

# Master Thesis

## Financial Economics

### Erasmus School of Economics

# U.S. cross-border mergers and acquisitions: the effect of time and cultural differences on the acquirer's valuation

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### Abstract:

In this thesis I looked at U.S. cross-border M&As and studied if these deals have been creating more value for their respective shareholders in recent years. In addition, I looked at the different effects of cultural differences on these deals, to see if these decrease the potentially increased valuation. I used 1,965 cross-border deals done by 1,239 unique firms, from 1990 to 2015. I conducted an event study to obtain the acquirer's cumulative abnormal returns (ACAR) (-1, +1) days around the announcement date. My OLS regression results suggest that even though the deals did obtain a significant positive average ACAR in 2010-2015, I did not find any evidence that could suggest that these ACARs have been increasing post-2009. However, I found that mega deals, which are deals with a deal value of at least \$500 million, have been doing significantly better in 2010-2015. A mega deal done in 2010-2015 would lead to a statistically significant increase of the ACAR with 2.56 percentage points, ceteris paribus, in comparison to mega deals from 1990-2009. Furthermore, this increase is even bigger when comparing to all deals, where it would lead to a statistically significant increase of the ACAR with 3.67 percentage points, ceteris paribus. To conclude, U.S. mega cross-border M&A deals seem to perform better post-2009.

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# 1 Introduction

There have been plenty of studies that looked at mergers and acquisitions and studied if they do create value or not. However, there have been mixed results, some say that they do indeed create value, while others did not find that at all. Alexandridis, Antypas, & Travlos (2017) found in their recent paper that U.S. M&As did create value for their shareholders, but the most interesting result that they found is that these deals seem to perform significantly better in 2010-2015 than before. This result holds for all their subgroups, where they looked at their full sample, public deals, private deals, mega deals, and public mega deals. They found that if these deals were done in 2010-2015, it would significantly increase the acquirer's cumulative abnormal returns (hereinafter ACAR). In addition, if the deal was a cross-border deal, it would further increase the ACAR for public and mega deals. This is not the first time that a paper documented positive valuations for cross-border deals. Doukas & Travlos (1988), Kiyamaz (2004), and Francis, Hasan & Sun (2008) are just a few papers that documented positive valuations for U.S. cross-border deals. Nevertheless, it is not just U.S. acquirers that profit from these positive gains. Wu, Yang, Yang and Lei (2016) and Li, Li & Wang (2016) looked at cross-border M&As by Chinese acquirers. In line with the previous papers, these authors also found that Chinese cross-border M&A deals create value for their respective shareholders.

M&A deals come in waves, where cross-border M&As and mega deals significantly have been a part of the fifth wave (1993-2000). The total deal values of cross-border M&As peak throughout the years. In my data, the peak years were 2001, 2007 and 2015, having a total deal value of \$37.77 billion, \$42.32 billion and \$40.47 billion, respectively. Especially, in 2015 the total deal value of cross-border deals have gone up significantly. The total deal value was just \$15.25 billion in 2014 and almost tripled in value in 2015. This is interesting to see, since Alexandridis et al. (2017) found that deals that were done in 2010-2015 lead to significantly higher ACARs. Furthermore, since they also found that being a cross-border deal would increase the ACAR even more, it is interesting to look at these more recent cross-border deals. This led to my main question of this thesis that states the following:

**Have cross-border mergers & acquisitions significantly increased in value post-2009 for U.S. acquirers?**

Aside from looking if these cross-border M&As have significantly created more value for their respective shareholders post-2009, I also looked at different aspects that could influence these ACARs. The biggest difference between cross-border M&As and local M&As, is that cross-border M&As are exposed to cultural differences that could negatively influence

the valuation. This is also what Li et al. (2016) found for their Chinese deals. Hence, I also look at the effect of cultural differences and additional firm- and deal characteristics, to see if this could also explain the potential increase in value post-2009.

As mentioned before, there have been a lot of papers that looked at cross-border deals, however, there are not a lot of papers that looked at this more recent time period 2010-2015 like Alexandridis et al. (2017). Moreover, to my knowledge there has not been a paper published yet that incorporates the cultural differences on these more recent U.S. cross-border deals. Therefore, I contribute to the literature by showing the effects of the time period 2010-2015 on cross-border deals, while also looking deeper into the potential negative effects of cultural differences on these deals.

To answer my main question and hypotheses, I looked at U.S. cross-border deals between 1990-2015. The deals are done by U.S. acquirers, while the targets are located outside of the U.S. I collected my data from multiple different databases, which are the following; Thomson Financial SDC US M&A database, Compustat, CRSP, Hofstede Insights database, International Monetary Fund database and the World Bank database. My sample consists of 1,965 cross-border deals done by 1,239 unique firms.

Firstly, I conducted an event study to obtain the ACARs, where these were computed by using the market model. I followed Alexandridis et al. (2017) when choosing the announcement- and estimation windows. Therefore, the ACARs were calculated with a 3-day (-1, +1) announcement window that is estimated over an estimation window of (-255, -46) days. Secondly, I used the ACARs as the dependent variable in different OLS regressions, where different independent variables were added each time. To look if cultural differences had an effect on the ACAR, I constructed a cultural distance measure following the article by G.H. Hofstede, G.J. Hofstede & Minkoy (2005).

My results suggest that U.S. cross-border M&As obtained a statistically significant positive average ACAR of 0.40% at a 10% level, in 2010-2015. Nonetheless, I did not find evidence that if a deal was done in 2010-2015, it would therefore lead to a higher ACAR. In addition, besides from experience that leads to a higher ACAR, I could not find any other factor that could explain an increase in the ACAR. In contrast, mega deals did obtain statistically significant positive results for 2010-2015. These deals did better after 2009, where I found that if a mega deal was done in 2010-2015, it would lead to a statistically significant increase of the ACAR with 3.67 percentage points, *ceteris paribus*. Furthermore, these positive ACARs also hold in the long run over a (-30, +30) days event window for deals in 2010-2015.

The reason why mega deals do better than other deals is not because of the high deal value, since I could not find any evidence that could suggest this. Additionally, I found no evidence that cultural differences had a negative effect on U.S. cross-border M&As. In contrast, I found that it could actually increase the ACAR in some cases.

To conclude, the answer to my main research question if U.S. cross-border M&As significantly increased in value post-2009 is no. Although they did obtain a statistically significant positive average ACAR in 2010-2015, I did not find enough evidence that suggest that they increased after 2009. However, when concerning mega deals, the answer to the main question is yes, mega deals did indeed increase significantly in value post-2009.

The structure of my thesis is organized as follows; section 2 provides the relevant literature for the theoretical background and the construction of the hypotheses, in section 3 I discuss my data collection and sample distribution in detail, section 4 shows the used methodology to obtain my results, in section 5 I discuss my results and answer the hypotheses, and finally, section 6 provides the discussion and conclusion of my thesis, where I also show the limitations of my thesis and suggest topics for further research.

## 2 Theoretical background and hypothesis construction

Alexandridis, Antypas, & Travlos (2017) are one of the first authors that found that mergers and acquisitions led to positive valuations for U.S. acquirers in recent years. They looked at all U.S. M&A deals between 1990 and 2015, and found that public deals done in 2010-2015 led to an average ACAR of 1.05%. These same deals recorded an average loss of -1.08% in 1990 to 2009. Their results also show that these deals in 2010-2015 correspond to a \$30.22 million gain, which is an \$208.37 million improvement when comparing to pre-2010 deals. Moreover, when regressing the ACAR on multiple variables, they found statistically significant results for the variable *2010-2015*. This means that if a deal was done in 2010-2015, it would significantly increase the ACAR for all U.S. M&A deals. More remarkable is that the authors found significant positive results for all deals, but also for public deals, private deals, mega deals, and public mega deals, which are deals with a deal value of at least \$500 million. Meaning that they found enough evidence that deals in 2010-2015 do perform significantly better than the same deals in 1990-2009.

Aside from the influence of the time period, Alexandridis et al. (2017) also found that if the public deal was a cross-border deal, it would significantly increase the ACAR with 0.69 percentage points, *ceteris paribus*, at a 10% level. As previously mentioned, they found statistically significant positive results for public mega deals. Their results suggest that if those

public mega deals were a cross-border deal, it would lead to a statistically significant 1.12 percentage point increase of the ACAR at a 10% level, *ceteris paribus*.

There are papers that found that cross-border deals could lead to some positive valuations, which I will discuss later, but none of these papers looked at more recent data. The economic crisis of 2008 led to a decrease in trust in the financial market by the public, forcing companies to do better and learn from their mistakes. Furthermore, with the rise of globalization and having more options open for companies to invest in, it is possible that cross-border M&As lead to value, and even more so in recent years. With all of that in mind, this leads to my main research question;

**Main question:** Have cross-border mergers & acquisitions significantly increased in value post-2009 for U.S. acquirers?

## 2.1 Positive cross-border M&A valuation

There have been plenty of studies that looked at cross-border mergers and acquisitions, and there have been some mixed results. Some find negative acquirer's returns depending on the acquirer's country and other factors, while a lot of papers find positive effects of cross-border mergers. One of the earlier papers that found that cross-border M&As could be value enhancing, is that of Doukas & Travlos (1988). The paper looked at the firm's share price changes when doing a cross-border deal. The biggest difference they found is between multinational firms that are already operating in the target's nation and those who are not. They found insignificant results for multinationals that were already operating in the target's nation, but this result becomes significantly positive for multinationals that did not operate in the target's nation before. The highest positive results were obtained by multinationals that did an M&A deal with a target from a less developed country.

Kiyamaz (2004) looked at the impact of macroeconomic factors on U.S. cross-border M&As. The main conclusion of the paper is that U.S. targets obtain significantly bigger wealth gains from cross-border M&As, than U.S. acquirers. However, the paper did find that U.S. acquirers obtained a statistically significant ACAR of 0.38% at a 10% level, (-1, +1) days around the announcement date.

Another paper that found positive acquirer's returns is that of Francis, Hasan & Sun (2008), where they looked at U.S. acquirers in cross-border M&As between 1990 and 2003. They found that cross-border M&As do lead to statistically significant positive valuations for U.S. acquirers during their time period. Their results show that cross-border deals obtained an statistically significant average ACAR of 0.96%, at a 1% level. The biggest difference that they

found, is between the target's financial market. Their results suggest that deals that acquire targets with a financially segmented market, obtain significantly higher positive returns, than those with a financially integrated capital market. Deals with segmented targets obtained a statistically significance increase of 0.80 percentage points on the ACAR, at a 10% level. This increased more after 1995, where the same deals obtained a statistically significant increase of 1.10 percentage points, at a 5% significance level.

Not only U.S. acquirers experience positive valuations when doing cross-border M&As. Wu, Yang, Yang and Lei (2016) and Li, Li & Wang (2016) looked at cross-border acquisitions by Chinese acquirers. The acquisitions in their samples were done between 2002-2012 and 2000-2011, respectively. Both papers found that acquirers from emerging economies, in this case China, do on average create value for their respective shareholders. Wu et al. (2016) found that cross-border deals obtained a statistically significant average ACAR of 0.62%, at a 1% level, (-1, +1) days around the announcement date. Moreover, Li et al. (2016) found that Chinese cross-border deals led to a statistically significant average ACAR of 2.70%, at a 1% level, (-1, +1) days around the announcement date. Though, the authors did find that cultural differences negatively influences the ACARs, which decreases the positive average ACAR.

