	(–)					–0.333***				
						(–4.51)				
Euro*Log						–0.022				
						(–0.27)				
Euro-Period						0.657				
						(1.09)				

Debt-to-Equity	(+)					–0.007			
						(–0.20)			
Euro*						–0.177**			
						(–2.35)			
Euro-Period						0.477***			
						(2.80)	0.053		
ATO	(+)						(0.24)		
							0.454*		
Euro*							(1.81)		
							0.014		
Euro-Period							(0.04)		
								–0.181	
Diversification	(–)							(–0.62)	
								–0.019	
Euro*								(–0.05)	
								0.551***	
Euro-Period								(2.70)	
									–0.094
Cross-Border	(+)								(–0.35)
									–0.584*
Euro*									(–1.80)
									0.877***
Euro-Period									(3.72)
Fixed Effect									
Industry		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2 (%)		3.10	5.90	5.92	5.66	2.48	1.73	1.52	1.44	1.57%
Observations		8,661	1,486	1,486	1,486	8,347	7,612	8,339	8,661	8,661

This table presents the results of the determinants with the dependent variable CAR with event window [–3, 3]. These event windows are given in the first column. Public, private, subsidiary, cash, stock, hybrid, diversification, and cross-border are dummies. Other underlined determinants are continuous variables. The variable Euro*("determinant") is the interaction term between the Euro period and a determinant. These are the results of regressions for five European countries (Germany, France, Italy, Spain, and the Netherlands) for the periods 1990–1998 and 2002–2016 (2007–2008 excepted). The coefficients are given in percentage points, and the values in brackets are t-values. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

Table 7. Results of CAR [–5, 5] Determinants

CAR [–5, 5]	Expected	Target Status	Cash Fin.	Stock Fin.	Hybrid Fin.	Size	Leverage	Agency Cost	Diversif.	Cross-Border
Public	(–)	–0.552								
		(–0.34)								
Euro*		0.658								
		(1.18)								
Private	(+)	–0.792								
		(–0.50)								
Euro*		0.285								
		(1.02)								
Subsidiary	(+)	–0.270								
		(–0.17)								
Euro*		0.746**								
		(2.23)								
Cash	(+)		1.799*							
			(1.79)							
Euro*			–1.550							
			(–1.32)							
Euro-Period			1.179							
			(1.15)							
Stock	(–)			–2.311**						
				(–2.22)						
Euro*				1.963						
				(1.54)						
Euro-Period				–0.443						
				(–0.73)						
Hybrid	(–)				2.346					
					(0.90)					
Euro*					-2.336					
					(–0.85)					
Euro-Period					1.389					
					(0.25)					
Log (Sales)	(–)					–0.283***				
						(–3.20)				
Euro*Log						–0.097				
						(–1.01)				
Euro-Period						1.079				
						(1.50)				

Debt-to-Equity	(+)					0.012			
						(0.27)			
Euro*						–0.269***			
						(–2.96)			
Euro-Period						0.398**			
						(1.94)			
ATO	(+)						0.098		
							(0.38)		
Euro*							0.510*		
							(1.70)		
Euro-Period							–0.159		
							(–0.39)		
Diversification	(–)							–0.180	
								(–0.52)	
Euro*								–0.130	
								(–0.30)	
Euro-Period								0.514**	
								(2.10)	
Cross-Border	(+)								0.048
									(0.15)
Euro*									–0.758*
									(–1.95)
Euro-Period									0.893***
									(3.16)
Fixed Effects									
Industry		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2		2.19%	4.22%	4.34%	4.05%	1.77%	1.21%	1.07%	1.03%	1.12%
Observations		8,662	1,487	1,487	1,487	8,348	7,612	8,340	8,662	8,662

This table presents the results of the determinants with the dependent variable CAR with event window [–5, 5]. These windows appear in the first column. Public, private, subsidiary, cash, stock, hybrid, diversification, and cross-border are dummies. Other underlined determinants are continuous variables. The variable Euro* ("determinant") is the interaction term between the Euro period and a determinant. These are the results of regressions for five European countries (Germany, France, Italy, Spain, and the Netherlands) for the period 1990–1998 and 2002–2016 (2007– 2008 excepted). The coefficients are given in percentage points and the values in brackets are t-values. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

7. References

Amihud, Y., & Lev, B. (1981). Risk reducation as a managerial motive for conglomerate mergers. *The Bell Journal of Economics*, p. 605-617, Vol. 12, no. 2.

