

Lost in translation?
The effects of Intra-European cultural disparity
on cross-border bidder gains

Master Thesis
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This paper provides empirical evidence on the effect of cultural distance on the difference in performance between Intra-European cross-border acquisitions relative to domestic transactions from the perspective of buyers. Using short-term stock measures for 1,631 European acquiring firm observations for the period 1999-2015 and controlling for firm-, deal-, and country-specific variables, I find cross-border bidders to realize approximately 0.8% lower bidder returns. Using Hofstede's dimensions for national cultures I present evidence that the extent of value creation for cross-border deals is significantly dependent of the relative cultural disparity of the acquired and acquiring firm's nation. Firms from indulgent cultures allowing relatively free gratification of humans desires are particularly incompatible with those from cultures suppressed by strict societal norms. Surprisingly, managers do not actively avoid value-destructing culturally distant acquisitions on average. However, larger acquirers are found to be more likely to engage in more culturally distant acquisitions while relatively large acquisitions are more likely to be more culturally proximate.

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I. Introduction

In recent decades, high-paced globalization, continued integration of economies and the emergence of new markets, has allowed firms to explore new opportunities across borders. As a result, the absolute value as well as the relative share of cross-border acquisitions has increased a dramatic 4,197% from \$32bn in 1985 to \$1,328bn in 2016 while annual domestic deal value grew (only) 499% from \$425bn to \$2,118bn¹. Moreover, cross-border acquisition value outflow accounted for 55% of developed economies' total foreign direct investments (FDI) in 2015 vs. 37% in 1990². As such, cross-border M&A has developed into a multitrillion high-impact industry with far-reaching consequences for stakeholder involved. Strikingly, a vast amount of literature reports contrasting underperformance of cross-border acquisitions in terms of bidder gains relative to their domestic counterparts (Datta & Puia, 1995; Eckbo & Thorburn, 2000; Aw & Chatterjee, 2004; Moeller & Schlingemann, 2005). This relative underperformance is commonly referred to as the 'Cross-border effect' and understanding its contributory factors is of pertinent value to decision makers in pursuit of value creation. Although, literature proposes a number of possible non-mutually exclusive explanations as to why such a cross-border effect might exist, so far it remains a puzzle to be finished.

At the same time, differences in cultural values on a corporate and national level are frequently associated with higher economic friction i.e. post-merger integration costs (Gertsen, Söderberg, & Torp, 1998; Olie, 1990; Weber, Shenkar, & Raveh, 1996; Shimizu, Hitt, Vaidyanath, & Pisano, 2004), double-layered acculturation (Barkema, Bell, & Pennings, 1996), the accessibility of foreign markets (Johanson & Vahlne, 1990), levels of foreign direct investment (Guiso, Sapienza, & Zingales, 2009) and choice of entry mode (Kogut & Singh, 1988). In light thereof, when M&A success depends on the cooperation between groups of people with potentially conflicting ideas which are deeply-embedded in their national identities, I conjecture differences in culture on a national level to reduce the likelihood of successful mergers and thereby contribute to a cross-border effect. For instance, when employees do not share cultural values, frictions e.g. the acceptance of authority and the appreciation of individual aspirations are likely to result in mistrust and mismatched goals consequently reducing the likelihood of realizing net synergies. Understanding these dynamics is particularly relevant in a similarly-developed, economically integrated yet culturally diversified Eurozone. While there is ample anecdotal evidence of cultural mismatches in M&A (e.g. Daimler-Chrysler), literature on the effects on cultural distance on M&A performance specifically is not unambiguous (Stahl & Voigt,

¹ Institute for Mergers, Acquisitions & Alliances

² United nations conference on trade and development (UNCTAD) – (\$1,065bn / \$596bn) (\$231bn/ \$85bn)

2008); Most research concludes on negative cultural distance effects under the key assumption it represents risk (Olie, 1990; Datta & Puia, 1995; Ahern, Daminelle & Fracassi, 2012). In contrast, some papers report positive effects, arguing cultural diversity increases the likelihood of realizing synergies when it promotes the adoption of new approaches (Morosini, Shane & Singh, 1998; Chakrabart, Gupta-Merkherjee, & Jayaraman, 2009). Given the variety of prior operationalization of culture, I allow for the possibility that different components of cultural distance act upon M&A performance independently, rather than collectively, which could help explain murky literature on the concept.

The objective of this paper is thereby four-fold. First, to assess if intra-European cross-border acquisitions create value for shareholders of the acquiring firm relative to domestic deals. Second, to examine if the extent of value creation is dependent of national cultural distance between the acquired and acquiring firms. Third, to investigate whether different components of cultural distance act upon M&A performance differently and lastly to see whether managers anticipate on potential culture-related frictions by examining differential propensities of culturally distant acquisitions.

To establish an intra-European cross-border effect, univariate and cross-sectional multivariate analysis is conducted on cumulative abnormal returns (CARs) comparing cross-border vs. domestic acquisitions for several short-term event windows around announcement dates, controlling for firm-, deal- and country-specific variables known to affect bidder gains. The full sample consists of 511 cross-border and 1,120 domestic acquisitions by publicly listed firms from Eurozone countries over the period 1999-2015. As a definition of culture, this paper follows Hofstede's six dimension of national culture (Hofstede, 1980, 2001), which belong to the most extensive studies on how values in the workplace are influenced by national culture. The index captures international differences in work-related values and has been found to significantly correlate with i.a. the choice of entry mode into foreign markets (Kogut & Singh, 1988), and similar to this paper, cross-border gains to U.S. bidders (Datta & Puia, 1995). To test the effect of cultural distance on cross-border CARs, cultural distance is operationalized in cross-sectional analysis as a composite construct of distances of Hofstede's six cultural dimensions as suggested by Kogut & Singh (1988), as well as individual dimension distances in attempt to identify their separate effects. Propensities of culturally distant acquisitions are tested using binomial probabilities of observed culturally distant acquisition vs. their expected probabilities under the assumption cultural distance is irrelevant in managerial target selection. Lastly, I define the decision to enter into culturally proximate or distant acquisitions as a qualitative choice problem and operationalize a set of multinomial probit models in an attempt to gain exploratory insights into what variables increase the likelihood of choosing one alternative over another.

For my sample of European acquisitions I find cross-border bidders to realize announcement returns of approximately 0.8 percentage points less than domestic acquirers. The European cross-border effect is statistically and economically significant and particularly strong for the first half of the sample period (1.3%). Focussing on the cross-border acquisition subset, culturally distant acquisitions realize significantly lower announcement returns than culturally proximate acquisitions. The individual cultural dimension 'Indulgence vs. restraint' – which stands for a measure of the degree to which a society allows relatively free gratification of human desires vs. its suppression by strict social norms – is herein particularly determinative. As such a cultural distance is found to significantly and economically affect stock prices and to partly explain a cross-border effect. Surprisingly, I do not find a managerial tendency of cultural distance avoidance in acquisition target selection. Predictors that affect the qualitative choice of culturally distant vs. proximate acquisitions are bidder size (positively) and relative deal value (negatively); larger firms are more likely to acquire culturally distant while they generally avoid cultural distance when targeting similar-sized targets.

This paper stands on the confluence of at least two distinct bodies of literature – that on M&A, particularly cross-border, and that on culture, more specifically, cross-national differences. To the extent of my knowledge my research adds to this body of literature in five ways. First, there exists little earlier work to test a cross-border effect on a European basis, prior literature predominantly focusses on acquirers from the U.S. or U.K. (Eckbo & Thorburn, 2000; Aw & Chatterjee, 2004; Moeller & Schlingemann, 2005). Second, with the exception of Ahern, Daminelle, & Fracassi (2012), no other paper tests for the effects of cultural distance on bidder gains on a similar reciprocal basis, the closest paper (Datta & Puia, 1995) includes only U.S. bidders which allows for a bias towards relative distances. Third, there exists no earlier work to operationalize the Hofstede indices on a European nor reciprocal basis, let alone using such a comprehensive, recent sample, extensively controlling for variables previously associated with bidder gains. Moreover, most earlier work on the effect of cultural distance on M&A has a similar U.S. or global focus (Ahern, Daminelle, & Fracassi 2012; Datta & Puia, 1995; Morosini, Shane, & Singh, 1998; Chakrabart, Gupta-Merkherjee, & Jayaraman, 1998) which in both cases is strongly biased towards the U.S. and allows for considerable heterogeneity in country characteristics different from national culture. Fourth, this paper is first to directly link cultural distance as contributory factor to a cross-border effect and to explore the propensities of culturally distant vs. proximate acquisitions. Lastly, this paper helps clarify earlier ambiguous results on the effects of cultural distance by testing for multiple cultural components independently.

Given its spectacular increase, understanding cross-border acquisitions and disentangling their critical success factors is more relevant than ever. My results confirm the existence of a cross-border effect and present new evidence on the contributory effect of cultural distance on bidder gains. This paper provides new insights on cultural frictions that should be considered prior to any takeover decision and can as such be developed into valuable normative guidelines for decision-makers in pursuit of successful global expansion.

The remainder of the paper is structured as follows: Section II discusses the theoretical framework on cross-border M&A, its conjectured underperformance, potential explanation as provided by literature and the mechanism through which culture is conjectured to contribute to a cross-border effect. Section III describes the sample design, the operationalization of variables, descriptive statistics and test methodologies. Section IV presents the results and interpretation of my analysis and section V concludes the findings. Lastly, section VI discusses the limitations of my research and provides recommendations for future research.

II. Theoretical framework

This section provides a theoretical framework that leads to the formulation of this paper's main hypotheses. Section 2.1 will discuss cross-border M&A activity over the past decades, evaluate literature on its performance and elaborate on potential explanations as to why a cross-border effect might exist. Section 2.2 continues to evaluate literature on the effects of cultural differences in international business, conjecture on mechanisms through which it may effect M&A performance and elaborate on Hofstede's quantifications of cultural dimensions.

2.1 Cross-border M&A

2.1.1 Booming market

The number of mergers and acquisitions has grown spectacularly throughout recent decades and has been characterized by periodical waves as a result of financial and regulatory shocks. The last wave commenced during the 1990s and was strongly driven by globalization and a considerable increase in cross-border acquisitions which offered new opportunities for efficiency gains, the restructuring of industries and access to new markets (Rhodes-Kropf & Visnawathan, 2004). As product and capital markets have become increasingly integrated and deregulated, decision makers are presented with an expanded set of investment opportunities and cross-border acquisitions have more and more commonly become the means of international expansion. For those companies seeking a global reach, cross-border acquisitions provide instant access to local knowledge, existing sales channels and proprietary technologies, as alternative to e.g. risky greenfield subsidiaries. As such the number of global cross-border

annuals deals has increased by 2,849% from 472 in 1985 to 13,446 in 2016 versus an increase of 1,736% from 2,203 to 32,988 in domestic deals. The relative growth in cross-border M&A becomes even more pronounced when measured in deal value; global annual value in cross-border M&As in the same period rose with a staggering 4,197% from \$32bn to \$1,328bn while the annual value of domestic deals grew (only) 499% from \$425bn to \$2,118bn³. Measured in terms of value, cross-border M&As have grown to represent a much greater share of investment value and made up 39% of global deals in 2016 while it only accounted for 7% in 1985. Moreover, cross-border M&A value outflow accounted for 55% of total foreign direct investments (FDI) for developed economies in 2015 as defined by the U.N versus 37 in 1990⁴, illustrating its increasing absolute as well as relative economic significance.