One reason as to why companies invest abroad is to seek strategic assets and broaden their opportunities that they do not have in the local market. The diversity between countries regulations, e.g. tax rates, could lead to value creation (Li et al., 2016). Knowledge diversity has the potential to increase opportunities for knowledge creation which will lead from different mindsets and business models. This means that two companies could create new innovative processes by combining their knowledges (Cohen & Levinthal, 1990). Finally, Chen, Ghoul, Guedhami & Wang (2017) found that foreign ownership positively affects the investment efficiency. This is because foreign investors are more important in improving firm-level governance, in contrast to domestic investors. Foreign investors tend to implement stronger governance to keep their investment safe.

Since there are papers that documented positive average ACARs when conducting a cross-border M&A, and there are reasons as to why this could happen, I expect the following;

**Hypothesis 1:** U.S. cross-border mergers & acquisitions obtained positive acquirer's cumulative abnormal returns on average

## 2.2 Time and firm characteristics

As mentioned before, Alexandridis et al. (2017) found that U.S. M&As that were conducted between 2010 to 2015 led to significantly higher valuations for the acquirers than before. Their

result indicate that if a deal was done in 2010-2015, it would significantly increase the ACAR with 0.45 percentage points, at a 1% level. On the other hand, Golubov, Yawson & Zhang (2015) argue that value creation in M&As is mainly because of firm fixed effects. These so called ‘extraordinary acquirers’ are able to create more value because of their firm characteristics. The authors stated that ‘firm fixed effects alone explain as much of the variation in acquirer returns as all the firm- and deal-specific characteristics combined’ (Golubov et al, 2015). Nevertheless, Alexandridis et al. (2017) still found that, even when taking firm fixed effects into account, deals in 2010-2015 created significantly more value for the acquirers than in 1990-2009. The biggest effect that the time period 2010-2015 had on the ACARs was for public mega deals. The public mega deals obtained a statistically significant increase of 3.60 percentage points on the ACAR, at a 1% level, if the deal was done in 2010-2015.

Francis et al. (2008) also split their sample in two different time periods, which were 1990-1995 and 1996-2003. They found that M&As between 1990-1995 obtained a statistically significant lower average ACAR of 0.93%, than in 1996-2003 of 1.04%, both at a 1% level. So in their data there also seemed to be an increase of the average ACAR.

A possible reason as to why I expect that cross-border deals in 2010-2015 will create more value, is because after a crisis the trust between the public, government and corporations collapses. This will put companies under a magnifying glass and force them to make better investments and create value to gain the trust back. As a consequence, the Dodd-Frank Wall Street Reform and Consumer Protection Act (also known as the Dodd-Frank act), which is a federal law of the U.S., was established in 2010. The goal of the law is to enlarge the financial stabilization by implementing stronger rules for financial institutions and corporations (United States Congress, 2010). This means that U.S. companies had more restrictions from 2010-onwards and needed to make better investment decisions to gain the trust and economic stabilization back. Hence, I expect that 2010-2015 will have a positive influence on the ACARs. This leads to my following three hypotheses;

**Hypothesis 2a:** Cross-border M&A deals done in 2010-2015 lead to a higher ACAR

**Hypothesis 2b:** The time period 2010-2015 had the biggest positive effect on ACARs for public cross-border mega deals

**Hypothesis 2c:** Company fixed effects do not influence the increase in cross-border M&A valuation post-2009



## 2.3 Cultural differences

When comparing local M&A deals with cross-border M&A deals, there is one aspect that only affects the latter, and that is cultural differences. These differences could have a negative effect on the success of a cross-border M&A. It will be easier to successfully complete a deal, when countries' cultures are similar to one and other, than when there are a lot of difference. Trust can be a competitive advantage when there is a relationship between two firms. Multiple papers, including Dore (1983) and Noordewier, John & Nevin (1990), link trust with reducing transaction costs. Doney, Cannon & Mullen (1998) showed that the norms and values of a society have an effect on the building of trust. There is a negative relation: large differences in two countries' societal norms and values, reduces the mutual trust and the easiness of communication and thus lowers the created valuation of a M&A. Li et al. (2016) found statistically significant results for the negative effect of cultural differences. The authors found that cultural differences led to a statistically significant decrease of the ACAR of 3.80 percentage points at a 1% level, *ceteris paribus*.

There are different company-related factors that could lessen the potentially negative relationship between cross-border M&As and cultural differences. Haleblian & Finkelstein (1999) found that experience effects M&As. According to their results, the authors state the following: 'relatively inexperienced acquirers, after making their first acquisition, inappropriately generalize acquisition experience to subsequent dissimilar acquisitions, while more experienced acquirers appropriately discriminate between their acquisitions' (Haleblian & Finkelstein, 1999). In this case, the experience of firms in M&As does matter since the firms learn from their experience, and it could therefore potentially lessen the negative effect of cultural differences.

Another aspect that could lessen the effect of cultural differences is when the acquirer and target perform in the same industry. Both firms are familiar with the industry, so one could expect that the culture differences would have less of an impact. Doukas & Travlos (1998) found that their statistically significant positive abnormal returns are also mainly a result of firms that acquire targets from an unrelated industry. This means that cross-border deals between firms from the same industry could negatively influence the ACAR. However, it could actually help lessen the potentially negative effect of the cultural differences, when deals of the same industry are combined with the cultural differences. This is exactly what Li et al. (2016) found when looking at Chinese cross-border M&As. Their results show that cultural differences lead to a statistically significant decrease of the ACAR of -4.90 percentage points, but when

these cultural differences are combined with an industry dummy, it increases the ACAR with 2.70 percentage points.

Furthermore, large companies could also better cope with the cultural distance, since they have typically more resources to adapt to these cultural differences, e.g. better marketing, more personnel, more assets, (often) international experience, etcetera. Li et al. (2016) also found that the cultural differences could lead to a statistically significant decrease of -12.00 percentage points of the ACAR, but this effect changes for larger firms. They found that larger firms were not affected by these differences, since they experienced a statistically significant increase of 0.60 percentage points, at a 5% level.

Finally, countries have been coming closer together since the rise of globalization. It is easier to overcome cultural differences now than it was in the 90s, due to development in communication and information gathering. For this reason, I expect that cultural differences would have less of an impact on the ACAR in 2010-2015 than before. These prior results and expectations lead to my following five hypotheses:

**Hypothesis 3a:** Cultural differences between countries have a negative effect on cross-border M&A's ACARs

**Hypothesis 3b:** Firms that are experienced with M&As are less affected by cultural differences

**Hypothesis 3c:** Firms that acquire a target in the same industry are less affected by cultural differences

**Hypothesis 3d:** Larger firms are less affected by cultural differences

**Hypothesis 3e:** Cultural differences do not have a negative effect on the M&A valuation in 2010-2015

### 3 Data

In this section I will discuss the data collection process and the databases that were used. Further, I will briefly discuss my sample that was used for obtaining my results.

#### 3.1 Data collection

In this thesis I used U.S. cross-border M&As between 1990 and 2015, where the acquirers are from the U.S. and the targets are from outside of the U.S. First, I collected cross-border M&A deal data from the Thomson Financial SDC US M&A database. The data includes the date of the M&A announcement, company name, CUSIP, industry code, deal value, competing bids,

percentage paid in cash or stock, deal attitude (friendly or hostile) and the name of the target nation. I excluded deals that were repurchases, recapitalizations, self-tenders, exchange offers, acquisitions of remaining interest and minority stake purchases. An additional restriction is that the targets are either a private or a public firm, and the acquirers end up acquiring at least 50% of the targets and owned no more than 20% of the targets before the transaction. This left me with 5,090 deals by 3,477 unique companies.

For the accounting variables I used Compustat data one year prior to the announcement date and merged this with my initial Thomson dataset. The CRSP dataset was used to obtain stock prices to make additional variables and the ACARs. Since Compustat and CRSP did not have the information for all the acquirer firms from the Thomson database, it reduced my dataset significantly. After merging the datasets, it left me with a final sample of 1,965 M&A deals by 1,239 unique firms.

For the effect of cultural differences, I used data from the Hofstede Insights database to create the cultural distance scores. The International Monetary Fund database and the World Bank database were used for the other target nation variables, which are; *Adv. Economy*, *TOP20* and *English*. The definitions of all the variables that I created and used, can be found in table 11 in the Appendix.

### 3.2 Sample distribution

Table 1 shows the sample distribution by deal value for the full sample (1,965 deals) and mega deals (125 deals), where mega deals are defined as deals with a deal value of at least \$500 million. The year 1998 had the most deals, where 7.89% of the total deals were done in that year. These deals contributed to a total deal value of \$13.37 billion. For mega deals, most of the deals were done in the years 2007 and 2008, having both 10 mega deals each. Graph 1 in the Appendix shows that the years 2001, 2007 and 2015 were the years where the total deal values were the highest. These years have a total deal value of \$37.77 billion, \$42.32 billion and \$40.47 billion, respectively. The number of cross-border deals have been significantly increasing from 1993 to 1998, this is also when the fifth merger wave was. From 1998 onwards, the number of deals done were between, roughly, 70 to 100 deals per year. Graph 1 in the Appendix also shows a big decline in the amount of deals in the year 2009, having only 46 deals. This could probably be the cause of the economic crisis of 2008. Lastly, the graph shows that the deal value of mega deals take up a big portion of the total deal value. The total deal value of all deals is \$389.68 billion, where \$273.42 billion is from mega deals alone.

**Table 1: Sample distribution by deal value**

This table shows the sample distribution of the data that was used in this thesis. The data is grouped in full sample and mega deals (which are deals with a deal value of at least \$500 million). The data is retrieved from the Thomson Financial SDC US M&A database. The deal value is noted in \$billion. *N* is the absolute number of deals and *N (%)* is the proportional number of deals in percentages. The total deal value & total number of deals done in the whole period (1990-2015) is shown by *N* at the bottom of the table.

Year	Full sample			Mega deals		
	Deal value	N	N (%)	Deal value	N	N (%)
1990	0.78	21	1.07%	0.00	0	0.00%
1991	0.15	16	0.81%	0.00	0	0.00%
1992	2.19	45	2.29%	1.15	2	1.60%
1993	1.81	27	1.37%	0.66	1	0.80%
1994	2.88	49	2.49%	0.53	1	0.80%
1995	10.65	73	3.72%	8.34	4	3.20%
1996	3.93	73	3.72%	1.04	2	1.60%
1997	6.85	99	5.04%	1.20	1	0.80%
1998	13.37	155	7.89%	7.02	4	3.20%
1999	20.14	107	5.45%	13.21	5	4.00%
2000	18.04	107	5.45%	9.95	9	7.20%
2001	37.77	72	3.66%	33.85	9	7.20%
2002	8.11	73	3.72%	4.05	3	2.40%
2003	24.77	69	3.51%	21.69	8	6.40%
2004	8.18	104	5.29%	1.81	1	0.80%
2005	10.92	94	4.78%	6.63	4	3.20%
2006	14.25	95	4.83%	8.42	9	7.20%
2007	42.32	97	4.94%	38.30	10	8.00%
2008	17.46	81	4.12%	13.55	10	8.00%
2009	22.83	46	2.34%	18.76	4	3.20%
2010	12.54	77	3.92%	6.33	4	3.20%
2011	22.63	74	3.77%	16.02	6	4.80%
2012	18.33	86	4.38%	11.39	7	5.60%
2013	13.05	66	3.36%	7.80	8	6.40%
2014	15.25	84	4.27%	6.27	4	3.20%
2015	40.47	75	3.82%	35.44	9	7.20%
<i>N</i>	389.68	1,965	100%	273.42	125	100%

Table 2 in the Appendix shows the sample distribution by target nation characteristics. My data consists of 67 individual countries, where 32 countries have an advanced economy and 16 countries have English as an official language. Cross-border M&A deals with Canada and the United Kingdom contribute to a total of 43.31% of the deals, having also the biggest number of deals individually. Additionally, 78.82% of the deals were done with countries that belong in the top 20 biggest economies of the world in 2015, including the U.S. The cultural distance score shows that Australia has the most similar culture to the U.S., having a CD-score of just

0.022. Contrary, Guatemala has the least similar culture to the U.S, with a CD-score of 7.817. The explanation of the construction of the CD-scores can be found in section 4.3.