Andrade, G., Mitchell, M., & Stafford, E. (2001). New Evidence and Perspectives on Mergers. *Journal of Economic Perspectives*, p. 103-120, Vol. 15, no. 2.

Ang, J. S., Cole, R., & Lin, J. W. (2000). Agency Costs and Ownership Structure. *Journal of Finance*, p. 81-106, Vol. 55, no. 1.

Bebchuk, L. A., & Fried, J. M. (2003). Executive Compensation as an Agency Problem. *Journal of Economic Perspectives*, p. 71-92, Vol. 17 no. 3.

Berger, P. G., & Ofek, E. (1995). Diversification's effect on firm value. *Journal of Financial Economics*, p. 39-65, Vol. 37, no. 1.

Capron, L., & Shen, J.-C. (2007). Acquisitions of private vs. public firms: Private information, target selection, and acquirer returns. *Strategic Management Journal*, p. 891-911, Vol. 28, no. 9.

Coles, J. L., Daniel, N. D., & Naveen, L. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics*, p. 431-468, Vol. 79, no. 2.

Draper, P., & Paudyal, K. (2006). Acquisitions: Private versus Public. *European Financial Management*, p. 57-80, Vol. 12, no. 1.

European Central Bank. (2011). *Economic and Monetary Developments.* Frankfurt am Main: ECB.

European Central Bank. (2017, April 21). *Eurosystem*. Opgehaald van ECB: https://www.ecb.europa.eu/euro/intro/html/index.en.html

Franks, J., Harris, R., & Titman, S. (1991). The postmerger share-price performance of acquiring firms. *Journal of Financial Economics*, p. 81-96, Vol. 29, no. 1.

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*, p. 1763-1793, Vol. 57, no. 4.

Garvey, G. T., & Hanka, G. (1999). Capital Structure and Corporate Control: The Effect of Antitakeover Statutes on Firm Leverage. *The Journal of Finance*, p. 519-546, Vol. 54, no. 2.

Holmes, P., Ekkayokkaya, M., & Paudyal, K. (2009). The Euro and the Changing Face of European Banking: Evidence from Mergers and Acquisitions. *European Finanial Management*, p. 451-476, Vol. 15, no. 2.

Huang, Y.-S., & Walkling, R. A. (1987). Target Abnormal Returns associated with Acquisition Announcements. *Journal of Financial Economics*, p. 329-349, Vol. 19.

Huwart, J.-Y., & Verdier, L. (2013). *Economic Globalisation: Origins and consequences.* Paris: OECD Publishing.

International Monetary Fund. (2017, April 1). *World Economic Outlook Database*. Opgehaald van International Monetary Fund: http://www.imf.org/external/pubs/ft/weo/2017/01/weodata/weorept.aspx?pr.x=49&pr.y=13&sy=2017&ey=2017&scsm=1&ssd=1&sort=country&ds=.&br=1&c=512%2C672%2C914%2C946%2C612%2C137%2C614%2C546%2C311%2C962%2C213%2C674%2C911%2C676%2C193%2C548%2C122%2C556%2C912%2C67

Jarrell, G. A., & Bradley, M. (1980). The Economic Effects of Federal and State Regulations of Cash Tender Offers. *Journal of Law and Economics*, p. 371-407, Vol. 23, no. 2.

Jensen, M. C. (1986). Agency Cost of Free Cash Flow, Corporate Finance, and Takeover. *The American Economic Review*, p. 323-329, Vol. 76, no. 2.

Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics*, p. 5-50, Vol. 11, no. 1.

Kaplan, S., & Weisbach, M. (1992). The Succes of Acquisitions: Evidence from DIvestitures. *Journal of Finance*, p. 107-138, Vol. 47, no. 1.