Figure 1: Global M&A activity 1985-2016

This figure shows the indexed global M&A activity in number of deals as well as value in constant US dollars 1985=100%. Data extracted from the Institute for Mergers, Acquisitions & Alliances

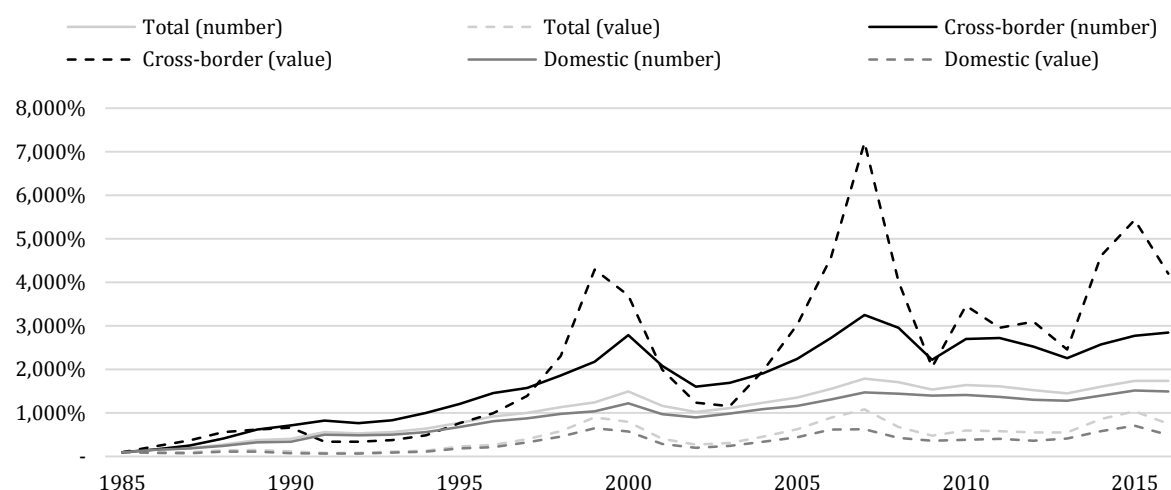


Figure 1 shows the indexed global M&A activity in terms of total dollar value and number of deals from 1985 to 2016. Note how cross-border activity seems to follow a different pattern and is correlated with periods of economic optimism with sharp increases in value as well as number of deals in the run-up to i.e. the internet bubble of 2000 and the credit crises of 2008. Coherently cross-border M&A activity shows to be much lower compared to its multiple-year average in times of economic turmoil and uncertainty. Above patterns add to the suspicion that cross-border M&A activity is susceptible to different variables, or to a greater extent than domestic M&A activity. This leads to the question what fundamentally distinguishes cross-border investments, how its profitability compares, and whether its substantial growth is justified in terms of value creation. When the answer is no, it is of crucial importance to identify its value destructing factors.

³ Institute for Mergers, Acquisitions & Alliances

⁴ United nations conference on trade and development (UNCTAD) – (\$1,065bn / \$596bn) (\$231bn/ \$85bn)

2.1.2 Does M&A pay?

There exists a vast amount of literature dedicated to answering the question whether M&A creates value at all. In justifying any acquisition, domestic or cross-border, it has to create at least some value, basically adhering to the value proposition that the combination of two firms will be more valuable than the sum of two separate parts. The popular view however is that M&A is a loser's game and generally leads to value destruction from the perspective of a buyer. Missing from such discussions however is a rigorous definition of what popular wisdom means by "failure" in M&A (Bruner, 2004). When we want to gain insights in value creation of cross-border acquisitions, we firstly need to review how to determine the wealth effects of any acquisition, in other words: when does M&A pay and when does it stray?

Our ability to say anything meaningful about M&A profitability highly depends on the confidence we have in the methods from which we extract our conclusions (Bruner, 2002). Existing research essentially relies on four different approaches in measuring M&A profitability: accounting studies, surveys of executives, clinical studies and event studies⁵ Given a wide variety of often vague management motives for acquisitions such as 'strategic benefits', 'the achievement of sales pivot points', or 'building unique capabilities' one would ideally draw upon range of criteria for success. However the only way to prove the added value of such benefits is through economic measurement (Bruner, 2004). Event studies are therefore most popular in M&A-research and usually examine the abnormal stock returns⁶ surrounding the announcement of deals, which signify wealth effects through the eyes of shareholders. Through the assertion of rational agents, and the efficient market hypothesis in its semi-strong form, we should expect security prices to integrate promptly and correctly all public information to reflect firm value as the sum of all future cash flows discounted at a required rate of return for a certain amount of risk. The difference in pre- and post-announcement equity valuation of the two firms involved should therefore reflect whether the acquisition is a positive-sum game. M&As in that case have three exhaustive and mutually exclusive outcomes; they create, preserve or destroy value, when investors respectively earn a higher, equal or lower than required adjusted return on investment dependent of the realization of synergies. Even though this might be a simplification of the real world, and preferred outcomes are not always reflected nor synchronous to stock prices, in economic terms, when acquisitions do anything but destroy shareholder value they can be considered a success.

Average takeover-induced value-weighted cumulative abnormal announcement returns for both target and acquirer combined are found to be a statistically significant 2% over 15,000 initial control bids for U.S. domestic deals over the period 1980-2005 (Betton, 2008). In a

⁵ An overview of alternative methods from literature and some of its evidence is included in table 33 of the appendix

⁶ The abnormal return is the raw return less a benchmark of what investors required that day – typically a benchmark is dictated by the CAPM-model (Bruner, 2002)

sample of 1,305 firms from 59 industries Mulherin & Audra (2000) find combined cumulative abnormal returns to be 3.65%. In 24 studies on combined announcement gains by Bruner (2004), all reported positive results of which 14 were significant. We can thereby safely conclude that in terms of net economic gain M&A on average pays.

Whether M&A creates value for all shareholder involved however, entirely depends on its ability to capture a share of total wealth gains, as acquisitions entail a considerable wealth transfer from acquiring to target shareholders. The average premium paid is found to amount to as much as 46.1%⁷ over market value (Eckbo, 2009) and roughly equals the unadjusted total cumulative returns to target shareholders⁸. First, such premiums are necessary in tender offers to attain all shares from existing shareholders, effectively purchasing all surplus. Second, in a market for corporate control of private companies with incomplete information, competition tends to inflate pricing and thereby decrease surplus for acquiring shareholders, known as the winner's curse (Thaler, 1988). Third, an array of non-synergistic motives such as managerial hubris (Roll, 1986) may lead to further overpayment on which I will elaborate in the following sections.

When looking at average gains to acquiring shareholders, as is the exclusive focus of this paper, there is ample evidence that acquisitions do not always create value. In a sample of 9,418 domestic U.S. deals from 1991 to 2001 Moeller & Schlingemann (2005) find that bidding shareholders on average realize cumulative abnormal announcement returns of 1.2%, however losses by large deals with high valuations make for absolute average dollar losses of roughly \$22 million. In a sample of 278 large takeovers from 1980 to 1996 Walker (2000) reports bidder average abnormal announcement returns of -0.84%. Of 50 studies using abnormal announcement returns to acquirers observed by (Bruner, 2004) taking statistical significance into account, 14 studies showed value destruction, 17 studies showed value preservation (indistinguishable from 0) and 23 studies showed value creation. These results suggest that whether acquisition decisions are beneficial to bidder shareholders highly depends on the company- and deal-specific factors, and adds to the notion that all M&A should be viewed in the context in which it is undertaken. Key drivers of profitability will vary amongst specific settings, and useful insights should be drawn from a more local perspective. Fact remains, when specific subsets of M&A are on average value creating for acquiring shareholders, some are not. Reflecting on the most recent merger wave and a phenomenal increase in cross-border relative to domestic acquisitions, surely managers must have recognized them as highly profitable?

⁷ Required premium is highly dependent of its deal-specific nature i.e. friendly and hostile takeovers on average respectively require 45.1% and 60.9% over current market value (Eckbo, 2009)

⁸ As deals have the risk of being cancelled post-announcement, premiums are not fully incorporated in the target share price

2.1.3 Cross-border effect

An event-based comparison of short term wealth effects to bidders of cross-border and domestic acquisitions has been studied to some degree but is mostly confined to the U.K. and U.S.. In a sample of 4,430 acquisitions between 1985 and 1995 Moeller & Schlingemann (2005) find that U.S. cross-border bidders realize on average approximately 1% lower abnormal announcement returns and significantly lower improvements in operating performance relative to domestic bidders. Eckbo & Thorburn (2000) use a sample of 1,800 domestic and US acquisitions in Canada during the 1964-1983 period and report significant positive abnormal announcement returns while foreign (US) bidders returns are indistinguishable from zero. Aw and Chatterjee (2004) in their turn focus on a three-way comparison of post-takeover performance of two subsets of U.K. firms acquiring large domestic, U.S. and Continental European targets from 1991 to 1996. Their study reports that takeovers by U.K. firms in general experience negative abnormal announcement returns, the acquisition of U.K. targets (domestic) however yield superior (or less inferior) post-takeover performance compared to the acquisition of cross-border U.S. targets. In turn, the acquisition of U.S. targets yields better post-takeover performance than cross-border continental European targets. Datta & Puia (1995) find significant negative abnormal announcement returns to cross-border acquirers ranging from -0.42% to -2.54% for respectively 3-day and 60-day intervals. More recent evidence draws contrasting conclusions; Danbolt & Maciver (2012) focus on 146 matched UK cross-border and domestic bidders and report bidder abnormal announcement returns to be 1.5 percentage points higher for cross-border bidders than for their domestic counterparts. Intra-European evidence is limited to findings based on research by Goergen & Renneboog (2004) and their analysis of short-term wealth effects for 158 large European takeover bids from 1993 to 2000. In agreement with Danbolt & Maciver (2012) and contrary to most literature, they report abnormal announcement returns of 2.38% for cross-border bidders versus insignificant (indistinguishable from zero) returns for domestic bidders.

From earlier work we can draw a few conclusions; First, bidder wealth effects for cross-border and domestic acquisition announcement are disparate, there exists a “cross-border effect”. Second, this cross-border effect is negative for most studies conducted, however there is no decisive consensus. And third, findings seem to vary from country to country or group of countries e.g. U.K., U.S. and Continental Europe. This leads to the formulation of the first hypothesis:

H1: There exists a cross-border effect within Europe, cross-border acquisitions yield lower bidder gains than their domestic counterparts

When cross-border acquisitions are indeed value-destructing on average, or at least more so than domestic acquisitions, it is of momentous commercial value to determine what causes a cross-border effect to exist. In an attempt to formulate an explanation, I will explore the most commonly known, non-mutually exclusive value drivers and destructors for cross-border M&A and subdivide them as general transaction and acquirer characteristics that might affect cross-border returns to a greater extent, and those that are unique to cross-border acquisitions.