## 4 Methodology

In this section I will discuss the methodology that I used to obtain my results. The section is divided in three main parts, which are the following: 4.1 event study, 4.2 OLS regression and 4.3 cultural distance measure.

### 4.1 Event study

To test the hypotheses, I firstly constructed the ACARs by an event study methodology. With this methodology, the effect of the cross-border M&A announcements on the security prices of the firms can be analyzed. The ACARs are computed by using the market model for the period 1990 to 2015, leading to the following equation:

$$ACAR(t_1, t_2) = \sum_{t=t_1}^{t_2} (R_{it} - (a_i + b_i R_{mt})) \quad (1)$$

Where  $R_{it}$  is the actual return of security  $i$  on time  $t$  minus the normal return ( $a_i + b_i R_{mt}$ ), which leads to the abnormal return. Furthermore,  $a_i$  is the non-market related return,  $R_{mt}$  is the corresponding market portfolio's return and the extent of the security's responsiveness as measured by the beta  $b_i$ .

Following Alexandridis et al. (2017), I used a 3-day (-1, +1) announcement window that is estimated over an estimation window of (-255, -46) days. The results are then split between the full sample and the mega deals, where I also look at the average ACARs per time period. The different time periods are 1990-2015, 1990-2009 and 2010-2015. In addition, I also computed the acquisition gains, which are the products of the ACAR and the firm's market capitalization 30 days before the announcement. For the construction of the acquisition gains, I also followed the paper of Alexandridis et al. (2017). However, this measurement is prone to outliers and it is therefore only included to compare my results to those of the paper.

### 4.2 OLS regression

The ACARs are used to compute the OLS regressions, to see if there are different coefficients that could influence the ACARs. The regressions are used on the full sample, mega deals and public mega deals.

#### 4.2.1 OLS regression on deal and firm characteristics

The ACARs are regressed on the period dummy *2010-2015* to see if cross-border deals obtain statistically significant higher ACARs when they are done in 2010-2015, instead of 1990-2009. The regression is also extended by different deal- and firm characteristics, leading to the following equation;

$$\begin{aligned} ACAR_i = & \alpha_i + \beta_1 2010 - 2015_i + \beta_2 Public_i + \beta_3 Ln(Size)_i + \beta_4 Stock_i + \beta_5 M/B_i \\ & + \beta_6 Frequent_i + \beta_7 Occasional_i + \beta_8 Industry_i + \beta_9 Competition_i \\ & + \beta_{10} Hostile_i + \beta_{11} FCF_i + \beta_{12} Leverage_i + \beta_{13} TobinQ_i + \varepsilon_i \end{aligned} \quad (2)$$

The variables *Frequent* and *Occasional* stand for frequent and occasional acquirer. A frequent acquirer did at least 4 deals within 3 years, and where an occasional acquirer did at least 2 deals. These variables are used to see if experience in cross-border deals had an effect on the ACARs. In my dataset, there were 22 deals that were neither classified as hostile or friendly. Because of this, I firstly looked at the results when incorporating separate *Hostile* and *Friendly* coefficients. After that I computed a *Hostile* dummy, where I incorporated the non-classified 22 deals as ‘friendly’ deals to see if the results would differ. Since this did not have a statistically significant effect on the results, I simply used just one *Hostile* dummy. The definitions of the remaining coefficients can be found in table 11 in the Appendix. The regression results are also computed when adding company fixed effects, to see if this could influence the results or lead to a higher  $R^2$  (Adj.  $R^2$ ).

#### 4.2.2 OLS regression on extra deal characteristics

Since hypothesis 2b states that public mega deals will gain the highest valuation when doing a deal in 2010-2015, it could potentially be because of the high deal value. Therefore, I took a closer look at the differences between deal values. Aside from a *Megadeal* dummy, I also made dummies related to cut off values in my dataset. The dummies *DV<25%*, *DV<50%* and *DV<75%* are 1 if the deal value is in the smallest 25%, 50% or 75% quantile, respectively. I also conducted an extra regression where I made interaction variables with the deal value dummies and time period dummy. The last additional interaction variables lead to the following regression:

$$\begin{aligned}
ACAR_i = & \alpha_i + \beta_1 2010 - 2015_i + \beta_2 Public_i + \beta_3 Ln(Size)_i + \beta_4 Stock_i + \beta_5 M/B_i + \beta_6 Frequent_i \\
& + \beta_7 Occasional_i + \beta_8 Industry_i + \beta_9 Competition_i + \beta_{10} Hostile_i + \beta_{11} FCF_i \\
& + \beta_{12} Leverage_i + \beta_{13} TobinQ_i + \beta_{14} Dealvalue_i + \beta_{15} DV25\%_i + \beta_{16} DV50\%_i \\
& + \beta_{17} DV75\%_i + \beta_{18} Megadeal_i + \beta_{19} Megadeal * 2010 - 2015_i + \beta_{20} DV25\% \\
& * 2010 - 2015_i + \beta_{21} DV75\% * 2010 - 2015_i + \varepsilon_i
\end{aligned} \tag{3}$$

### 4.3 Cultural distance measure

Lastly, I conducted a third different OLS regression where different target nation characteristics were incorporated. First, I used data from Hofstede Insights to construct the cultural distance scores (CD-scores). The article by G.H. Hofstede, G.J. Hofstede & Minkoy (2005) showcases culture differences between countries from four different dimensions: power distance, collectivism vs. individualism, femininity vs. masculinity and uncertainty avoidance. As of 2020, these dimensions are extended by two: long term orientation vs. short normative orientation and indulgence vs. restraint. Hofstede et al. (2005) define these dimensions as the following;

1. The power distance measures the degree of inequality in a society.
2. Individualism measures the degree of individualism in a society.
3. Masculinity measures the degree of masculinity in a society, where it is called masculine when the emotional gender roles are clearly distinct.
4. Uncertainty avoidance measures the degree to which people of the society feel threatened by ambiguous or unknown situations.
5. Long term orientation measures the degree of societal change for the present and future.
6. Indulgence measures the degree to which people control their desires and impulses based on the way they were raised.

These dimension indexes are then used in the cultural distance measure to make the CD-scores.

The formula for the cultural distance measure is as follows:

$$CD_j = \sum_{i=1}^6 \left[ \frac{(I_{ij} - I_{i,US})^2}{V_i} \right] / 6 \tag{4}$$

Where  $CD_j$  stands for the cultural distance of the  $j^{th}$  target's country from the U.S.;  $I_{ij}$  is the index for the  $i^{th}$  cultural dimension and  $j^{th}$  country;  $I_{i,US}$  is the index of the  $i^{th}$  cultural dimension of the U.S.;  $V_i$  is the variance of the index of the  $i^{th}$  dimension (Kogut & Singh, 1988; Li et al., 2016). The higher the CD-score, the bigger the cultural difference between the U.S. and the target nation. The extension of the two dimensions, long term orientation vs. short normative orientation and indulgence vs. restraint, is relatively new, hence the database did not

have those indexes for all countries. Because of this, I scaled the CD-measure accordingly to the amount of available dimension index data. For example, for the country Guatemala the database only had data for four dimension indexes, I therefore divided the measure by 4 instead of 6. Some countries were not in the database at all (e.g. Bahamas), these deals are for that reason not included in the regression. This reduces the sample for the regression with 20 deals, from 1,965 deals to 1,945 deals.

#### 4.3.1 OLS regression with CD-scores

I extended equation 2 of the OLS regression with the CD-scores, where I also included interaction variables of the CD-scores with different coefficients. This is to see if more target nation differences could influence the ACARs. Three extra dummy coefficients were included, which are *Adv. Economy*, *TOP20* and *English*. These dummies are 1 when the target nation has an advanced economy, belongs to the top 20 biggest economies in the world by 2015 or has English as an official language, respectively. These additions lead to the following regression, where it is used for the full sample, public deals, mega deals and public mega deals:

$$\begin{aligned}
 ACAR_i = & \alpha_i + \beta_1 CD_i + \beta_2 CD * Frequent_i + \beta_3 CD * Occasional_i + \beta_4 CD * Industry_i + \beta_5 CD \\
 & * Ln(Size)_i + \beta_6 CD * 2010 - 2015_i + \beta_7 Adv.Economy_i + \beta_8 TOP20_i \\
 & + \beta_9 English_i + \beta_{10} Frequent_i + \beta_{11} Occasional_i + \beta_{12} Industry_i \\
 & + \beta_{13} Ln(Size)_i + \varepsilon_i
 \end{aligned} \tag{4}$$

Importantly, all the regression results are adjusted for heteroskedasticity. The definitions of the variables can be found in table 11 in the Appendix.

## 5 Results

In this section I will show the regression results and see if the hypotheses are rejected or not. The hypotheses results are shown in three main sections, where the conclusions of these results will then contribute to the main conclusion of the main question, in section 6.

### 5.1 Hypothesis 1: positive cross-border M&A valuation

The first hypothesis looked if cross-border M&As obtained a positive ACAR on average, which states the following:

**Hypothesis 1:** U.S. cross-border mergers & acquisitions obtained positive acquirer's cumulative abnormal returns on average



### 5.1.1 Hypothesis 1 results

Table 3 shows the results of the summary statistics for the ACARs and gains. The ACARs are grouped in full sample and mega deals, where the results are also divided per time period to look further into these results. My results for the full sample suggest that U.S. cross-border M&A deals do indeed obtain positive ACARs on average. However, only the result for the time period 2010-2015 is statistically significant at a 10% level. This means that U.S. cross-border M&A deals obtained an statistically significant positive average ACAR of 0.40% in 2010 to 2015. When looking at the mega deals, I find that those deals did significantly worse in 1990-2009, where they obtained an statistically significant average ACAR of -1.60% at a 5% level. The average ACAR did increase in 2010-2015, where the mega deals obtained an ACAR of 1.85%. Nevertheless, this result is not significant, thus I cannot state that U.S. cross-border mega deals in 2010-2015 obtained a significant positive ACAR on average. I do statistically find that the average ACAR increases significantly after 2009. This is since the average ACARs differ between 1990-2009 and 2010-2015 with a statistically significant positive 3.45%, at a 1% significance level. Meaning that cross-border mega deals did perform better after 1990-2009. In conclusion, hypothesis 1 is rejected that states that U.S. cross-border M&As obtain positive ACARs on average. However, this hypothesis is not rejected for deals in 2010-2015, since these deals do obtain a statistically significant positive average ACAR.