Lin, L., & Lin, D. (2014). Agency Costs of Free Cash Flow and Bidders' Long-run Takeover Performance. *Universal Journal of Accounting and Finance*, p. 1-8, Vol. 2, no. 1.

Loderer, C., & Martin, K. (1990). Corporate Acquisitions by Listed Firms: The Experience of a Comprehensive Sample. *Financial Management*, p. 17-33, Vol. 19, no. 4.

MacKinlay, A. C. (1997). Event Studies in Economics and Finance. *Journal of Economic Literature*, p. 13-39, Vol. 35.

Maloney, M. T., McCormick, R. E., & Mitchell, M. L. (1993). Managerial Decision Making and Capital Structure. *The Journal of Business*, p. 189-217, Vol. 66, no. 2.

Masulis, R., Wang, C., & Xie, F. (2007). Corporate Governance and Acquirer Returns. *Journal of Finance*, p. 1851-1889, Vol 62, no. 4.

Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, p. 201-228, Vol. 73, no. 2.

Morck, R., & Yeung, B. (1992). Internalization: An event study test. *Journal of International Economics*, p. 41-56, Vol. 33, no. 1.

Morck, R., Shleifer, A., & Vishny, R. W. (1990). Do Managerial Objectives Drive Bad Acquisitions? *The Journal of Finance*, p. 31-48, Vol. 45, no. 1.

Morck, R., Shleifer, A., & Vishny, R. W. (1990). Do Managerial Objectives Drive Bad Acquisitions? *The Journal of Finance*, p. 31-48, Vol. 45, no. 1.

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*, p. 187-221, Vol. 13, no. 1.

Niresh, J. A., & Velnampy, T. (2014). Firm Size and Profitability: A Study of Listed Manufacturing Firms in Sri Lanka. *International Journal of Business and Management*, p. 57-64, Vol. 9, no. 4.

NU.nl. (2016, Maart 14). *NU Zakelijk*. Opgehaald van Nu.nl: http://www.nu.nl/ondernemen/4229981/waarde-fusies-en-overnames-in-nederland-meer-dan-verdrievoudigd.html

OECD. (2010). *Measuring Globalisation: OECD Economic Globalisation Indicators 2010.* Paris: OECD Publishing.

Pieterse-Bloem, M., Qian, Z., Verschoor, W., & Zwinkels, R. (2016). Time-varying importance of country and industry factors in European corporate bonds. *Journal of Empirical Finance*, p. 429-488, Vol. 38, no. 1.

Shen, L. (2016, December 28). *Fortune Finance*. Opgehaald van Fortune: http://fortune.com/2016/12/28/mergers-and-acquisitions-donald-trump/

Simons, W. (2016, January 26). *MT Business*. Opgehaald van MT.nl: https://www.mt.nl/business/fusietrein-dendert-door-in-2016-de-meest-opvallende-deals/88977

Singh, M., & Davidson, W. N. (2003). Agency costs, ownership structure and corporate governance mechanisms. *Journal of Banking & Finance*, p. 793-816, Vol. 27, no. 5.

Sudarsanam, S., & Mahate, A. A. (2003). Glamour Acquirers, Method of Payment and Post-acquistion Performance: The UK Evidence. *Journal of Business Finance & Accounting*, p. 299-341, Vol. 30, no. 1.

Thomson One. (2017, Juli 25). *Definitions*. Opgehaald van Thomson One (T1): https://deals.ib.thomsonone.com/DealsWeb/help/def.htm

Tian, L., Alizadeh, A. A., Gentles, A. J., & Tibshirani, R. (2014). A Simple Method for Estimating Interactions Between a Treatment and a Large Number of Covariates. *Journal of the American Statistical Association*, p. 1517-1532, Vol. 109, no. 508.

Travlos, N. G. (1987). Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance*, p. 943-963, Vol. 42, no. 4.

Wansley, J. W., Lane, W. R., & Yang, H. C. (1983). Abnormal Returns to Acquired Firms by Type of Acquistion and Method of Payment. *Financial Management*, p. 16-22, Vol. 12, no. 3.