2.1.3.1 General transaction and acquirer characteristics

A primary suggestion for a cross-border effect to exist is when deal characteristics frequently described in literature and known to affect bidder returns consistently differ between cross-border and domestic acquisitions. To test this, we first need to examine whether there are any systematic differences between the two subsamples. Variables frequently applied in cross-sectional regression models and the mechanism through which they affect bidder returns will be briefly discussed. We will thereby take into consideration the related issue that firm and deal characteristics can affect cross-border bidder gains through alternative mechanisms.

Size

Target-, bidder-, and their relative size is known to affect bidder gains. Asquith et al. (1983) first describe relative deal size to be positively related with bidder gains. Moeller, Schlingemann & Stulz (2004) in their turn find evidence of a negative relation between bidder size (market cap.) and announcement returns. As a consequence, equally weighted bidder gains are positive, while average absolute dollar losses in terms of acquirer market capitalization amount to \$25.2mln. When cross-border acquisitions systematically involve large acquirers and relatively small targets, size could be a major contributory factor to the cross-border effect. Moeller & Schlingemann (2005) find an economically as well as statistically significant relation between relative size and bidder gains. Additionally, their sample exhibits a smaller relative deal size for cross-border acquisitions. Second, bidders for their sample are almost double in size in terms of mean as well as median market capitalization. A smaller relative deal size and larger bidders are logically correlated when competing in a market for similar-sized targets. Also, intuitively larger firms have the means and motives for international expansion. We should therefore recognize that size may be of influence in the cross-border effect. However, after correcting for size characteristics, a cross-border effect is still measured to be approximately 1% for U.S. bidders (Moeller & Schlingemann, 2005).

Target public status

Theoretical and empirical literature suggests that returns for bidders acquiring private targets exceed those of public targets (Faccio, Stolin, & McConnell, 2004; Moeller, Schlingemann, & Stulz, 2004). First, due to the illiquid nature of private firms, its shares are often associated with an illiquidity discount. Second, shares of private firms are more often held by one or several small groups of investors, negotiations may therefore have a bigger chance of succeeding compared to public tender offers. Third, significant bid premiums are required in order to acquire at least a majority of shares, which effectively constitutes a wealth transfer from acquirer to target shareholders. When cross-border targets are more often publicly listed compared to domestic targets as a result of e.g. a lesser degree of information asymmetry and thereby a reduction of cross-border risks; a cross-border effect might to some extent be explained by target public status.

Method of payment

Whether acquisition are paid in cash, equity or a combination has first been associated with bidder returns by Travlos (1987). Its theory relies on information asymmetries and the positive/negative signaling effect of payment in cash/equity, as it suggests that bidder stock is more likely to be undervalued/overvalued. As a result, acquisitions paid in cash have higher bidder returns. When targets are assumed to have proprietary information, bidders would prefer equity as currency making target gains dependent of total economic gains as an instrument to reduce adverse selection (Hansen, 1987). As cross-border acquisitions are likely to be more difficult to evaluate, payment in equity should be preferred by bidders, which could (partly) explain the cross-border effect. Surprisingly, Moeller & Schlingemann (2005) find cross-border acquisitions to more often involve cash payments. A plausible explanation is that targets are less likely to accept foreign equity as payment (Gaughan, 2010) which would predict more cash offers in cross-border M&A, reducing its signaling effect. Through this mechanism, method of payment may be of different influence to cross-border- than for domestic acquisitions and thus does not provide an unequivocal argument for a cross-border effect to exist.

Attitude

Hostile, or unnegotiated bids, are associated with higher premiums and lower bidder returns (Schwert, 2000) relative to friendly acquisitions. Moeller & Schlingemann (2005) indeed report from their sample that cross-border transactions more often involve hostile offers. A cross-border effect as such could partly be explained by a higher degree of hostile takeovers. However hostile takeovers make up only 1.8% of their cross-border subset and only 0.6% of the total

sample, they also find no significant relation to bidder gains. Deal attitude, is thereby, although relevant on a micro-level, unlikely to be a major contributory factor to the cross-border effect.

Market-to-book

In an efficient market, acquirer market-to-book or Tobin's Q⁹ can be viewed as a proxy-measure for growth opportunities and has been positively associated with bidder returns (Servaes, 1991). Acquisitions for that matter can embody the realization of such growth opportunities resulting in more positive stock returns, to the extent that they have not yet been priced in. It is plausible that cross-border acquisitions represent the realization of larger growth opportunities as means of e.g. international expansion and the entrance of new markets relative to domestic acquisitions that at best realize operational improvements while its expansion, to a certain degree, may remain limited to its geographical borders. Moeller & Schlingemann (2005) report for their sample that cross-border bidders indeed have higher market-to-book ratios relative to domestic bidders. Considering acquirer market-to-book ratios, this would predict a positive cross-border effect on average, and therefor provide no explanation. If anything a cross-border effect would be reduced by differences in market-book-ratios.

Free cash flow

Following argumentation of the free cash flow hypothesis (Jensen, 1986), high levels of free cash flow may lead to an increase in agency costs when manager's and shareholders incentives are not perfectly aligned. When acquirers have ample cash at their disposal they are presented with the choice of distributing excess cash to shareholders, or invest in growth that may be beyond the firm's optimal size. Pay-outs to shareholders reduces the resources under managers' control and thereby their power, while growth increases their control and consequently their level of compensation (Jensen, 1986). As such, high levels of free cash flow have been associated with overinvestment and lower bidder gains, as shareholder might fear that investment will generate lower than required rates of return (Doukas, 1995). A cross-border acquisition could signal that firms have run out of closer to home low hanging fruit. Decision making based on alternative incentives regardless of whether they are positive NPV-projects could push managers to seek investments abroad and trigger lower stock returns as a result. Conclusively, the free cash flow hypothesis might partly explain the cross-border effect when cross-border acquisitions bidders have higher free cash flows than domestic bidders. Moeller & Schlingemann (2005) however, find no evidence in support of a difference in different subsets of acquisitions

⁹ $Tobin's\ Q = \frac{Total\ market\ value\ of\ firm}{Total\ book\ asset\ value}$

Diversification

Prior literature provides evidence that industrial diversification leads to value destruction. Berger & Ofek (1995) estimate an industrial diversification's effect on firm value to be between 13% and 15% compared to its stand-alone firm-value for individual business segments in a sample of 3,659 firm over the years 1986-1991. In accordance to this, Denis et al. (2002) find more evidence of firms trading at a significant discount to the extent of their industrial diversification amounting to as much as 20% in a sample of 44,288 firms from 1984 to 1997. As a conclusion diversified firms tend to have lower market valuations than their non-diversified counterparts. When M&A value creation is derived from synergies such as cost-savings that arise from overlapping economies of two firms, intuitively the degree of relatedness of the businesses, being industrially or geographically, should then be positively related to its returns. In support thereof Maquieira, Megginson & Nail (1998) examined wealth changes in 1,283 publicly traded equities in 260 stock-for-stock mergers and find no evidence that conglomerate mergers create value while they do find net gains to non-conglomerate mergers to be significant and positive. To the extent that cross-border acquisitions represent an explicit increase in a firm's level of global diversification while domestic transactions represent a decrease, acquirer gains may be lower for cross-border transactions if diversification is considered to be value decreasing (Moeller & Schlingemann, 2005). All else being equal, deals consolidating industries and increasing industrial or geographical focus are assumed to create more value than diversifying ones. As such it is clear that investors are not willing to pay managers to diversify their portfolios as they can better balance their own exposure. Where cross-border acquisitions inherently increase geographical diversification, that argument alone might contribute to the cross-border effect. Those acquisitions that are both geographically (cross-border) and industrially diversifying trigger even stronger negative price reactions (Moeller & Schlingemann, 2005). Evidence from Aw and Chatterjee (2004) suggests however that there are at least one or more factors contributing to the cross-border effect. For their three-way analysis of domestic and cross-border acquisitions from the U.K. in the U.S. and continental Europe. They report lower bidder gains for continental European targets than for U.S. targets while they are by no means more geographically diversifying.

Non-synergistic motives

A wide array of non-synergistic motives has been associated with negative announcement bidder returns. Managerial hubris or overconfidence (Roll, 1986) for example may be an important factor in explaining M&A activity. When M&A decisions are based on a valuation of a listed asset that has an already observable market price, the valuation error can be considered a random variable. Offers in that case are only made when the valuation, a random variable,

exceeds the market price. The takeover premium in that case is a random error that represents a wealth transfer from bidder to target shareholders, resulting in negative wealth effects to bidders. Managers however are confident that their valuation is no random error, but their superior insight. Warren Buffet, chairman and CEO of investment fund Berkshire Hathaway jokingly agrees:

"Many managers were overexposed in impressionable childhood years to the story in which the imprisoned handsome prince is released from a toad's body by a kiss from a beautiful princess. Consequently, they are certain their managerial kiss will do wonders for the profitability of Company T[target]... We have observed many kisses but very few miracles. Nevertheless, many managerial princesses remain serenely confident about the future potency of their kiss – even after their corporate backyards are knee-deep in unresponsive toads." (Buffett, 1981)

Cross-border acquisitions are likely to be more prone to such motives. First, there may be more information asymmetries when targets are harder to value and cause random valuations to have a wider distribution. Second, self-maximizing decision making (Jensen, 1986) as discussed earlier and empire-building are found to have a strong relationship with geographic expansion (Hope & Thomas, 2008). Also, Malmendier & Tate (2008) find that optimistic CEOs complete more, and especially bad diversifying mergers. They also find these effects to be strongest for CEOs with access to internal financing in support of the free cash flow hypothesis (Jensen, 1986). And third, in relation with before mentioned arguments, optimism and an underestimation in the volatility of outcomes, or miscalibration (Ben-David, Graham, & Harvey, 2013) are associated with higher corporate investment. Although beyond the scope of this paper considering its measurement difficulties, when cross-border acquisitions are associated with more information asymmetries, agency problems and managerialism, I expect common non-synergistic motives to play a more important role in returns to cross-border bidders.

2.1.3.2 Country-level characteristics

The main objective of this paper remains to firstly identify whether a cross-border effect as described in earlier research is robust after controlling for systematic differences in variables associated with bidder wealth effects, and secondly assess what country-level differences can help us understand it.

Geographical distance

First, cross-border acquisitions quite obviously cover a geographical distance. Physical distance can increase contracting costs of combining two firms' economic activities (Frankel & Romer, 1999). Moreover, proximity increases the likelihood that two countries more commonly trade

with another and are therefore more likely to realize synergies (Erel et al. 2012). On the other hand, physical distance can be expected to be of decreasing relevance in an era of digitalization and globalization.

Target country characteristics

A number of target country characteristics and general economic conditions could form sources to a cross-border effect. First, a target country's level of development could result in lower bidder gains when it is associated with more agency problems and asymmetric information (Moeller & Schlingemann, 2005). Second, a concentrated market for equity ownership (Dahlquist, Pinkowitz, Stulz, & Williamson, 2003) and higher takeover-liquidity (Rossi & Volpin, 2004) may result in higher required premiums and thereby a larger wealth transfer to target shareholders, reducing acquirer gains.