**Table 3: Summary statistics ACARs and gains**

The table shows the mean and median of the ACARs over a (-1, +1) day event window and the gain in \$mil for the full sample and mega deals. In each groups, the results are shown by time period, where 1990-2015, 1990-2009 & 2010-2015 are noted as (1), (2) & (3), respectively. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively.

		Full sample				Mega deals			
		(1)	(2)	(3)	(3) - (2)	(1)	(2)	(3)	(3) - (2)
ACAR (-1, +1)	<i>Mean</i>	0.23%	0.18%	0.40%*	0.22%	-0.55%	-1.60%**	1.85%	3.45%***
	<i>Median</i>	0.28%	0.23%	0.50%	0.27%	-0.19%	-0.94%	1.39%	2.33%
Gain (\$mil)	<i>Mean</i>	-21.53	-30.10	6.38	36.38	-33.56	-4.42	-100.28	-95.86
	<i>Median</i>	0.66	0.28	2.04	1.76	-4.72	-51.07	68.77	119.84
<i>N</i>		1,965	1,503	462		125	87	38	

### 5.2 Hypothesis 2: time and firm characteristics

Alexandridis et al. (2017) found that U.S. M&As conducted between 2010-2015 led to significantly higher ACARs than before 2010. Since I also find that deals in 2010-2015 do obtain a statistically significant positive ACAR on average, it is interesting to see if 2010-2015 does indeed have a positive effect on the ACARs. For this I constructed three different hypotheses to test this further, which are the following:

- Hypothesis 2a:** Cross-border M&A deals done in 2010-2015 lead to a higher ACAR
- Hypothesis 2b:** The time period 2010-2015 had the biggest positive effect on ACARs for public cross-border mega deals
- Hypothesis 2c:** Company fixed effects do not influence the increase in cross-border M&A valuation post-2009

### 5.2.1 Hypothesis 2a results

For hypothesis 2a I conducted a regression where I made a 2010-2015 dummy to see if this does indeed increase the ACAR. The results can be found in table 4. When looking at the previous results in table 3, I found that cross-border deals in 2010-2015 do indeed obtain a statistically significant higher average ACAR than in 1990-2009. This changes when looking at table 4, since I do not find a significant result for the *2010-2015* dummy for the full sample. The coefficient is positive, but it is not statistically significant. This means that the average positive ACARs, that cross-border deals obtain in 2010-2015, is not because of a direct effect of the time period. Aside from this, I do find that the company size ( $Ln(Size)$ ) and deals done with stocks (*Stocks*) have a negative influence on the ACAR. A 1% increase in the acquirer's size leads to a statistically significant -0.18% decrease of the ACAR at a 5% level, ceteris paribus. When deals are done with stocks, it leads to a statistically significant decrease of -1.20 percentage points of the ACAR at a 10% level, ceteris paribus. The coefficients  $Ln(Size)$ , *Stock* and the *Intercept* are the only significant results for the full sample. This means that even though cross-border deals in 2010-2015 obtain statistically significant positive average ACARs, in comparison to 1990-2009, this is not solely because they were done in 2010-2015. For the mega deals and public mega deals, there are some statistically significant positive results for *2010-2015*, but this will be discussed further in section 5.2.2. To conclude, hypotheses 2a is rejected that states that cross-border M&A deals done in 2010-2015 lead to a higher ACAR, since this is only true for mega deals and public mega deals.

### 5.2.2 Hypothesis 2b results

For hypothesis 2b, I conducted the same regression, but this time only on mega deals, where the results can be found in the same table 4. As stated before, mega deals are deals with a deal value of at least \$500 million. The sample is split in mega deals and public mega deals, to see if the latter obtained a higher statistically significant positive result for *2010-2015*. Firstly, when looking at the results of table 3, I do find that there is a significant difference of the average ACAR between the periods 1990-2009 and 2010-2015. I find that there is a statistically

significant increase in the average ACAR of 3.45% between both periods, at a 1% level. When looking at table 4, I find that deals in 2010-2015 lead to an increase of the ACAR for mega deals. My results suggest that if a mega deal was done in 2010-2015, instead of 1990-2009, it leads to a statistically significant increase of the ACAR with 2.56 percentage points at a 5% level, *ceteris paribus*. Additionally, if the acquirer was a frequent (occasional) acquirer it would lead to a statistically significant increase (decrease) of the ACAR with 3.20 (-3.62) percentage points at a 10% level (1% level), *ceteris paribus*. This means that experience does seem to have a positive effect on the ACAR. Furthermore, I still find that deals that were done with stocks have a statistically significant negative effect on the ACAR. This effect is the biggest for mega deals, where deals done with stocks lead to a statistically significant decrease of 5.11 percentage points of the ACAR at a 1% level, *ceteris paribus*. I also find that leverage has a statistically significant positive effect on the ACAR, where an increase in leverage leads to an statistically significant increase of 8.91 percentage points of the ACAR at a 10% level, *ceteris paribus*.

I also looked at the market-adjusted ACARs over a longer period. For this I used the event tool Eventus that is provided by WRDS. I used the same estimation window of (-255, -46) days, but I extended the event window to (-30, +30) days to look at the ACARs on the long run. The event study was conducted for both the 1990-2009 period, as well as the 2010-2015 period, to see if I still find higher results for 2010-2015 on a long term period. The results can be found in graph 2 and 3 in the Appendix. Similar to my regression results, I find that even on the long run, the cross-border M&As perform significantly better in 2010-2015 than in 1990-2009.

The last column in table 4 show the results for the public mega deals. The statistically significant results are similar to those of the total mega deal sample, with additional statistically significant results for the variables *M/B* and *Tobin Q*. However, for hypothesis 2b the variable of interest is *2010-2015*. For public mega deals, I find that if they were done in 2010-2015, it would lead to a statistically significant increase of 3.04 percentage points of the ACAR at a 10% level, *ceteris paribus*. This statistically significant effect is higher than that of all mega deals, meaning that public mega deals do indeed experience the highest positive effect of the time period 2010-2015. Hypothesis 2b can therefore not be rejected which stated that 2010-2015 had the biggest positive effect on ACARs for public cross-border mega deals.

**Table 4: Regression results ACAR on deal- and firm characteristics**

This table shows the ACAR OLS regression results for the full sample, mega deals and public mega deals with the deal and firm characteristics. Where the dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The t-statistics are shown in parentheses and are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	Full sample	Mega deals	Public mega deals
Intercept	0.0154** (2.34)	-0.0003 (-0.01)	-0.0199 (-0.45)
2010-2015	0.0020 (0.61)	0.0256** (2.02)	0.0304* (1.68)
Public	0.0019 (0.42)	0.0110 (0.97)	
Ln(Size)	-0.0018** (-2.19)	0.0018 (0.59)	0.0047 (1.51)
Stock	-0.0120* (-1.65)	-0.0511*** (-3.69)	-0.0431*** (-2.92)
M/B	0.0000 (0.70)	0.0008 (0.82)	0.0029** (2.48)
Frequent	0.0028 (0.61)	0.0348*** (2.67)	0.0337* (1.93)
Occasional	-0.0004 (-0.12)	-0.0370*** (-3.20)	-0.0405*** (-2.82)
Industry	-0.0038 (-1.22)	-0.0174 (-1.34)	-0.0115 (-0.63)
Competition	-0.0121 (-1.00)	-0.0224 (-1.17)	-0.0173 (-0.87)
Hostile	-0.0039 (-0.65)	-0.0125 (-1.00)	-0.0098 (-0.76)
FCF	0.0263 (1.26)	-0.1560 (-1.25)	-0.1003 (-0.91)
Leverage	0.0109 (0.95)	0.0891* (1.67)	0.0789 (1.51)
Tobin Q	-0.0001 (-0.21)	-0.0007 (-0.34)	-0.0065** (-2.52)
<i>N</i>	1,965	125	90
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0101 (0.0035)	0.2996 (0.2176)	0.3408 (0.2380)

Since mega deals do obtain a statistically significant positive effect of the time period 2010-2015 on the ACAR, it could have something to do with the significantly higher deal value that mega deals experience. This is why I also extended my regression with additional deal value related variables. Table 5 in the Appendix shows the regression results with the extra deal value variables. The results suggest that deal value does have a statistically significant effect

on the ACAR at a 5% level, but this effect on itself is really small. I do find that only deals with a deal value in the smallest 25<sup>th</sup> percentile in my data, which are deals with a deal value of \$8.821 million or smaller, experience a statistically significant negative effect on the ACAR. These deals obtain a statistically significant decrease of -0.95 percentage points on the ACAR at a 5% level, *ceteris paribus*. Surprisingly, mega deals do not influence the ACAR. However, when looking at the second column in table 5 in the Appendix, I find that the interaction variable *Mega deal\*2010-2015* is the only variable that has a statistically significant effect on the ACAR, at a 5% level. This suggests that mega deals done in 2010-2015 lead to a statistically significant increase of the ACAR with 3.67 percentage points at a 5% level, *ceteris paribus*, in comparison to non-mega deals in the same period. Furthermore, the negative effect of the deals in the 25<sup>th</sup> smallest percentile seems to be gone in 2010-2015. This means that I only find that mega deals have a statistically significant positive effect on the ACAR when they are done in 2010-2015. This provides extra evidence as to why hypothesis 2b is not rejected.

### 5.2.3 Hypothesis 3c results

Aside from deal value related characteristics, it could also be that it is firm specific effects that influence the results. This is why I also regressed the same regression with company fixed effect to see if this will influence the effect of the time period 2010-2015. The results can be found in table 6 in the Appendix. The results for the variable *2010-2015* for the full sample and mega deals are similar to those without firm fixed effects. I still find that mega deals done in 2010-2015 lead to statistically significant higher ACARs. This changes however when looking at the public mega deals, where the statistically significant effect of *2010-2015* is gone. Without the firm fixed effects, the public mega deals would lead to a statistically significant increase of the ACARs when done in 2010-2015, at a 10% level. This result is not significant anymore when adding firm fixed effects. Nevertheless, it is important to note that the  $R^2$  (Adj.  $R^2$ ) decreases significantly when adding firm fixed effects, where it decreases the most for the public mega deals with almost 14% (15%), respectively. This means that the firm fixed effects do not explain the significant results better. With this in mind, hypothesis 2c is rejected, stating that company fixed effects do not influence the increase in cross-border M&A valuation post-2009.

### 5.3 Hypothesis 3: cultural differences

For the last part of my thesis, I looked at the influence of cultural differences on U.S. cross-border M&As, where I tested the following hypotheses:

**Hypothesis 3a:** Cultural differences between countries have a negative effect on cross-border M&A's ACARs

**Hypothesis 3b:** Firms that are experienced with M&As are less affected by cultural differences

**Hypothesis 3c:** Firms that acquire a target in the same industry are less affected by cultural differences

**Hypothesis 3d:** Larger firms are less affected by cultural differences

**Hypothesis 3e:** Cultural differences do not have a negative effect on the M&A valuation in 2010-2015

Table 7 and table 8 show the OLS regression results of the ACAR on different target nation and firm characteristics. Table 8 can be found in the Appendix and is extended by adding the deal characteristics of table 4. The tables are split in full sample, public deals and mega deals. The reason why I excluded public mega deals is because I could not find any statistically significant different result when comparing to the full mega deal sample. Additionally, I included a public deal sample since I found interesting statistically significant results that are related to hypothesis 3c and 3e.