Governance

A number of papers is dedicated to mapping potential positive bidder returns when targets stem from less-developed governance structures. A mechanism of acquiring companies from systems with relative low shareholder protection by companies with better shareholder protection to create value is described by La Porta et al. (2000). Firms may be systematically undervalued when originating from a low shareholder rights environment, when the level of corporate governance is associated with agency and information asymmetry costs (Moeller & Schlingemann, 2005). In support thereof Rossi & Volpin (2004) find M&A volume to be significantly larger in countries with better accounting standards and shareholder protection. Such evidence suggest that cross-border acquisitions aim at maximizing a target company's value by improving the degree of investor protection. As such, corporate governance considerations should predict a positive cross-border effect for M&As involving superiorly governed bidders and vice versa.

Culture

As literature struggles in finding a consensus as to what factors exhaustively contribute to a cross-border effect, there remains one aspect unique to cross-border acquisitions that has received relatively little attention: cultural fit. An efficient post-merger integration process is crucial to the realization of projected synergies, and many, if not all mergers deal with the challenge of integrating firms from different corporate cultures. The integration of two firms from different national cultures however adds a potential set of extra frictions. M&A success depends on the cooperation between groups of people with potentially deeply-embedded conflicting ideas. When employees do not share national cultural values, frictions e.g. the

acceptance of authority and the appreciation of individual aspirations are likely to result in mistrust and mismatched goals. If so, it may take acquired companies a longer time, if ever to reach their most efficient state (Gertsen, Söderberg, & Torp, 1998) which accrues to higher costs and lower returns. The unique difficulties in integrating both corporate and national cultures are also recognized and referred to as “double-layered acculturation” (Barkema, Bell, & Pennings, 1996).

The relevance of a cultural fit is illustrated by some earlier works; Datta (1991) describes on an organizational level how differences in top management styles can negatively impact the performance of domestic U.S. acquisitions characterized by both high and low levels of post-merger integration. The adverse contribution of strategic and organizational differences to M&A performance is described in more detail by Chatterjee et al. (1992), their findings suggest a strong inverse relationship between perceptual cultural differences and shareholder gains. On an international level Datta & Puia (1995) find cultural fit to have an important impact in their dataset of large cross-border acquisitions from 1978 to 1990; acquisitions from culturally diverse countries were accompanied with significant lower bidder gains. Olie (1990) investigates the impact of national cultures e.g. nationalism and concludes that cross-border M&As frequently fail in the integration phase, with cultural differences as a major contributory factor. In support thereof, Weber et al. (1996) argue that national and corporate culture determine effective integration in cross-border M&A and moreover confirm that national and corporate cultural fit are two separate constructs. Surprisingly, Morosini et al. (1998) and Chakrabart, Gupta-Merkherjee, & Jayaraman (2009) find contrary evidence that cross-border acquisitions perform better as a product of greater distance in national cultures, they identify diversity in national cultures as a source of competitive advantage as it provides a different set of routines which permits a newly formed merger access to the best of both worlds.

Considering earlier evidence, there are two conclusions that can be drawn; first, the cultural differences associated with acquirer and acquired firm’s home countries create additional challenges for post-merger integration. And second, The performance of acquisitions depends on the integration process (Shimizu, Hitt, Vaidyanath, & Pisano, 2004). More specifically, to the extent that shareholders anticipate on integration complexities, one would conjecture its announcement returns to react accordingly. In itself, it could be that differences in national culture are the keystone or at least a major contributory factor to the cross-border effect.

Considering the identified variables likely to contribute, both positively and negatively, to a cross-border effect. I expect most of these to have a similar, yet smaller impact in Intra-European cross-border acquisitions than found in earlier evidence from U.S. and other foreign

target countries¹⁰. Specifically, geographical and cultural clustering, prosperity levels, intrinsic institutional similarities, governance and single-market policies are conjectured to play a role in this.

Table 1 provides an overview of the most important firm-, deal-, and country-level characteristics discussed in the previous section, and its expected effect on bidder CARs. The next sections will further elaborate on national culture, its role in international business, and the mechanisms through which it may affect cross-border M&A performance.

Table 1: Theoretical framework

This table presents the most important firm-, deal-, and country-level characteristics and their expected effect on bidder CARs.

Predictor	Type	Expected effect on CAR
Bidder market value	Firm level	-
Bidder MTB-ratio	Firm level	+
Bidder FCF-level	Firm level	-
Relative deal value	Deal level	+
Public target	Deal level	-
Cash only	Deal level	+
Hostile	Deal level	-
Diversifying	Deal level	-
Geographical distance	Country level	-
High bidder shareholder protection	Country level	+
Cultural distance	Country level	-

2.2 National culture

Culture remains an ill-defined concept and it is important to recognize that it only exists by comparison (Hofstede, 2001). Through the years its concept has been operationalized in hundreds of ways depending on the theoretical perspective and methodological approach taken. When discussing culture in the context of cross-border acquisitions, it represents a distance in the set of norms, routines and repertoires of organizational design and aspects of management that are found in the acquirer's and the target's countries of origin (Morosini, Shane, & Singh, 1998). In the scope of this paper, it is important not to mistake differences in national culture for those in corporate cultures, which can also exist in domestic acquisitions. The two concepts are likely to be related where the latter is likely to be influenced by the former. Nevertheless, Weber et al. (1996) find for cross-border M&A, that distance in national rather than corporate culture, better explain critical success factors. In this paper I do not aim at distinguishing the effect of both, and focus exclusively on national cultural distance.

¹⁰ Specifically based on research by Moeller & Schlingemann (Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions, 2005)

2.2.1 Evidence from international business

Evidence from different fields of research shed more light on the role of national culture in international business. For instance, national culture is associated with the accessibility of foreign markets. Johanson & Vahlne (1990) suggest that greater cultural distance between markets has an adverse effect on market choice for foreign expansion. As such, they find patterns in the internationalization sequence of multinational firms, wherein foreign expansion occurs in steps dependent of two variables: first, the level of commitment in a particular host country, and second, the level of market knowledge. The level of market knowledge for a large part would be determined by its foreignness or 'psychic distance', which is defined as "factors preventing or disturbing the flows of information between firm and market"¹¹. If so, cultural distance may be strongly related to information and agency costs. Given that a cross-border acquisition signifies a high level of commitment, the variance in the latter variable is relevant for cross-border mergers. Johanson & Vahlne (1990) argue that companies only move to more distant and unfamiliar (culturally distant) markets when they have exploited their more culturally proximate options and thereby prioritize international expansion accordingly. This implicates that, all else equal, companies rather operate in more similar than dissimilar markets and as such should rather merge with more similar than dissimilar companies, as similarity is presupposed to be more manageable than dissimilarity (O'Grady & Lane, 1996). If so acquisitions in more culturally proximate markets appear to be perceived as less costly than those in culturally distant ones.

Similarly, national culture is associated with the choice of entry mode considering three options: greenfield, joint ventures and acquisitions (Kogut & Singh, 1988). They firstly theorize that as national cultures have been shown to result in different organizational practices, more culturally distant countries have more distant organizational characteristics on average. If cultural distance contributes to the (perceived) costs of uncertainty of the mode of entry differently, there should exist patterns in the propensity of firms engaging in a specific entry type. They acknowledge the difficulties associated with double-layered acculturation (Barkema, Bell, & Pennings, 1996) of integrating an already existing foreign management and corresponding costs, and hypothesize cultural differences to be of specific relevance in case of acquisition as mode of entry. From their sample of U.S. entries by global entrants, they indeed find a lower propensity for acquisition as choice for mode of entry when entrants stem from a more culturally distant environment, confirming their hypothesis.

¹¹ Psychic distance - variables operationalized i.a. are language, culture, political, legal and educational systems

2.2.2 Mechanism

As examples from the field of international business confirm the influence of national culture on economic outcomes, it is necessary to explore how cultural distance is to affect cross-border acquisitions. The conjectured mechanism as supported by empirical evidence is two-fold; first, greater cultural distance is expected to yield greater differences in organizational design and work-related values, yielding higher integration costs, inability to realize synergies, lower expected returns and thereby lower equity valuations. Second, regarding literature from international business, cultural distance is related to 'psychic distance' or the degree of foreignness, which makes culturally distant investments more difficult to understand and as such yields higher information and agency costs, which leads to lower expected returns similarly. Moreover, hard-to-value targets increase the likelihood of overpaying, constituting a greater wealth transfer to target shareholder which adds up to lower bidder gains.

A famous example of how cultural distance may lead to value destruction is the, as of then, largest industrial cross-border merger ever: that of Daimler-Benz and Chrysler Corporation. Where the two companies merged in a \$36bn deal in 1998, it was dissolved just nine years later for a meager \$7.4bn. At the root of this failure lay extremely polar cultures on a national as well as a corporate level that prevented the two companies from integrating properly and realize projected synergies. Where the merger was to be a shining example of the limitless opportunities of globalization, cultural issues as i.a. management styles, mismatched goals, communication, and language were a major barrier to each stage and rendered a difficult companionships and anything but efficient cooperation. Such barriers are not unique to this merger, and likely to impact, possibly to a lesser extent, other cross-border acquisitions.

When cultural distance is associated with higher costs, and bidder gains effectively reflect expected net synergies. A cross-border effect should be more pronounced for acquisitions in countries that are more culturally disparate. Therefore, hypothesis 2a reads:

H2a: Bidder gains are lower for acquisitions in culturally disparate countries

As some literature provides evidence of specific aspects of culture to affect acquisition returns positively (Morosini, Shane, & Singh, 1998; Chakrabart, Gupta-Merkherjee, & Jayaraman, 2009) using widely diverse methodologies for operationalizing cultural values. I expect differential cultural dimensions to affect a cross-border effect independently rather than collectively. Separate aspects should not necessarily impact bidder returns in either magnitude or sign similarly. Hypothesis 2b formulates:

H2b: Bidder gains are influenced by different aspects of culture independently rather than collectively

Given evidence related to the choice of mode of entry into foreign markets (Kogut & Singh, 1988), managers must at least anticipate on cultural frictions to some degree. I therefore conjecture four different scenarios:

- I. The first scenario describes a situation wherein both managers and shareholders are unaware of the risks and costs associated with greater cultural distance. In this scenario we should find no evidence of short-term wealth effects as managers will make no distinction between culturally distant or proximate cross-border acquisitions and investors will not evaluate them differently.
- II. The second scenario assumes a situation wherein managers are unaware of costs and risks associated with cultural distance through i.e. adverse selection, information costs, and valuation difficulties whereas shareholders are aware. This would result in lower abnormal announcement returns for culturally distant cross-borders.
- III. The third scenario assumes that managers as well as shareholders consider cultural distance associated costs, however through managerial hubris, self-interest, and overconfidence, some managers push through as they expect the benefits to outweigh the costs. This would advocate for agency problems in M&A and we should find lower announcement returns and somewhat lower propensities of culturally distant acquisitions.
- IV. The fourth scenario speculates that managers as well as shareholders are aware of cultural distance associated costs, and therefore avoid culturally distant acquisitions. In support thereof we should find a considerably lower propensity of culturally distant acquisitions relative to more culturally proximate alternatives and no difference in announcement returns.