**Table 7: Regression results ACAR on target nation- and firm characteristics**

This table shows the ACAR OLS regression results for the full sample, public deals and mega deals, with the target nation- and firm characteristics. Where the dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The t-statistics are shown in parentheses and are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in the Appendix.

	Full sample	Public deals	Mega deals
Intercept	0.0148 (1.14)	0.0622* (1.71)	0.0357 (0.61)
CD	-0.0022 (-0.42)	-0.0170 (-0.95)	0.0229 (0.67)
CD*Frequent	-0.0085*** (-2.59)	-0.0129 (-1.56)	0.0030 (0.30)
CD*Occasional	0.0015 (0.62)	-0.0031 (-0.62)	-0.0114 (-1.11)
CD*Industry	0.0001 (0.04)	0.0175*** (3.20)	0.0094 (0.82)
CD*Ln(Size)	0.0006 (1.01)	0.0007 (0.40)	-0.0023 (-0.83)
CD*2010-2015	0.0006 (0.37)	0.0087** (2.28)	0.0172*** (2.61)
Adv. Economy	-0.0008 (-0.15)	-0.0020 (-0.20)	0.0011 (0.09)
TOP20	0.0015	0.0107	-0.0131

	(0.37)	(1.21)	(-0.98)
English	0.0025	-0.0291**	-0.0087
	(0.52)	(-2.32)	(-0.40)
Frequent	0.0168**	0.0372	0.0301
	(2.37)	(1.62)	(1.38)
Occasional	-0.0019	-0.0032	-0.0263
	(-0.40)	(-0.33)	(-1.51)
Industry	-0.0041	-0.0264**	-0.0277
	(-0.93)	(-2.35)	(-1.33)
Ln(Size)	-0.0021*	-0.0041	-0.0003
	(-1.84)	(-1.15)	(-0.07)
<i>N</i>	1,945	349	122
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0055 (-0.0012)	0.0667 (0.0305)	0.1948 (0.0979)

### 5.3.1 Hypothesis 3a results

First, I looked if cultural difference had any statistically significant effect on the ACARs. When looking at the first regression results in table 7, I could not find any statistically significant effect of cultural differences on all the different sample groups. Even after adding extra deal characteristics, as seen in table 8 in the Appendix, there were no statistically significant effects of cultural differences. Thus, I looked at the differences between groups with different CD-scores, since majority of the data are deals done with targets that have low CD-scores. Therefore, I regressed the same regression, as that of table 8 in the Appendix, on deals with targets that have a CD-score of  $CD > 2$ ,  $CD < 2$  and  $CD < 1$ . The results can be found in table 9 in the Appendix. However, I still could not find any statistically significant result for the variable *CD*. Finally, I decided to exclude the variables that I came up with myself, which are *Adv. Economy*, *English* & *TOP20*. Surprisingly, I found that cultural differences does have a statistically significant negative effect on the ACAR of -6.58 percentage points at a 10% level, ceteris paribus, which can be seen in table 10 in the Appendix. This is only a statistically significant result for deals with a CD-score of smaller than 1, meaning that the target nation's culture is very similar to that of the U.S. acquirers. Further, this result it only statistically significant at a 10% level. Aside from the CD-score, I did find that if the target had English as their national language, it would lead to a statistically significant decrease of the ACAR with 2.91 percentage points for public deals, ceteris paribus. This is further evidence that cultural difference does not have a negative effect on the ACAR, since in this case a cultural similarity led to a statistically significant negative effect on the ACAR. Although, one would assume that a cultural similarity would have a positive effect. To conclude, I did not find any evidence that

cultural differences have a negative effect on the ACARs of U.S. cross-border M&As, hence hypothesis 3a is rejected.

Since the CD-score did not have any effect on the ACARs, it could be that the other target nation variables *Adv. Economy, English & TOP20* would have a positive effect on the ACAR without the CD-score. If this is true, it would provide some contradicting evidence since it would then mean that country similarities do lead to statistically significant higher ACARs. Because of this, I also regressed the same regression, but this time without the CD-score related variables. Nevertheless, I still did not find any statistically significant results for the target nation variables *Adv. Economy, English & TOP20*. This is further evidence that nation differences do not have an effect on the ACAR for U.S. cross-border mergers.

### 5.3.2 Hypothesis 3b results

For hypothesis 3b the results can also be found in table 7 and table 8 in the Appendix. The hypothesis states that firms that are experienced are less effected by cultural differences. When looking at the results for the full sample in table 7, I find that when a firm is experienced in M&As it will lead to a statistically significant increase of the ACAR with 1.68 percentage points at a 5% level, *ceteris paribus*. However, this effect changes when the variable is interacting with the CD-score. The interaction variable *CD\*Frequent* shows that experienced firms are affected by the cultural differences, since it will significantly decrease the ACAR with -0.85 percentage points at a 1% level, *ceteris paribus*. Similar results are found when looking at the extended regression results in table 8 in the Appendix. Here I find that experienced firms obtain a statistically significant increase of the ACAR with 1.73 percentage points, while this decreases with -0.88 percentage points when these firms are exposed to cultural differences, both at a 1% significance level, *ceteris paribus*. This means that hypothesis 3b is rejected that states the following: 'Firms that are experienced with M&As are less affected by cultural differences'.

### 5.3.3 Hypothesis 3c results

Hypothesis 3c tests if acquiring a target in the same industry will lead to the ACAR being less affected by the cultural differences. I did not find any statistically significant result for the full sample concerning acquisition in the same industry or when interacting with the CD-score. However, when looking at the public deal sample, I do find that acquiring a target in the same industry has an statistically significant effect on the ACAR. Table 7 shows that when a firm acquires a target in the same industry, it will lead to a statistically significant decrease of -2.64



percentage points of the ACAR at a 5% level, *ceteris paribus*. This negative effect is gone when these deals are exposed to cultural differences. The result for the interaction variable *CD\*Industry* shows that the CD-score has a statistically significant positive effect of 1.75 percentage points on acquisitions in the same industry at a 1% level, *ceteris paribus*. Moreover, I find similar statistically significant results when using the extended regression, which can be found in table 8 in the Appendix. To conclude, hypothesis 3c is partly rejected, which states that firms that acquire a target in the same industry are less affected by cultural differences. This is since it only holds for public deals and not for the full sample or mega deals.

#### 5.3.4 Hypothesis 3d results

For hypothesis 3d I looked at the effect of cultural differences on the size of the firm, where hypothesis 3d states that larger firms are less affected by these cultural differences. The results in table 7 (table 8 in the Appendix) suggest that a 1% increase in firm size, leads to a statistically significant decrease of -0.21% (-0.27%) of the ACAR, at a 10% (5%) level. This effect becomes positive when the CD-score is added, but this is not significant however. Since the result is not significant, hypothesis 3d is rejected that states that larger firms are less affected by cultural differences.

#### 5.3.5 Hypothesis 3e results

The final hypothesis looks at the effect of cultural differences on deals in 2010-2015. I could not find statistically significant results relating to the period 2010-2015 and the CD-score for the full sample. However, the positive results for public and mega deals in table 7 are statistically significant for the interaction variable *CD\*2010-2015*. This means that for public and mega deals, the cultural differences in 2010-2015 led to an statistically significant increase of the ACAR of 0.87 and 1.72 percentage points at a 5% and 1% level, respectively, *ceteris paribus*. As for the results in table 8 in the Appendix, I did not find the same statistically significant results, meaning that cultural differences did not have a significant effect in 2010-2015. Additionally, I did find one negative statistically significant result for the CD-score, when looking at deals with a CD-score smaller than 1. I regressed the same regression on those deals, but only when they took place in 2010-2015. This can be found in table 10 in the Appendix. Here I also find that the CD-score does not have a statistically significant negative effect for the same sample in 2010-2015. This leads to the final hypothesis to not be rejected, which states that the cultural differences do not have a negative effect on the M&A valuation in 2010-2015.

## 6 Discussion and conclusion

In this section I will firstly look at the main differences between my results and that of previous papers. Secondly, I will discuss the main conclusion of my thesis, where I will also answer my main research question. Finally, I will discuss the limitations of my thesis and with that make suggestions for further research.

### 6.1 Discussion

First off, Alexandridis et al. (2017) found that U.S. M&As, including cross-border M&As, led to significantly higher ACARs in 2010-2015 than before. Although I found that on average the ACARs obtained by cross-border deals was 0.40% in 2010-2015, this is significantly lower than the 1.05% that the authors found. However, it is important to note that they looked at all the U.S. M&A deals between 1990 and 2015, hence this could be a reason for the big difference. Furthermore, as for gains I could not find any statistically significant result, which contradicts the results of Alexandridis et al. (2017). The authors found that deals in 1990-2009 obtained a statistically significant negative gain of -\$178.14 million, at a 1% level. Similar to my result, they did find a positive mean gain of \$30.22 million for 2010-2015, but their result is also not statistically significant. Nevertheless, their difference between the average gains of \$325.09 million is statistically significant at a 1% level, where my results were not statistically significant at all.

The biggest difference between my results and that of Alexandridis et al. (2017), is that I could not find any statistically significant effect of the time period 2010-2015 on the ACAR for the full sample. Whereas, the authors found that if a U.S. M&A deal was done in 2010-2015, it would lead to the ACAR being significantly increased by 0.45 percentage points at a 1% level, *ceteris paribus*. They found similar statistically significant results for their other subsampler, which were public deals, private deals, mega deals and public mega deals. What is similar, however, are my results for the mega deals. I also found that mega deals do indeed obtain a statistically significant increase of the ACAR when they are done in 2010-2015, which is in line with the results of the authors.

Another part of my thesis is that I also looked at the effect of cultural difference that only cross-border M&As experience. I could not find any statistically significant result that cultural differences have effect on U.S. cross-border M&A deals between the full time period 1990-2015. This is contradicting to the results of Li et al. (2016). They found that cultural distance led to a statistically significant decrease of the ACAR with 3.8 percentage points at a 1% level, *ceteris paribus*. In addition, they found that this effect decreases for bigger firms,

experienced firms, and acquisition in the same industry. This was not the case when a financial advisor was included. However, I did not find the same statistically significant results. My results suggest that experienced firms actually had a statistically significant negative effect on the ACAR once they were exposed to cultural differences. Experienced firms obtained statistically significant higher ACARs than non-experienced firms, but this decreases significantly when the firms are exposed to cultural differences. A possible reason as to why I could not find statistically significant results of the CD-score like Li et al. (2016), could be because of the differences between U.S. and Chinese acquirers. It can be that U.S. acquirers are better developed and hence not affected by cultural differences in comparison to Chinese acquirers.

Further, I did find that deals in the same industry had a statistically significant negative effect on the ACAR of 2.64 percentage points, *ceteris paribus*, which is similar to the results of Doukas & Travlos (1988). The authors found that firms that were not from the same industry led to an increase of the ACAR (-1, 0) days around the announcement, at a 11% level. This is in comparison to deals with firms from the same industry. When looking at my results for public deals, I did find that these deals are not statistically negatively affected by the cultural differences. This is also in line with the results of Li et al. (2016), where they found that deals from the same industry obtained a statistically significant decrease of the ACAR of -8.80 percentage points at the 10% level, *ceteris paribus*. This negative effect becomes positive once the deals are exposed to cultural difference. Their results suggest that it then leads to a statistically significant increase of the ACAR by 2.70 percentage points at a 10% level, *ceteris paribus*. Whereas I found that it statistically increases the ACAR by 1.74 percentage points at a 1% significance level, *ceteris paribus*.

Lastly, Doukas & Travlos (1988) found that multinationals that did a M&A deal with a target from a less developed country, obtained the highest statistically significant positive results. In contrast to their results, I could not find any statistically significant results for the variable *Adv. Economy*, meaning that the target nation's economy status did not have an influence on the ACAR. However, this difference could be because of the different time periods. Doukas & Travlos (1988) looked at deals between 1976 and 1983, where there were big differences between economies, whereas I look at a much more recent time period where these gaps between economies are smaller.

## 6.2 Conclusion

In this thesis I looked at U.S. cross-border M&As and the different effects on the ACAR. The main interest is if these deals have increased in 2010-2015, since Alexandridis et al. (2017) found positive significant valuations for M&As post-2009 for the first time. In addition, I looked if different target nation-, deal- and firm characteristics could have an influence on these higher valuations. There have been plenty papers that looked at cross-border deals, however, there are not a lot of papers that looked at a more recent time period 2010-2015 like Alexandridis et al. (2017). This is important, especially since Alexandridis et al. (2017) found new evidence for these M&A deals in 2010-2015. Moreover, to my knowledge there has not been a paper published yet that incorporates the cultural differences on these more recent U.S. cross-border deals. Therefore, I contribute to the literature by showing the effects of the time period 2010-2015 on cross-border deals, while also looking deeper into the potential negative effects of cultural differences on these deals. My main question was therefore the following;

**Main question:** Have cross-border mergers & acquisitions significantly increased in value post-2009 for U.S. acquirers?

My results suggest that U.S. cross-border M&As did indeed obtain a statistically significant positive average ACAR of 0.40%, at a 10% level, in 2010-2015. The reason as to why these cross-border deals obtained a higher positive average ACAR is not a result of the time period 2010-2015. I did not find evidence that if a deal was done in 2010-2015, it would therefore lead to a higher ACAR. This means that there are other factors that had an influence on the obtained average ACAR in 2010-2015. Nevertheless, besides from experience that leads to a higher ACAR, I could not find any other factor that could explain an increase in the ACAR.

This is a different story for mega deals, where I found statistically significant positive results for the time period 2010-2015. I found that mega deals did better after 2009 since there is a statistically significant difference in the average ACAR of 3.45%, at a 1% level. My results suggest that if a mega deal was done in 2010-2015, it would indeed lead to a statistically significant increase of the ACAR with 3.67 percentage points at a 5% level, *ceteris paribus*. In addition, these positive ACARs also hold in the long run over a (-30, +30) days event window for deals in 2010-2015.

Firstly, The reason why mega deals do better than other deals is not because of the high deal value. I could not find a statistically significant result that suggest that being a mega deal, would increase the ACAR. Secondly, I found that deal value had a statistically significant

negative effect on the ACAR, at a 1% level. However, this effect was very small and hence not very important. Other than that, I only found that deals with a deal value in the smallest 25<sup>th</sup> percentile seem to perform worse than those in the top 75<sup>th</sup> percentile. Nevertheless, this statistically significant effect seem to go away when extra deal value interaction variables are added.

Furthermore, I found no evidence that cultural differences had a negative effect on U.S. cross-border M&As. In contrast, I found that if public firms shared the same language, in this case English, it would actually lead to a statistically significant decrease of the ACAR with 2.91 percentage points at a 5% level, *ceteris paribus*. In addition, deals where the firms operate in the same industry seem to be doing better when they are exposed to cultural differences.

To conclude, the answer to my main question if U.S. cross-border M&As significantly increased in value post-2009 is no. Although they did obtain a statistically significant positive average ACAR in 2010-2015, there is not enough evidence that suggest that they increased after 2009. However, when concerning mega deals, the answer to the main question is yes, mega deals did indeed increase significantly in value post-2009.

### 6.2.1 Limitations and further research

The most interesting result that I found is that mega deals do apparently perform better in 2010-2015 than before. However, aside from finding out that deal value was not the main reason, I did not go further into finding out why these deals seem to perform better post-2009. This could be interesting for further research. In section 2.2 I also quickly mention the Dodd-Frank act, which is a federal law of the U.S., and was established in 2010. Companies from the U.S. had more restrictions from 2010-onwards and needed to make better investment decisions. Perhaps, looking at the investment differences of these mega deals between both periods 1990-2009 and 2010-2015 could give us more insight. Another interesting aspect is to look at the longevity of these positive results. It could be that these deals do even better after 2015 or maybe worse.

Further, following to the effect of cultural differences, I could not find any statistically significant result. This could be because my dataset consisted mainly of deals where the target nation had a relatively low CD-score. In addition, I used a slightly different CD-measure than Li et al. (2016), since I added two extra dimension indexes. However, I doubt that this would be the reason to my non statistically significant results.

Finally, the main difference between my thesis and the paper of Li et al. (2016) is that I look at U.S. acquirer, whereas the authors look at Chinese acquirers. As mentioned before, it could be that Chinese acquirers are more prone to cultural differences than U.S. acquirers, and

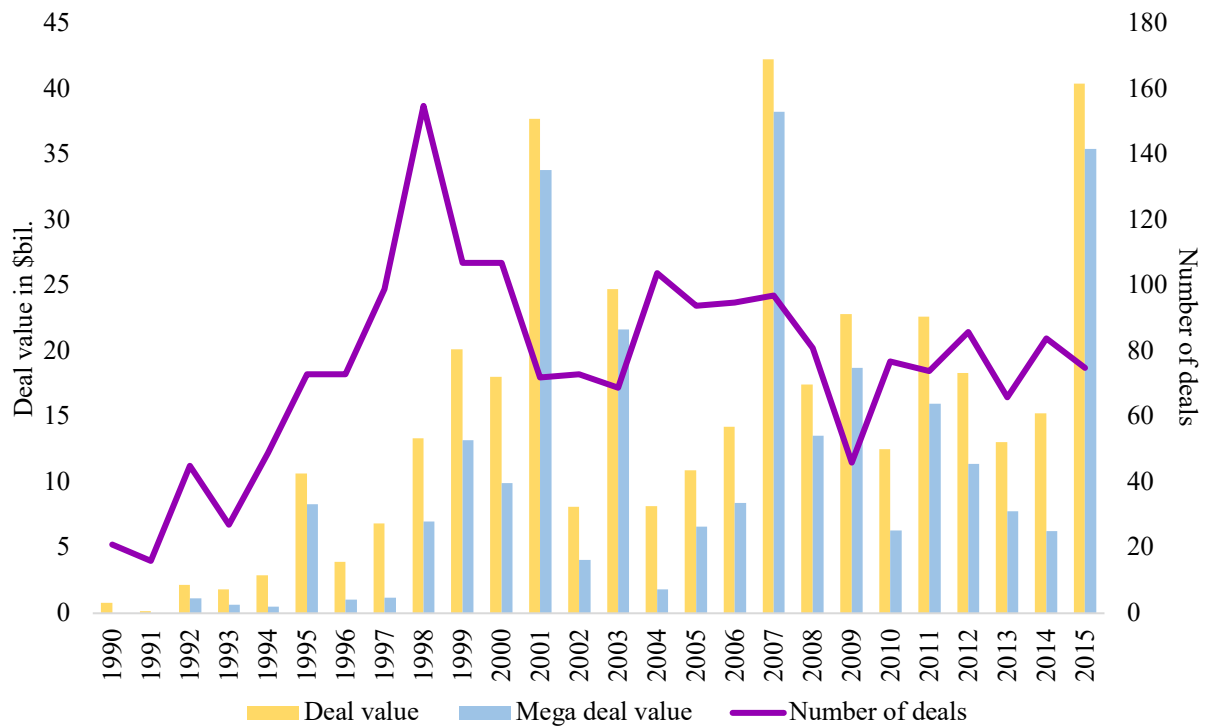
this can be a reason why I could not find any negative effect of the cultural differences. This could also be interesting to study further. I suggest looking at samples where the acquirers are from different countries and see if there is a statistically significant difference of the effect of cultural differences on the ACAR.

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## Appendix



**Graph 1: Sample distribution by deal value**

This graph shows the total deal value and total mega deal value in \$billion per year. The line represents the number of deals done in the respective year. The data is retrieved from Thomson Financial SDC US M&A database.

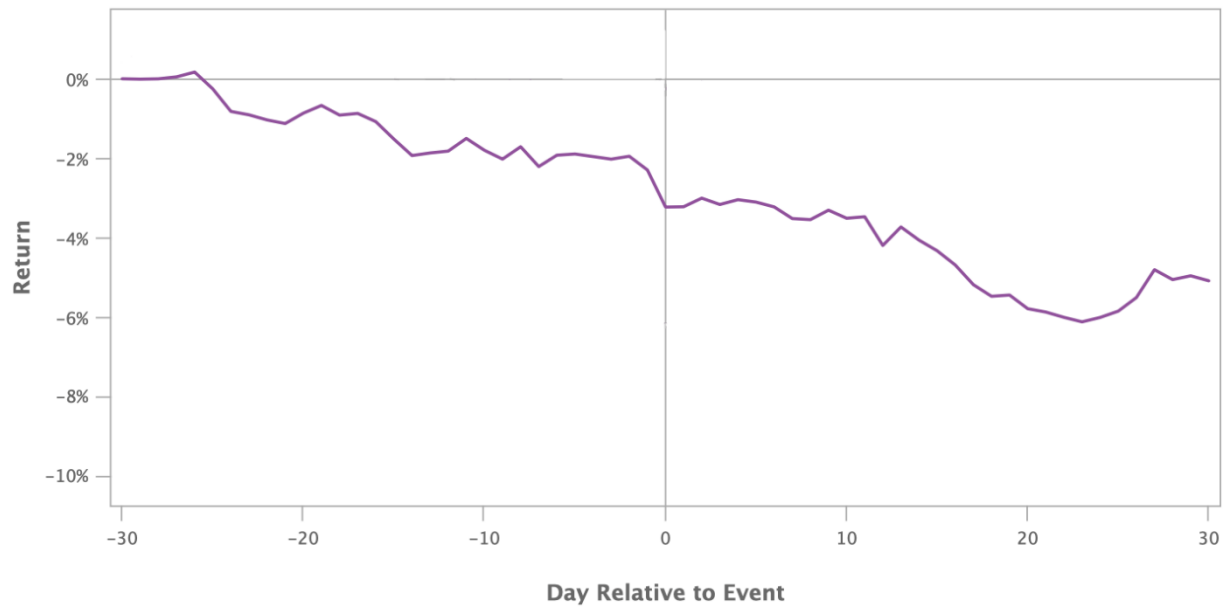
**Table 2: Sample distribution by target nation characteristics**

This table shows the target nation characteristics for all the U.S. cross-border deals used in this thesis, which are cultural distance score (CD), economy type, ranking in the TOP20 economies, English as an official language, absolute number of deals (N) and proportional number of deals in percentages (N (%)). The meaning of the abbreviations are as follows: DEV = Developed, ADV = Advanced, N = No, Y = Yes. The N at the bottom of the table shows the number of deals that were done with Economy = ADV, TOP20 = Y, English = Y and the total deals (N & N (%)).