As I expect managers to have at least some sense of potential cultural frictions in cross-border M&As, I suspect the third or fourth scenario to be most likely. I therefore hypothesize:

H3: There is a lower propensity of culturally distant- than proximate cross-border acquisitions

2.2.3 Hofstede indices for cultural dimensions

As a definition of culture, this paper follows the conceptions of Geert Hofstede and his work, which belongs to the most extensive studies on how values in the workplace are influenced by culture. His first paper 'Culture's Consequences: International Differences in Work-Related Values' (Hofstede, 1980) is cited over forty thousand times and thereby one of the most significant contributions in social science. His index captures international differences in work-related values and has been found to significantly correlate with i.a. the choice of entry mode into foreign markets (Kogut & Singh, 1988), levels of bilateral foreign investment (Guiso, Sapienza, & Zingales, 2009) and similar to this paper, cross-border gains to U.S. bidders (Datta & Puia, 1995). Hofstede gathered information from a large database of employee questionnaires collected from multinational enterprise IBM that covered more than 70 countries. Hofstede (2001) defines national culture as "the collective programming of the mind distinguishing the members of one group or category of people from another". He initially quantified four different dimensions for national culture that represent the preference of one state of affairs over another; power distance (PDI), individualism (IDV), masculinity (MAS), and uncertainty avoidance (UAI). Later, replications and extensions added two more dimensions: Long-term vs. short-term normative orientation (LTO) and indulgence vs. restraint (IND) whilst also validating his results in different populations such as airline pilots and students. The dimension definitions are briefly discussed in Table 15 of the appendix as literally described by Hofstede (2001).

It is likely that countries, especially those in my sample have and continue to become more integrated on both an economical and cultural level through modern globalization and open flows of information. It is then contingent that bilateral cultural distance will diminish to some extent over time. If the latter is true, and cultural distance has an inverse relation with bidder gains for cross-border acquirers, we would expect the cross-border effect to decrease over time along with at least the perception of cultural distance. Moreover, the presumed effects of many of the before discussed non-synergistic motives and information asymmetries might vanish when cross-border acquisitions suffer from higher levels of friction than domestic acquisitions and globalization and market integration are to alleviate such frictions. In other words; when two separate markets become more integrated and less (culturally) unfamiliar, they become more similar to a single domestic market, assuming for that matter cultural distance equals zero. As such, borders become decreasingly relevant.

Although the effects of globalization and market integration have continuously increased over the past century, I conjecture its effects on European cross-border acquisitions to be exponential after the introduction of the Eurozone as a single market and the Euro as its

currency. If so, its differential effects should be noticeable through the length of my sample. This leads to the formulation of the final hypothesis:

H4: A cross-border effect decreases over time

The next section will discuss the sample design and statistical methodologies applied in the process of formulating an answer to my hypotheses.

III. Data & Methodology

3.1 Sample design

Construction

This paper will focus on cross-border M&As within Europe, and more specifically those from the Eurozone. A market that, has a relatively similar level of development, is highly economically integrated yet culturally diversified as individual countries have generally preserved their sovereign national cultures. As a result, the Eurozone provides an almost laboratory-level experiment. The acquisition database is extracted from ThomsonONE and covers 1999 through 2015. Acquirer and target should stem from the 10 countries¹² that have used the Euro as currency since its introduction on the first of January 1999, to avoid exchange rate effects¹³ and sample biases. Luxembourg is excluded from the sample as disproportionately large companies have headquartered themselves there while I suspect that its national culture is herein not properly reflected. Additionally, I specifically prefer to exclude the U.K., the largest European M&A market, from my sample as English is a second language for most other countries in the sample, language is presumed to inflict considerable integration barriers, bilingualism as such could potentially decrease its relative cultural distance. I collect all transactions of publicly listed firms that acquire either private or public targets of domestic or foreign companies. A common minimum relative deal size of the transaction measured as deal value divided by acquirer market capitalization is 1%, This is necessary to capture noticeable stock returns, moreover I do not expect sizable integration problems for smaller relative acquisitions. To further strengthen this requirement, I apply a minimum transaction value of €10mln, where common literature uses a cutoff at €1mln. Deal value is calculated excluding fees as conjectured higher contracting costs for cross-border acquisitions might partially be represented in higher advisory fees. Further criteria to be applied are: a minimum acquired stake of 50% and a final stake between 51% and 100%. Lastly acquirers need to have a listed status 150 trading days in

¹² Austria, Belgium, Finland, France, Germany, Republic of Ireland, Italy, Netherlands, Portugal and Spain

¹³ Strong currencies are incentivized to purchase in weak currency

advance of and 30 trading days after the acquisition announcement date since a minimum amount of stock data is required as estimators for market-model regressions. Non-financial deal- and firm-specific data e.g. SIC-codes, deal attitude, method of payment and target public status are all drawn from ThomsonONE. Geographical distance is based on shortest routes by land from capital to capital based on Google maps. Worldbank data is used for GDP figures which are employed to operationalize acquisition market liquidity figures. All stock and accounting data e.g. prices, market value assets, book value assets and free cash flow is extracted from DataStream. The final sample contains 511 cross-border and 1,120 domestic acquisitions. An overview of sample exclusions is presented in Table 2.

Table 2: Sample selection

This table describes initial sample design, criteria and coherent exclusions as extracted from ThomsonONE.

Request	Operator	Description	Exclusions	Observations left
Bidder and target nation	Include	Austria, Belgium, Finland, France, Germany, Republic of Ireland, Italy, Netherlands, Portugal, Spain		127,092
Acquirer public status	Include	Public	96,434	30,658
Data announced	Between	01/01/1999 and 31/12/2015	9,785	20,873
Deal value	Over	€10mln	15,500	5,373
% shares acquired	Between	50%-100%	3,011	2,362
% shares owned post-acquisition	Between	51 % - 100%	68	2,294
Deal value relative to acquirer	Outside	1% ; 500%	295	1,999
Acquirer market value	Over	€10mln	90	1,909
Acquirer FCF / Book value	Outside	-500% ; 500%	7	1,902
CAR	Available		271	1,631

Adjustments

To correct the sample for outliers and other distortions a number of adjustments are necessary; I apply winsorization techniques to replace extreme Bidder MTB-ratio values that fall outside the respective top and bottom 1% values, effectively replacing all negative values. Some acquisitions have deal values over 100 times larger than its acquirer's market value, as I want to exclude such abnormalities I drop acquisition that have higher relative deal values than 500%. Similarly I drop the acquisitions based on highly irregular bidders' free cash flow levels relative to its most recent year's book value, this is done when bidder free cash flow levels are over 500% or under -500% of book value. Furthermore, I use the logarithmic function of acquirer market values as its values are long-tailed. Those acquisitions of bidders with market values under €10mln are also dropped. Naturally all observations with insufficient stock data for cumulative abnormal return calculations are removed, these entail an approximate 10% of the full sample.

3.2 Event study

To determine abnormal announcement stock returns we first need to determine its normal returns. The most common methods for determining normal returns are the constant means return- and the market model. The constant means return model uses mean returns estimated over a specific period and projects a similar return for the chosen event window, as such it assumes that returns can differ by firm, but remain constant over time. The more statistical one-factor market model estimates a given stock's covariance with a chosen index and assumes that individual assets have a constant and linear relation with the market index. It represents a considerable improvement with respect to the more simplistic constant means return model as it generally removes the variance in abnormal returns due to market fluctuations, which enables the model to better detect event effects (MacKinlay, 1997). Potential further improvements include using multi-factor models. Although they represent a statistical improvement, the gains from employing such methods are limited as added factors have empirically proven to add marginal explanatory power. Moreover, using multi-factor models is often dictated by data availability, deeming them impractical. Considering the available data, this paper operationalizes the market model on which will be further elaborated in the next paragraphs.

The most common interval chosen for event studies is the three-day trading window around the acquisition announcement date $[-1;+1]$. Some papers include wider intervals under the assumption that prices may run up towards the announcement date as information may leak, and markets may take longer to properly price in new information (MacKinlay, 1997). Although this would violate strict market efficiency assumptions, I will attempt to add robustness to any conclusions drawn on the basis of my analysis and use five intervals to check whether a cross-border remains stable for different event window. Chosen intervals are: $[-30;+30]$, $[-20;+20]$, $[-10;+10]$, $[-5;+5]$ and finally $[-1;+1]$.

Market model

Bidder announcement abnormal returns are measured using daily excess returns. The market model is represented by:

$$R_{jt} = \alpha_j + \beta_j R_{market} + \varepsilon_{jt} \quad (1)$$

Where,

R_{jt} = Observed returns of acquiring firm j

R_{market} = Rate of return on the value weighted MSCI Europe index

α_j, β_j = Market model coefficient for acquiring firm j

ε_{jt} = Residual return on firm j in period t
 $E[\varepsilon_{jt}]$ = Expected residual return equals zero
 $VAR[\varepsilon_{jt}]$ = $\sigma_{\varepsilon_j}^2$

Next, the abnormal returns (AR_{jt}) are computed as follows:

$$AR_{jt} = R_{jt} - (\widehat{\alpha}_j + \widehat{\beta}_j R_{market}) \quad (2)$$

Where $\widehat{\alpha}_j$ and $\widehat{\beta}_j$ are estimates of the intercept and slope of the market model. The parameters are estimated using a 150-day estimation period return starting day $t=-181$ and ending with $t=-31$ as not to overlap the widest event window $[-30;+30]$. Abnormal returns represent the deviation between the realized return at date t and the market-formulated expected returns and should as such represent investors' evaluation of the acquisition in equity value. Finally, the cumulative abnormal returns (CAR) in various event windows is calculated as follows:

$$CAR_{t_1;t_2} = \sum_{t_1}^{t_2} AR_{jt} \quad (3)$$

Where,

t_1 and t_2 = Respective start and end day of chosen event window

Market-adjustments are performed using equally weighted index returns for the event window around the announcement day. Market estimations are based on a stock's covariance with the MSCI Europe index, which covers 15 developed markets (DM)¹⁴ and includes all ten countries used in my sample. The index captures large- and mid-cap representation and covers 85% of the free-float adjusted market capitalization across the European developed market equity universe with 446 constituents. The choice for using the broader MSCI Europe index instead of the individual country indices is mainly motivated by a mean sample bidder market capitalization of approximately €1.6bn assuming that on average a considerable portion of sales stems from a broader European base.

Assumptions

The efficient market hypothesis describes the degree to which markets of rational agents are able to incorporate new information in asset prices. Its strong form describes a scenario

¹⁴ Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the UK.

wherein all agents have access to public and private information, however, if this were to be the case, prices should not trigger any post-announcement fluctuations as they already reflect insider knowledge. Similarly, Its weak form would prove event studies redundant as it only captures historical information. As such, it is necessary to assume that markets integrate only new public information promptly and correctly to reflect its magnitude in shareholder valuation. This entails the assumption of the efficient market-hypotheses in its semi-strong form. Additionally, as it can be argued that small firms tend to have larger information asymmetries than large firms what would amplify small firm price reactions. Such effects should be captured by control-variables for bidder-size, I therefore assume efficiency to be equally strong across my sample. Lastly I assume all observations and derived returns to be independent and non-overlapping. This exempts my research for controlling for covariance of asset prices.