Target nation	CD	Economy	TOP20	English	N	N (%)
1 Antigua	-	DEV	N	Y	1	0.05%
2 Argentina	1.713	DEV	N	N	20	1.02%
3 Australia	0.022	ADV	Y	Y	106	5.39%
4 Austria	1.519	ADV	N	N	9	0.46%
5 Bahamas	-	DEV	N	Y	1	0.05%
6 Belgium	2.154	ADV	N	N	22	1.12%
7 Bermuda	-	ADV	N	Y	5	0.25%
8 Brazil	1.917	DEV	Y	N	31	1.58%
9 British Virgin	-	DEV	N	Y	5	0.25%
10 Bulgaria	3.939	DEV	N	N	3	0.15%
11 Cameroon	-	DEV	N	Y	1	0.05%
12 Canada	0.129	ADV	Y	Y	404	20.56%
13 Cayman Islands	-	DEV	N	Y	1	0.05%
14 Chile	3.137	DEV	N	N	8	0.41%
15 China	4.291	DEV	Y	N	38	1.93%
16 Colombia	3.098	DEV	N	N	11	0.56%
17 Costa Rica	5.455	DEV	N	N	3	0.15%
18 Czech Republic	1.855	ADV	N	N	7	0.36%

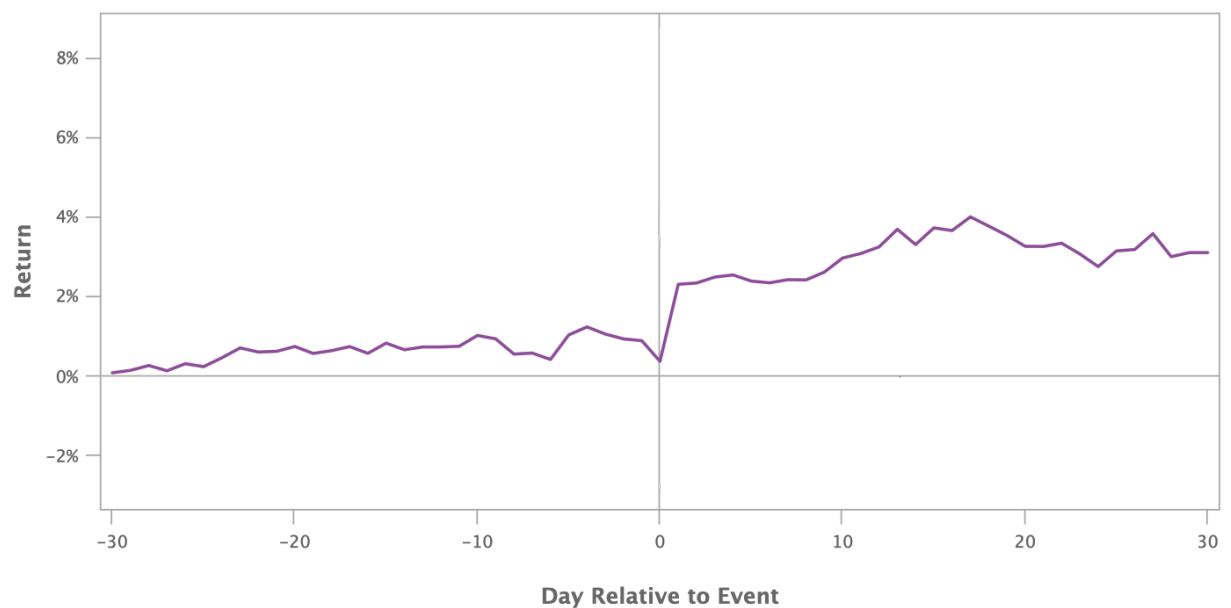


19	Denmark	1.642	ADV	N	N	20	1.02%
20	Ecuador	4.950	DEV	N	N	1	0.05%
21	Egypt	3.953	DEV	N	N	3	0.15%
22	Finland	1.141	ADV	N	N	9	0.46%
23	France	1.755	ADV	Y	N	125	6.36%
24	Germany	1.542	ADV	Y	N	156	7.94%
25	Guatemala	7.817	DEV	N	N	3	0.15%
26	Guernsey	-	ADV	N	Y	1	0.05%
27	Hong Kong	3.225	ADV	N	N	20	1.02%
28	Hungary	1.617	DEV	N	N	4	0.20%
29	India	2.002	DEV	Y	N	22	1.12%
30	Indonesia	3.574	DEV	Y	N	1	0.05%
31	Ireland	0.289	ADV	N	Y	29	1.48%
32	Israel	1.689	ADV	N	N	62	3.16%
33	Italy	1.272	ADV	Y	N	34	1.73%
34	Japan	3.496	ADV	Y	N	14	0.71%
35	Jersey	-	ADV	N	Y	1	0.05%
36	Jordan	2.254	DEV	N	N	2	0.10%
37	Kazakhstan	5.178	DEV	N	N	1	0.05%
38	Lithuania	3.226	ADV	N	N	2	0.10%
39	Luxembourg	1.103	ADV	N	N	4	0.20%
40	Malaysia	3.220	DEV	N	N	1	0.05%
41	Malta	1.642	ADV	N	Y	1	0.05%
42	Mexico	2.820	DEV	Y	N	24	1.22%
43	Netherlands	1.770	ADV	Y	N	56	2.85%
44	Netherlands Antilles	-	DEV	N	Y	3	0.15%
45	New Zealand	0.224	ADV	N	Y	13	0.66%
46	Nicaragua	-	DEV	N	N	1	0.05%
47	Norway	1.844	ADV	N	N	19	0.97%
48	Peru	3.302	DEV	N	N	4	0.20%
49	Philippines	2.673	DEV	N	N	1	0.05%
50	Poland	2.000	DEV	N	N	8	0.41%
51	Portugal	3.659	ADV	N	N	5	0.25%
52	Puerto Rico	2.225	ADV	N	N	8	0.41%
53	Romania	4.220	DEV	N	N	4	0.20%
54	Russia	4.953	DEV	Y	N	7	0.36%
55	Saudi Arabia	3.358	DEV	Y	N	1	0.05%
56	Singapore	3.726	ADV	N	Y	15	0.76%
57	South Africa	0.314	DEV	N	Y	5	0.25%
58	South Korea	5.026	ADV	Y	N	18	0.92%
59	Spain	1.828	ADV	Y	N	24	1.22%
60	Sweden	2.253	ADV	N	N	48	2.44%
61	Switzerland	0.958	ADV	Y	N	39	1.98%
62	Taiwan	3.912	ADV	N	N	15	0.76%
63	Turkey	2.291	DEV	Y	N	2	0.10%
64	Ukraine	6.176	DEV	N	N	2	0.10%
65	United Kingdom	0.243	ADV	Y	Y	447	22.75%
66	Uruguay	2.665	DEV	N	N	1	0.05%
67	Venezuela	3.737	DEV	N	N	3	0.15%
<i>N</i>			32	19	16	1,965	100%



**Graph 2: Market-adjusted ACARs 1990-2009**

This graph shows the market-adjusted ACARs over a (-30, +30) days event window for deals done in 1990-2009. The data is acquired through the event tool Eventus, using the CRSP event database.



**Graph 3: Market-adjusted ACARs 2010-2015**

This graph shows the market-adjusted ACARs over a (-30, +30) days event window for deals done in 2010-2015. The data is acquired through the event tool Eventus, using the CRSP event database.

**Table 5: Regression results ACAR on deal- and firm characteristics**

This table shows the ACAR OLS regression results for the full sample with the firm characteristics and extra deal characteristics. The dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The t-statistics are shown in parentheses and are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	Full sample	Full sample
Intercept	0.0258*** (2.64)	0.0264** (2.54)
2010-2015	0.0005 (0.14)	-0.0039 (-0.55)
Public	0.0005 (0.10)	0.0008 (0.16)
Ln(Size)	-0.0025*** (-2.65)	-0.0025*** (-2.59)
Stock	-0.0125* (-1.73)	-0.0127* (-1.76)
M/B	0.0000 (0.62)	0.0000 (0.59)
Frequent	0.0035 (0.74)	0.0036 (0.76)
Occasional	-0.0001 (-0.02)	0.0003 (0.09)
Industry	-0.0038 (-1.19)	-0.0037 (-1.17)
Competition	-0.0116 (-0.96)	-0.0094 (-0.76)
Hostile	-0.0037 (-0.58)	-0.0018 (-0.28)
FCF	0.0264 (1.27)	0.0267 (1.28)
Leverage	0.0110 (0.95)	0.0119 (1.04)
Tobin Q	-0.0001 (-0.23)	-0.0001 (-0.18)
Deal value	-0.0000** (-2.21)	-0.0000*** (-2.70)
DV 25%	-0.0095** (-2.13)	-0.0091* (-1.87)
DV 50%	-0.0010 (-0.21)	-0.0009 (-0.20)
DV 75%	-0.0024 (-0.47)	-0.0034 (-0.53)
Mega deal	-0.0014 (-0.19)	-0.0133 (-1.56)
Mega deal*2010-2015		0.0367** (2.50)
DV 25%*2010-2015		-0.0038 (-0.45)
DV 75%*2010-2015		0.0031 (0.38)
<i>N</i>	1,965	1,965
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0144 (0.0053)	0.0176 (0.0069)

**Table 6: Regression results ACAR on deal- and firm characteristics with firm FE**

This table shows the ACAR OLS regression results for the full, mega deals and public mega deals sample with the deal and firm characteristics. The dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The results are included with firm fixed effects (FE). The t-statistics in parentheses are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	Full sample	Mega deals	Public mega deals
Intercept	0.0064 (2.14)	0.0150 (1.12)	0.0220 (1.15)
2010-2015	0.0002 (0.08)	0.0235* (1.77)	0.0245 (1.27)
Public	0.0006 (0.14)	0.0102 (0.83)	
Ln(Size)	-0.0003 (-0.12)	0.0041 (1.15)	-0.0014 (0.22)
Stock	-0.0115 (-1.62)	-0.0396*** (-2.80)	-0.0349** (-2.21)
M/B	0.0000* (1.77)	-0.0020 (-0.55)	-0.0018 (-0.44)
Frequent	0.0019 (0.42)	0.0350** (2.35)	0.0352* (1.71)
Occasional	-0.0018 (-0.52)	-0.0353*** (-2.76)	-0.0370** (-2.30)
Industry	-0.0038 (-1.20)	-0.0160 (-1.21)	-0.0111 (-0.61)
Competition	-0.0113 (-0.95)	-0.0135 (-0.74)	-0.0107 (-0.54)
Hostile	-0.0053 (-0.85)	-0.0130 (-1.06)	-0.0147 (-1.12)
FCF	-0.0029 (-0.10)	-0.4083* (-1.70)	-0.3067 (-1.02)
Leverage	0.0538 (1.38)	0.0655 (0.26)	0.1127 (0.37)
Tobin Q	-0.0019* (-1.82)	0.0024 (0.49)	-0.0006 (-0.08)
<i>Firm FE</i>	Yes	Yes	Yes
<i>N</i>	1,965	125	90
<i>R<sup>2</sup> (Adj. R<sup>2</sup>)</i>	0.0085 (0.0019)	0.2492 (0.1612)	0.2067 (0.0831)