Brown & Warner (1985) conclude on a set of additional potential problems that could arise due to the use of daily observations for the computation of CARs in a market model as used in my event study. First, using daily instead of monthly returns may have higher probabilities of outliers and may incur higher chances of non-normality (Fama, 1970). Second, non-synchronous trading (Scholes & Williams, 1977) is a problem to the use of daily data as it may produce weaker results. Third, variances computed by means of OLS-estimations may be unreliable. Nonetheless Brown & Warner (1985) provide counter-arguments; Firstly, for larger samples as employed in this paper, non-normality disappears. Moreover they claim that estimating market model parameters using alternatives to ordinary least squares-models fails to deliver better results. Lastly, although variances are recognized as concern, adjustments fail to realize major improvements.

3.3 Operationalization of independent variables

The next section will focus on the operationalization of cultural distance and the control variables employed.

3.3.1. Cultural distance

To test cultural distance as explanatory variable we will first need to quantify it. The Hofstede indices for cultural dimensions will be operationalized as proxy for cultural distance (CD_{ba}) as composite index as suggested by Kogut & Singh (1988). The index is formed based on the deviation along each of the dimensions of each bidder country from its respective target country which are fitted to run from 0-100 with 50 as midlevel. The deviations are corrected for differences in variances of each dimension and then arithmetically averaged. Algebraically the constructed index is noted as follows:

$$CD_{ban_i} = \sum_{i=1}^{n_i} \frac{(I_{ib} - I_{ia})^2 / V_i}{n_i} \quad (4)$$

Where,

CD_{st} = Cultural distance between bidder country b and target country a

$I_{ib} - I_{ia}$ = Difference in scores of countries b and a on dimension i

$V_i = \frac{\sum (i - \bar{i})^2}{n_c - 1}$

n_i = Number of dimensions deployed in model¹⁵ (either four or six)

\bar{i} = Average value of dimension i over all n countries quantified¹⁶

And secondly, decomposed as individual dimension distances (DD_{bai})

$$DD_{bai} = \frac{(I_{ib} - I_{ia})^2}{V_i} \quad (5)$$

Where,

DD_{bai} = Dimension distance between bidder country b and target country a on dimension i

And individual dimensions i are:

- (1) PDI = Power distance index
- (2) IDV = Individualism vs. collectivism
- (3) MAS = Masculinity vs. femininity
- (4) UAI = Uncertainty avoidance index
- (5) LTO = Long-term vs. short-term normative orientation
- (6) IND = Indulgence vs. restraint.

3.3.2 Control variables

General firm- and deal characteristics

Control variables operationalized on the basis of common literature as described in section

2.1.3.1 General transaction and acquirer characteristics are as follows:

- (i) *Bidder market value:* Acquirer market capitalization 30 days prior to the announcement date in millions of Euros, calculated as share price multiplied by number of common shares outstanding as provided by DataStream

¹⁵ Kogut & Singh (1988) only operationalize the original four dimensions, in this model we also employ the later added dimensions 'LTO' and 'IND'.

¹⁶ In the 2010 edition of the book *Cultures and Organizations: Software of the Mind*, scores on the dimensions are listed for 76 countries, partly based on replications and extensions of the IBM study on different international populations and by different scholars.

- (ii) *Deal size*: Disclosed equity deal value excluding fees in millions of Euros as extracted from ThomsonONE
- (iii) *Relative size*: defined as the disclosed equity deal value relative to bidder market capitalization 30 days prior to the announcement
- (iv) *Method of payment*: dummy variable that will take a value of 1 when acquisitions are paid in cash only and 0 when (a combination with) equity is used as currency
- (v) *Free cash flow*: Represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ended prior to the announcement date normalized by its book value of assets for the same fiscal year ending
- (vi) *Deal attitude*: dummy variable that will take a value of 1 for hostile and 0 for friendly acquisitions
- (vii) *Industrial diversification*: dummy variable that will take a value of one when a bidder's and target's last three of its four-digit primary SIC code deviate and zero for similar SIC-code-endings

Country characteristics

Additionally, I include several control variables of country characteristics from literature as described in section 2.1.3.2..

- (i) *Geographical distance*: Distance between capital cities of target and bidder countries, assuming they are the center of a nation's economic gravity. Geographical distance is defined as the shortest route by land as provided by Google Maps. A geographical distance matrix is included in Table 32 of the appendix.
- (ii) *Takeover market liquidity*: The level of competition for corporate control is defined as the yearly fraction of the total transaction value of all targets in a country in our sample weighted for its yearly GDP in Euros. A market liquidity matrix is included in Table 31 of the appendix.
- (iii) *Corporate governance*: Following Moeller & Schlingemann (2005) two variables are used to proxy for the quality of corporate governance. First, four dummy variables are added as target countries are classified in four different legal systems; English, German, Scandinavian and French which are associated with higher and lower degrees of shareholder protection (La Porta, Lopez-De-Silanes, Schleifer, & Vishny, 1997). Second, we use their respective ranking of high (above three) and low shareholder rights, and include a dummy for when bidder country shareholder rights are high.

3.4 Descriptive statistics

The next section will describe the sample characteristics, country characteristics and the distribution of intra-European cultural distances.

3.4.1 Sample characteristics

Table 3 displays a frequency overview of the full sample. The most frequently targeted countries for both domestic and cross-border acquisitions are not surprisingly the four largest European economies; France, Germany, Italy and Spain. There is also no discrepancy with the most frequently acquiring countries, as it contains the same top four. Domestic acquisitions make up for approximately one third of the full sample. The number of annual deals shows a run-up during the internet-bubble and towards the 2008 financial crises similar to what we have seen on a global level. The ratio of domestic vs. cross-border deals however, remains fairly constant over time.

Table 4 presents means, and medians (for continuous variables) for a sample of 1,631 acquisitions and its respective cross-border and domestic subsets. Reflecting on my predictions in section 2.1.3 and Table 1, significant differences in the two subsets of my sample are expected to affect a cross-border effect accordingly. I use independent sample *t*-tests with unequal variances to test the significance for differences between means, and Wilcoxon rank sum tests for differences in medians of the two samples as an additional robustness check. To preserve space, a complete overview of descriptive statistics including standard deviations maximum and minimum values is included in Table 18 of the appendix. Focusing on median values for bidder characteristics, I find that both market and book value of assets for cross-border bidders is significantly larger than for domestic acquirers. Also, cross-border bidders have higher MTB-ratios, however only significant when comparing medians. Furthermore, cross-border bidders have significantly higher levels of free cash flow. Median deal values are slightly higher for cross-border targets and significant at the 10%-level while the mean as well as median relative deal value is significantly larger for domestic deals, which is not a surprise when larger cross-border bidders compete for similar-sized targets. Cross-border acquisitions are significantly more often industrially diversifying while there is no difference in the proportion of hostile deal attitudes. As expected, cross-border bidders more often involve payment in cash only. Furthermore, cross-border acquisitions less often involve public targets. The average distance for cross-border acquisitions from capital to capital is 1,173Km. There is no difference in target market liquidity between the two subsets and lastly the level of bidder country shareholder protection is more often defined as 'high' for domestic acquisitions than for cross-border acquisitions. Reflecting on my predictions in section 2.1.3 significant differences in the two subsets of my sample are expected to affect a cross-border effect accordingly.

Table 3: Frequency table

This table describes the 1999–2015 sample of completed cross-border and domestic acquisitions extracted from ThomsonONE. Both acquirer and target stem from 10 countries that have used the Euro as currency since its introduction (01/01/1999). Acquirers are all listed at least 150 in advance of, and 30 trading days after the announcement date. The minimum deal value is €10mln. The minimum acquired stake is 50% and the final stake should exceed 51%. Panel A and B list respectively target and acquirer country frequency for cross-border and domestic acquisitions, percentages display the proportion of domestic, cross-border or total acquisitions in a respective country of the full sample. Panel C lists the distribution across announcement years, in the first two columns percentages display the proportion of cross-border or domestic acquisitions in a given year. In the last column percentages display the proportion of total acquisitions in a given year with respect to the full sample.

	Cross-border (n=511)		Domestic (n= 1,120)		Total (n= 1,631)	
	n	%	n	%	n	%
<i>Panel A: Target country frequency</i>						
Austria	18	3.5	24	2.1	42	2.6
Belgium	41	8.0	47	4.2	88	5.4
Finland	7	1.4	88	7.9	95	5.8
France	100	19.6	290	25.9	390	23.9
Germany	121	23.7	197	17.6	318	19.5
Republic of Ireland	9	1.8	14	1.3	23	1.4
Italy	64	12.5	215	19.2	279	17.1
Netherlands	78	15.3	75	6.7	153	9.4
Portugal	16	3.1	25	2.2	41	2.5
Spain	57	11.2	145	12.9	202	12.4
<i>Panel B: Acquirer country frequency</i>						
Austria	31	6.1	24	2.1	55	3.4
Belgium	60	11.7	47	4.2	107	6.6
Finland	34	6.7	88	7.9	122	7.5
France	118	23.1	290	25.9	408	25.0
Germany	70	13.7	197	17.6	267	16.4
Republic of Ireland	12	2.3	14	1.3	26	1.6
Italy	55	10.8	215	19.2	270	16.6
Netherlands	75	14.7	75	6.7	150	9.2
Portugal	6	1.2	25	2.2	31	1.9
Spain	50	9.8	145	12.9	195	12.0
<i>Panel C: Yearly distribution</i>						
1999	4	17.4	19	82.6	23	1.4
2000	54	34.0	105	66.0	159	9.7
2001	34	36.6	59	63.4	93	5.7
2002	28	27.7	73	72.3	101	6.2
2003	25	30.9	56	69.1	81	5.0
2004	31	34.8	58	65.2	89	5.5
2005	43	34.7	81	65.3	124	7.6
2006	32	20.0	128	80.0	160	9.8
2007	55	30.9	123	69.1	178	10.9
2008	25	27.8	65	72.2	90	5.5
2009	28	36.8	48	63.2	76	4.7
2010	25	30.1	58	69.9	83	5.1
2011	32	36.8	55	63.2	87	5.3
2012	22	33.3	44	66.7	66	4.0
2013	16	30.2	37	69.8	53	3.2
2014	30	40.5	44	59.5	74	4.5
2015	27	28.7	67	71.3	94	5.8

Table 4: Descriptive statistics

This table describes the means and medians (in parentheses) and differences between the samples of cross-border and domestic transactions. Means are compared using independent sample t-tests for unequal variances. As robustness check medians are compared using Wilcoxon rank-sum tests. Market value, Book value and Deal value are denoted in millions of Euros. Bidder market value is measured 30 days prior to the announcement date and provided by Datastream. Bidder book value is the book value of assets for the fiscal year ending prior to the announcement date. MTB-ratio is a firms market value divided by its book value. Free cash flow represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ended prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Deal value is the disclosed equity deal value excluding fees in extracted from ThomsonONE. Relative deal value is deal value divided by bidder market value. Diversifying, hostile, Cash only and Public target are all percentages of the sample and provided by ThomsonONE. Statistical significance for the difference in means and medians is denoted at *10%, **5%, and ***1%.

	Full sample	Domestic (1)	Cross-border (2)	Difference (1)-(2)	
	Mean (Median)	Mean (Median)	Mean (Median)	b (Median)	t-statistic (p-value)
<i>Panel A: Bidder characteristics</i>					
Market value	4564.7 (1029.8)	3403.8 (847.1)	7092.8 (1416.2)	-3689*** (-569.1***)	-4.877 (0.000)
Book value	2650.8 (612.3)	2043.9 (570.6)	3975.3 (793.6)	-1931.4*** (-223.0***)	-4.498 (0.000)
MTB-ratio	2.39 (1.53)	2.35 (1.42)	2.50 (1.78)	-0.15 (-0.36***)	-0.803 (0.000)
Free Cash Flow (%)	-0.05 (0.01)	-0.08 (0.05)	0.01 (0.04)	-0.10*** (0.02***)	-3.938 (0.001)
<i>Panel B: Deal characteristics</i>					
Deal value	553.2 (100.6)	535.2 (98.0)	592.7 (112.1)	-57.5 (-14.1*)	-0.567 (0.033)
Relative deal value (%)	25.69 (10.63)	29.77 (12.66)	16.82 (7.40)	0.13*** (5.26***)	7.186 (0.000)
Diversifying (%)	37.77	35.45	42.86	-0.07***	-2.832
Hostile (%)	0.25	0.27	0.20	0.07	0.289
Cash only (%)	30.35	27.68	36.20	-0.09***	-3.392
Public target (%)	14.90	16.34	11.74	0.05**	2.549
<i>Panel C: Country characteristics</i>					
Geographical distance (Km)	-	-	1173.0	-	-
Market liquidity (%)	1.00	1.02	0.98	0.04	0.647
High bid. Protection (%)	47.95	50.18	43.05	7.13***	2.685
<i>N</i>	1631	1120	511		

3.4.2 Cultural distance

The absolute scores of the indices for cultural dimension for the countries included in my sample as formalized by Hofstede (2001) are displayed in Table 5 Dimension (1) till (4) were originally constructed, later research has added the extensions (5) and (6).

Table 5: Hofstede scores for cultural dimensions

This table displays the individual Hofstede country scores for cultural dimensions. (1) PDI = power distance, (2) = Individualism, (3) = Masculinity, (4) = Uncertainty avoidance, (5) = Long-term orientation, (6) = Indulgence vs. restraint.

Dimensions	(1) PDI	(2) IDV	(3) MAS	(4) UAI	(5) LTO	(6) IND
Netherlands	38	80	14	53	67	68
Finland	33	63	26	59	38	58
Portugal	63	27	31	99	28	33
Spain	57	51	42	86	48	44
France	68	71	43	86	63	48
Belgium	65	75	54	94	82	57
Germany	35	67	66	65	83	40
Republic of Ireland	28	70	68	35	24	65
Austria	11	55	70	70	60	63
Italy	50	76	70	75	61	30

The operationalization method proposed by Kogut & Singh (1988) as described in section 3.3.1 provides a matrix of cultural distance as presented in Table 6 where larger figures between two countries represent greater cultural distance and according to my hypotheses lower announcement returns. In case my hypotheses prove to be correct, the matrix can be loosely viewed as a normative guide to target selection when considering cross-border acquisitions where chances of successful mergers are greater when selecting more culturally proximate targets. Similar matrices for individual dimension distances are presented in table 24-29 of the appendix.

Table 6: Operationalized composite index for cultural distance

This table displays relative cultural distance between bidder and target countries using the composite operationalization of Hofstede's dimensions for cultural distance as proposed by (Kogut & Singh, 1988)

Target	Cultural distance (6)									
	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>										
Netherlands	X	0.8	5.9	2.6	2.0	2.3	2.5	2.6	2.7	3.5
Finland	0.8	X	3.1	1.2	1.7	2.6	2.1	1.4	1.6	2.5
Portugal	5.9	3.1	X	1.0	2.6	4.2	4.4	6.1	4.8	3.6
Spain	2.6	1.2	1.0	X	0.5	1.3	1.6	3.2	2.2	1.3
France	2.0	1.7	2.6	0.5	X	0.4	1.4	3.6	2.8	1.0
Belgium	2.3	2.6	4.2	1.3	0.4	X	1.4	4.4	2.7	1.4
Germany	2.5	2.1	4.4	1.6	1.4	1.4	X	2.8	1.3	0.6
Republic of Ireland	2.6	1.4	6.1	3.2	3.6	4.4	2.8	X	1.6	3.1
Austria	2.7	1.6	4.8	2.2	2.8	2.7	1.3	1.6	X	2.4
Italy	3.5	2.5	3.6	1.3	1.0	1.4	0.6	3.1	2.4	X

Assumptions

A proxy for cultural distance operationalized above requires some assumptions; as its effect is tested on acquisitions ranging from 1999 to 2015 we need to rely on it being static and its effects to be comparable across the sample. Although it might not be realistic to assume culture to remain completely unchanged, it only exists by comparison (Hofstede, 2001). As such, cultures are recognized to be subject to change, it is however their relative position that matters. The very nature of data collection for the construction of individual dimensions intrinsically demands a set of assumptions as it originates from different years and are partly based on replications and extensions. Culture changes only very slowly, and when it does, its change tends to be highly correlated with its greater geographical region and its economic development (Hofstede, 2001). I therefore assume relative cultural distances to be up-to-date for the entire sample. Nonetheless, when (1) a cross-border effect exists, (2) cultural distance proves to be negatively correlated with cross-border bidder returns, and (3) those returns improve over my sample period, this indirectly tests a hypothesis of cultural convergence.

3.5 Test methodology

This section will describe step by step what methodological path is followed to generate the results in section IV.

3.5.1 Univariate analysis

To statistically test for the existence of a cross-border effect I will first use univariate analysis on CARs around acquisition announcement dates using a series of independent sample *t*-tests triple-sorting for cross-border vs. domestic acquisitions in different event windows and periodical sample subsets. The five event windows will be tested for the full sample and two periodical subsets; 1999-2007 and 2008-2015. Subsets are created to analyze whether a cross-border effect remains constant over the length of my sample. A total of 30 *t*-tests are conducted using cross-border vs. domestic as grouping variable. Additionally, I perform a series of similar independent sample *t*-tests using the sample periods as grouping variable on the same intervals and the total separate subsets samples cross-border and domestic, to test for variance in a cross-border effect in time.

Robustness

Potentially problematic assumptions specific to the independent sample *t*-tests are as follows: first, the firm- deal- and country-specific variables should be approximately normally distributed for both the cross-border and domestic category. Even though normality of variables of the two subsamples is formally rejected for some variables using the Shapiro-Wilk test for normality and visual inspection of QQ-plots (Table 22 of the appendix) independent *t*-

tests are relatively robust to non-normality. Moreover, the central limit theorem poses that non-normality disappears for larger samples ($N > 50$), I therefore assume this is not an issue. Second, for using the standard independent sample t-tests, homogeneity in variances is required. Levene's test for equal variances indicates that this is not the case, therefore I use t-tests for unequal variances.

3.5.2 Cross-sectional analysis

Cross-border effect

Cross-sectional analysis is required to control for a variety of firm-, deal- and country-specific circumstances. As the strongest stock price reactions are expected to be found for the $[-1; +1]$ event window, $CAR_{-1;+1}$ is employed as dependent variable in all standard regressions unless otherwise stated.

General OLS regression models are denoted as follows:

$$CAR_{jt} = \alpha + \beta_{Crossborder} Crossborder + \beta_a X_a + \beta_b X_b + \dots + \varepsilon_{jt} \quad (6)$$

Where,

CAR_{jt} = Cumulative Abnormal Returns of company j at announcement t

$Crossborder$ = Dummy variable for cross-border acquisitions

β_a = Coefficient of control variable a

X_a = Control variable a

Cultural distance

When a cross-border effect persists after adding selected control variables I run a series of regressions on $CAR_{-1;+1}$ in the cross-border sample with cultural distance as independent variable. The first two regressions test the significance of the respective four-dimensional and six-dimensional cultural distance proxies CD_{ban_i} , algebraically denoted as follows:

$$CAR_{jt} = \alpha + \beta_{CD_{ban_i}} CD_{ban_i} + \beta_a X_a + \beta_b X_b + \dots + \varepsilon_{jt} \quad (7)$$

Where,

CD_{ban_i} = Cultural distance between bidder country b and target country a using the n_i -dimensional cultural distance proxy

$\beta_{CD_{ban_i}}$ = Coefficient for chosen cultural distance proxy

To investigate whether any of the separate dimensions has a distinct relation with bidder gains I formulate separate regressions using individual dimension distances DD_{bai} as follows:

$$CAR_{jt} = \alpha + \beta_{PDI}DD_{baPDI} + \beta_{IDV}DD_{baIDV} + \beta_{MAS}DD_{baMAS} + \beta_{UAI}DD_{baUAI} + \beta_{LTO}DD_{baLTO} + \beta_{IND}DD_{baIND} + \beta_a X_a + \beta_b X_b + \dots + \varepsilon_{jt} \quad (8)$$

Where,

DD_{bai} = Distance between bidder country b and target country a on dimension i

β_i = Coefficient for dimension i

Fixed effects

To prevent endogeneity and minimize the risk of unjustly attributing any of the observed effects, fixed effects are included as parameters to be estimated. First, year effects are included as proxy to control for a wide array of circumstances that may vary within my sample. As such it should capture to a degree i.a. pricing errors (e.g. the internet bubble and credit crisis), economic cycle effects, investor sentiment etc.. Second, I include target nation fixed effects to control for any characteristic that is unique to a target country e.g. legal origin, economic restrictiveness and language. To avoid multicollinearity issues I intentionally refrain from including fixed bidder country effects since I test e.g. bidder characteristics and the level of bidder country shareholder protection separately.

Robustness

As a large number of control variables are added it is first necessary to check whether any of the models suffer from multicollinearity. Literature provides a number of methods for detecting and resolving the potential presence of this issue. The most used method is the examination of a correlation matrix of all predictor variables, computing the coefficients of determination (R^2) of each predictor regressed on the remaining variables. Commonly applied cutoffs are 0.8 or 0.9, indicating strong linear correlation (Mason & Perreault, 1991) at which level predictors are potentially harmful and required to be omitted. Table 16 and Table 17 of the appendix present a correlation matrix of respectively all control-variables and individual cultural dimensions distances DD_{bai} . As I prefer to additionally omit variables that might suffer from intermediate levels of correlation, I apply a more conservative cutoff of 0.5, any variables suffering from higher scores are independently regressed. An alternative method to detect multicollinearity is the use of variance inflation factors (VIFs), which I use as additional check. VIFs quantify the

severity of multicollinearity and estimate how much the variance of model coefficients increases upon the addition of a specific predictor. A rule of thumb maximum VIF-value is suggested to be harmful at 10 (Mason & Perreault, 1991). Although not reported, none of the remaining predictors after inspection of the correlation matrix suffer from VIFs above 10. Secondly, Standard OLS regressions require homoscedasticity of error terms. Even when OLS estimators remain unbiased when suffering from heteroskedasticity, they are inefficient due to the underestimation of variance. To control for heteroskedasticity of error terms in my regressions I perform a Breusch-Pagan test for homogeneity. X^2 scores are presented in the referenced regression tables. Where homoscedasticity is rejected, OLS regressions with unequal variances are performed.