**Table 8: Regression results ACAR on target nation- firm-, and deal characteristics**

This table shows the ACAR OLS regression results for the full sample, public deals and mega deals, with the target nation-, firm- and deal characteristics. The dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The t-statistics are shown in parentheses and are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	Full sample	Public deals	Mega deals
Intercept	0.0163 (1.26)	0.0705* (1.91)	0.0031 (0.05)
CD	-0.0013 (-0.25)	-0.0181 (-1.00)	0.0326 (0.99)
CD*Frequent	-0.0088*** (-2.57)	-0.0118 (-1.29)	0.0033 (0.27)
CD*Occasional	0.0014 (0.56)	-0.0044 (-0.86)	-0.0127 (-1.33)
CD*Industry	-0.0002 (-0.07)	0.0161*** (2.97)	0.0055 (0.45)
CD*Ln(Size)	0.0005 (0.95)	0.0010 (0.55)	-0.0029 (-1.14)
CD*2010-2015	-0.0013 (-0.56)	0.0085 (1.42)	0.0077 (0.73)
Adv. Economy	-0.0001 (-0.02)	-0.0012 (-0.12)	0.0138 (1.08)
TOP20	0.0005 (0.13)	0.0098 (1.12)	-0.0090 (-0.75)
English	0.0032 (0.66)	-0.0256** (-1.99)	-0.0143 (-0.65)
Frequent	0.0173** (2.34)	0.0416* (1.70)	0.0268 (0.97)
Occasional	-0.0012 (-0.26)	-0.0024 (-0.25)	-0.0190 (-1.21)
Industry	-0.0033 (-0.73)	-0.0260** (-2.25)	-0.0214 (-0.96)
Ln(Size)	-0.0027** (-2.33)	-0.0053 (-1.41)	0.0024 (0.63)
2010-2015	0.0034 (0.73)	0.0024 (0.21)	0.0163 (0.82)
Public	0.0035 (0.77)		0.0149 (1.31)
Stock	-0.0128* (-1.73)	-0.0156 (-1.16)	-0.0500*** (-3.23)
M/B	0.0000 (0.67)	0.0010* (1.84)	0.0005 (0.57)
Competition	-0.0126 (-1.03)	-0.0104 (-0.80)	-0.0248 (-1.17)
Hostile	-0.0022 (-0.35)	0.0063 (0.82)	-0.0018 (-0.14)
FCF	0.0261 (1.23)	0.0320 (0.67)	-0.2073 (-1.52)
Leverage	0.0057 (0.50)	-0.0003 (-0.01)	0.0245 (0.48)
Tobin Q	-0.0001 (-0.25)	-0.0024 (-1.16)	-0.0007 (-0.31)
<i>N</i>	1,945	349	122
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0134 (0.0021)	0.0678 (0.0358)	0.3310 (0.1824)

**Table 9: Regression results ACAR on target nation-, firm- and deal characteristics**

This table shows the ACAR OLS regression results on the target nation-, firm- and deal characteristics for all deals with a Cultural Distance score of  $CD > 2$ ,  $CD < 2$  and  $CD < 1$ . The dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The fourth column are the results of the regression without the target nation characteristics, but CD-variables included. The t-statistics in parentheses are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	CD > 2	CD < 2	CD < 1
Intercept	-0.0250 (-0.44)	-0.0232 (-0.90)	0.0159 (0.27)
CD	0.0123 (0.79)	0.0174 (1.24)	-0.0358 (-0.71)
CD*Frequent	0.0009 (0.11)	-0.0154** (-2.23)	-0.0103 (-0.27)
CD*Occasional	-0.0019 (-0.29)	-0.0012 (-0.22)	0.0009 (0.03)
CD*Industry	-0.0051 (-0.80)	0.0038 (0.81)	0.0449 (1.54)
CD*Ln(Size)	0.0006 (-0.37)	0.0006 (0.47)	-0.0028 (-0.66)
CD*2010-2015	-0.0109 (-1.50)	0.0041 (0.87)	0.0427 (1.48)
Adv. Economy	-0.0049 (-0.69)	0.0035 (0.37)	-0.0200 (-0.48)
TOP20	-0.0141** (-2.20)	0.0064 (1.15)	0.0024 (0.25)
English	-0.0138 (-0.76)	0.0331** (1.96)	0.0288 (0.96)
Frequent	-0.0204 (-0.64)	0.0239*** (2.56)	0.0217* (1.71)
Occasional	0.0139 (0.59)	0.0000 (0.01)	-0.0007 (-0.09)
Industry	0.0074 (0.31)	-0.0054 (-1.05)	-0.0137* (-1.82)
Ln(Size)	0.0024 (0.41)	-0.0028** (-2.04)	-0.0019 (-1.12)
2010-2015	0.0312 (1.14)	-0.0008 (-0.15)	-0.0078 (-1.00)
Public	-0.0019 (-0.25)	0.0046 (0.86)	-0.0024 (-0.35)
Stock	0.0491** (2.02)	-0.0189** (-2.40)	-0.0236** (-2.56)
M/B	0.0001* (1.66)	-0.0000 (-1.27)	-0.0000 (-1.23)
Competition	-0.0082 (-0.42)	-0.0138 (-1.08)	-0.0069 (-0.49)
Hostile	0.0139 (1.09)	-0.0048 (-0.71)	0.0000 (0.01)
FCF	0.0402 (0.86)	0.0278 (1.17)	0.0205 (0.72)
Leverage	0.0158 (0.49)	0.0004 (0.03)	0.0001 (0.01)
Tobin Q	-0.0020 (-1.52)	-0.000 (-0.06)	0.0008 (1.06)
<i>N</i>	313	1,632	1,043
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0844 (0.0149)	0.0222 (0.0088)	0.0356 (0.0148)

**Table 10: Regression results ACAR on CD, deal- and firm characteristics (2010-2015)**

This table shows the ACAR OLS regression results on CD, firm- and deal characteristics for deals with (CD<1). The sample is split in two time periods; 1990-2015 and 2010-2015. The dependent variable is the ACAR over a (-1, +1) days event window around the announcement date. The t-statistics in parentheses are adjusted for heteroskedasticity. Symbols \*\*\*, \*\*, and \* denote significance at the 1%, 5%, and 10% level, respectively. The variables are defined in table 11 in the Appendix.

	1990-2015	2010-2015
Intercept	0.0319** (2.38)	0.0201 (0.71)
CD	-0.0658* (-1.72)	-0.0175 (-0.28)
CD*Frequent	-0.0096 (-0.25)	-0.0063 (-0.18)
CD*Occasional	0.0037 (0.12)	0.0220 (0.81)
CD*Industry	0.0450 (1.55)	0.0241 (0.77)
CD*Ln(Size)	-0.0027 (-0.63)	-0.0026 (-0.38)
CD*2010-2015	0.0391 (1.40)	
Frequent	0.0217* (1.71)	0.0058 (0.35)
Occasional	-0.0012 (-0.16)	-0.0065 (-0.60)
Industry	-0.0140* (-1.86)	-0.0147 (-1.19)
Ln(Size)	-0.0018 (-1.07)	-0.0010 (-0.31)
2010-2015	-0.0075 (-0.97)	
Public	-0.0029 (-0.44)	0.0044 (0.37)
Stock	-0.0234** (-2.55)	-0.0880*** (-3.02)
M/B	-0.000 (-1.34)	0.0005 (0.40)
Competition	-0.0074 (-0.51)	-0.0703* (-1.65)
Hostile	0.0000 (0.01)	0.0130 (0.99)
FCF	0.0200 (0.70)	0.0584 (1.28)
Leverage	-0.0002 (-0.02)	0.0549 (1.55)
Tobin Q	0.0007 (1.03)	-0.0023 (-0.68)
<i>N</i>	1,043	240
<i>R</i> <sup>2</sup> ( <i>Adj. R</i> <sup>2</sup> )	0.0342 (0.0162)	0.0930 (0.0236)

**Table 11: Variable definitions**

This table shows the definitions of all the variables that were used in this thesis for the OLS regression results. The data used for the construction of the variables are Thomson Financial SDC US M&A database, Compustat, CRSP, International Monetary Fund database and the World Bank database.

<b>Variable</b>	<b>Definition</b>
<i>Panel A: Return variables</i>	
ACAR	Acquirer's cumulative abnormal return over the event window (-1, +1) days around the announcement date of the acquisition.
<i>Panel B: Deal characteristics</i>	
2010-2015	Indicator variable: 1 if the deal was done in the time period 2010-2015.
Public	Indicator variable: 1 if the deal was done with a public target firm.
Stock	Indicator variable: 1 if the deal was 100% paid with stocks.
Industry	Indicator variable: 1 if the deal was done with both the acquiring firm and the target firm operating in the same industry, where they have a common two-digit Standard Industrial Classification (SIC) code.
Competition	Indicator variable: 1 if there was at least 1 competing bet for the target firm during the acquisition period.
Hostile	Indicator variable: 1 if the deal was classified as a hostile deal.
Deal value	The deal value of the acquisition in \$million.
DV 25 <sup>th</sup>	Indicator variable: 1 if the deal value was in the lowest 25 <sup>th</sup> percentile, where the deal value is smaller than or equal to \$8.821 million.
DV 50%	Indicator variable: 1 if the deal value was in the lowest 50 <sup>th</sup> percentile, where the deal value is smaller than or equal to \$28.496 million.
DV 75 <sup>th</sup>	Indicator variable: 1 if the deal value was in the lowest 75 <sup>th</sup> percentile, where the deal value is smaller than or equal to \$96.108 million.
Mega deal	Indicator variable: 1 if the deal is classified as a mega deal, where the deal value is at least \$500 million.
Mega deal*2010-2015	Interaction variable: 1 if the deal was a mega deal that was done in 2010-2015.
DV 25%*2010-2015	Interaction variable: 1 if the deal value of the deal was in the lowest 25 <sup>th</sup> percentile and was done in 2010-2015.
DV 75%*2010-2015	Interaction variable: 1 if the deal value of the deal was in the lowest 75 <sup>th</sup> percentile and was done in 2010-2015.
<i>Panel C: Firm characteristics</i>	
Ln(Size)	The natural logarithm of the firm's market size 30 days before the acquisition.
M/B	The market-to-book-ratio of the firm 30 days before the acquisition.
Frequent	Indicator variable: 1 if the firm is classified as a frequent acquirer, where the firm did at least 4 cross-border deals in 3 years.
Occasional	Indicator variable: 1 if the firm is classified as an occasional acquirer, where the firm did at least 2 cross-border deals in 3 years.



FCF	The free cash flow of the acquisition firm in \$million.
Leverage	The firm's debt in current liabilities and long-term debt in \$million, scaled by the market value of the total assets.
Tobin Q	The Tobin's Q of the firm, where Tobin's Q is the firm's equity market value divided by the firm's equity book value.

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*Panel D: Target nation characteristics*

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CD	CD is the cultural distance score of the nation of the target firm. The construction of this measure can be found in section 4.3.
CD*Frequent	Interaction variable: gives the CD-score if the firm is a frequent acquirer, and 0 otherwise.
CD*Occasional	Interaction variable: gives the CD-score if the firm is an occasional acquirer, and 0 otherwise.
CD*Industry	Interaction variable: gives the CD-score if the target operates in the same industry as the acquirer, and 0 otherwise.
CD*Ln(Size)	Interaction variable: gives the value of the CD-score multiplied by the natural logarithm of the acquisition firm's market size.
CD*2010-2015	Interaction variable: gives the CD-score if the deal was done in 2010-2015, and 0 otherwise.
Adv. Economy	Indication variable: 1 if the target nation's economy is classified as an advanced economy, and 0 if it is classified as a developed economy.
TOP20	Indication variable: 1 if the target nation's economy belongs to the top 20 biggest economies of the world by 2015.
English	Indication variable: 1 if the target's nation has English as one of their official languages.

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