3.5.3 Propensity study

When the third or fourth scenario described in section 2.2.2 is true, we should find evidence of a lower propensity of culturally distant vs. proximate cross-border acquisitions. When firms consider engaging in cross-border acquisitions, assuming this decision to chronologically precede target selection, the decision to enter into a culturally proximate or culturally distant acquisition can be modeled as a qualitative choice problem given the firms' set of characteristics and target preferences. When cultural distance is associated with higher costs and is to influence managers' cross-border target selection, all else equal, culturally proximate target nations should be preferred. Similarly, when cultural distance plays no role in target selection, we should find an equal distribution of culturally distant and proximate targets. As such the qualitative problem can be tested using a binomial test for equal probabilities.

When testing for the equal probabilities of two distinct outcomes, it is firstly necessary to define them, and secondly to establish an expected probability to test against. As our chosen operationalization method yields a numerical variable for cultural distance, this may seem arbitrary. However, I attempt to construct a testing framework using the cultural distance matrix as provided in section 3.4.2..

Low cultural distance vs. high cultural distance

To make a distinction between culturally distant and proximate acquisitions we need to look at the options available for each acquiring firm. When a firm decides to engage in a cross-border acquisition, this leaves nine target countries to choose from. Using the median cultural distance of the set of potential target countries for a specific acquiring country based on the six-dimensional Hofstede composite index, I define those acquisitions above the median cultural distance of its option-universe as culturally distant and the remaining options as culturally proximate. Each bidding firm will now have a range of cross-border options of which half is

distant and half is proximate dependent of its own relative cultural distance towards all other options.

Expected probabilities

The expected binomial probability of culturally distant acquisitions is not simply $p=0.5$ as potential target firms are not homogeneously distributed over any firms' nine-country option range, but proportionally to the size of its respective economies. We therefore need to establish an expected number of acquisitions over the full sample in each nine country-options for all ten acquiring countries, under the assumption cultural distance has no effect on target selection. I therefore firstly construct a matrix of observed numbers of acquisitions in all target countries by all bidder countries for the full sample. Secondly I construct a similar matrix using expected numbers based on a target country option's GDP¹⁷ relative to the sum of GDPs of all nine target country options multiplied by the total acquisitions in my sample for the acquiring firm's country. For each acquiring country we now have an expected and observed distribution of cross-border acquisitions in any of the nine other countries. Also, we have cultural distance figures based on the Hofstede six-dimensional composite index for all target countries for any acquiring company. Using the before mentioned definition of high- vs. low cultural distance, I can now label all observed acquisitions in target countries with higher cultural distance than the median of a respective acquiring country's options as culturally distant, and contrast them with the observed values. An overview of expected and observed acquisitions can be found in Table 29 and Table 30 of the appendix. For my full sample, all else equal, the expected probability of any cross-border acquisition by any bidder being culturally distant is roughly 29%¹⁸ over the full sample. As such, a binomial probability test can be employed where a significantly lower p -value for culturally distant acquisitions would indicate lower propensities, and hypothetically managerial avoidance of cultural distance.

Multinomial probit model

When culturally distant acquisitions are indeed associated with higher costs and lower bidder returns, and differential propensities of culturally distant acquisitions are found, it is of additional relevance what firm-, deal- and country-level characteristics might influence this qualitative choice problem. It is not the intention of this paper to exhaustively clarify drivers of the probability of firms entering into potentially value-destructing culturally distant cross-border acquisitions. I do however aim at gaining some insights into what variables employed

¹⁷ Using 1999 GDP figures, making the assumption that individual GDP levels have grown at similar rates

¹⁸ The expected probability deviates for different bidder countries

earlier might increase these probabilities, as they might serve as valuable recommendations for future research.

Following Kogut & Singh (1988) a multinomial probit model is specified to estimate the effect of the explanatory factors on the probability that one of the alternatives would be chosen. For any acquisition choice, I first specify two alternatives: culturally proximate, or culturally distant acquisition, and later add a third domestic option. The model allows the explanatory variables to affect differential odds of choosing one alternative relative to another. Thus the coefficient vector is specific to the alternative, not the firm making the choice. Consequently, the specification of the probabilities is:

$$P_{bj} = \frac{\exp(x_{ij}B_j)}{\sum_{j=1}^3 \exp(x_{ij}B_j)} \quad (9)$$

Where,

P_{bj} = Probability that bidder firm b will choose alternative j

x_{bj} = Vector of variables representing the variables characterizing the b th bidder firm and the j th alternative

B_j = Is the vector of coefficients to the independent variables

However, since the probabilities are constrained to sum to one, when including domestic acquisitions, the system of equations is over-identified. The parameters can be estimated by setting the B s of one of the alternatives to 0. In my model it is self-evident to use domestic acquisitions as a baseline case by which to compare the estimated parameters of culturally proximate and culturally distant cross-border acquisitions, now the specification is reduced to:

$$P_{bj} = \frac{\exp(x_{ij}B_j)}{1} + \sum_{j=2}^3 \exp(x_{ij}B_j) \quad (10)$$

With the baseline alternative specified as:

$$P_{b_1} = \frac{1}{1} + \sum_{j=2}^3 \exp(x_{ij}B_j) \quad (11)$$

The parameters (B s) are estimated by maximizing a log likelihood function using the Newton-Raphson iteration procedure.

IV. Results

This section continues to discuss the results of my research and touches upon the main hypotheses.

4.1 Does the cross-border effect exist across Europe?

The main hypothesis tested in this section is the existence of an intra-European cross-border effect. Additionally this section investigates whether a cross-border effect is persistent over the length of my sample. The hypotheses are tested using univariate and cross-sectional analysis as described in section 3.5.1 and 3.5.2.

Univariate analysis

Panel A of Table 7 presents the abnormal announcement period returns for the full sample of domestic and cross-border acquirers. All reported results are based on means. Cross-border acquirers on average realize 0.83% lower announcement returns using the three-day market-adjusted returns ($CAR_{-1,+1}$), for the full sample from 1999-2015. For the period 1999-2007 the cross-border effect is even more pronounced with 1.32 percentage point lower $CAR_{-1,+1}$ for cross-border acquirers, while for the period 2008-2015 a difference in returns is statistically indistinguishable from zero. This differential cross-border effect originates from a strong and significant increase in cross-border acquisition returns over time while domestic acquisition returns are stable over the two periods. A cross-border effect for a three-day event window remains significant for wider event windows; panel B, C, and D display a respective $CAR_{-5,+5}$ of 0.94%, $CAR_{-10,+10}$ of 1.03% and $CAR_{-30,+30}$ of 2.31% for the full sample. A cross-border effect for different event-windows for the 1999-2007 period remains significant with the exception of $CAR_{-10,+10}$. In summary, univariate analysis suggests the existence of a cross-border effect; shareholders of acquirer firms expect on average less value creation when engaging in cross-border acquisitions vs. domestic acquisitions. The effect does not persist over the full sample; a difference between domestic and cross-border CARs is statistically indistinguishable from zero for the 2008-2015 period.

The economic significance of these results is momentous; e.g. multiplying the full sample cross-border effect with the average market value of cross-border bidders of €7.1bn translates into an average absolute difference in value creation per acquisition compared to domestic acquisitions ranging from €58.9mln using $CAR_{-1,+1}$ to a staggering €163.8mln using $CAR_{-30,+30}$.

Figure 2 (A) presents the average cumulative average daily abnormal announcement returns over a 60-day event window $[-30; +30]$ for the full sample of domestic and cross-border acquirers. As expected the $[-1; +1]$ time interval provides the best window for capturing event effects. A discrepancy in stock price development for cross-border and domestic acquisition announcements is clearly illustrated. Over pre-announcement horizon domestic bidders' stock prices fluctuate around the zero percentage return line followed by the prompt positive adjustment as a result of an acquisition announcement, after which stock prices remain relatively stable at a new level. Strikingly, cross-border bidder stock prices do not seem to follow the same pattern; In the run-up towards an acquisitions announcement its daily adjusted returns are slightly negative, followed by a positive market reaction as result of an acquisitions announcement after which prices drop below pre-announcement levels. Although outside the scope of this paper, a potential explanation for such a discrepant pattern is that cross-border bidders are on average larger, and have more coverage. This could potentially decrease information asymmetries and lead to gradual pre-announcement adjustments by informed traders. This would however also suggest contradictory announcement evaluations of informed and uninformed traders, as $CAR_{-1;+1}$ is positive for domestic as well as cross-border acquisition announcements. Additionally, coherent to the findings presented in Table 7, cross-border effects in the average CARs over the 60-day event window are more pronounced for the 1999-2007 period (figure B) than for the 2008-2015 period (Figure C) characterized by much stronger performance of domestic acquisitions in the former period.

In conclusion, visual inspection supports the cross-border effect hypothesis and its inconsistency over the full sample as it presents discrepancies in shareholder perception of acquisitions of both two subsets and between two time-periods, that is persistent over at least the 60-day $[-30; 30]$ interval.

Table 7: Univariate analysis

This table presents the cumulative average abnormal announcement day returns (CAR) for the 1999-2015 full sample of cross-border and domestic acquisitions. CAR is calculated as the market-adjusted return over various event windows. Panel A, B, C and D respectively present CARs for time intervals [-1;+1], [-5;+5], [-10;+10] and [-20;+20]. The full sample of acquisitions is obtained from ThomsonONE, transactions are selected as described in table 2. *t*-statistics are based on a two-tailed independent sample test with unequal variances for differences in means. Differences in means and coherent *t*-statistics between cross-border and domestic acquisitions are horizontally presented and described as 'cross-border effect'. Differences and *t*-statistics between period 1999-2007 and 2008-2015 are vertically presented for each panel. Statistical significance denoted at *10%, **5%, and ***1%.

	$CAR_{-1,+1}$				
Period	Full sample	Domestic sample (1)	Cross-border sample (2)	Cross-border effect (1) - (2)	t-statistic
<i>Panel A: [-1;+1]</i>					
1999-2015	0.0105 <i>n=1,631</i>	0.0131 <i>n=1,120</i>	0.0048 <i>n=511</i>	0.0083***	2.9039
1999-2007 (i)	0.0097 <i>n=1,008</i>	0.0137 <i>n=702</i>	0.0006 <i>n=306</i>	0.0132***	3.6557
2008-2015 (ii)	0.0117 <i>n=623</i>	0.0120 <i>n=418</i>	0.0111 <i>n=205</i>	0.0009	0.1884
difference (i)-(ii)	-0.0019	-0.0018	0.0105**		
t-statistic	0.6173	-0.4280	2.4947		
<i>Panel B: [-5;+5]</i>					
1999-2015	0.0123 <i>n=1,631</i>	0.0153 <i>n=1,120</i>	0.0058 <i>n=511</i>	0.0094**	2.131
1999-2007 (i)	0.0128 <i>n=1,008</i>	0.0170 <i>n=702</i>	0.0032 <i>n=306</i>	0.0138**	2.375
2008-2015 (ii)	0.0115 <i>n=623</i>	0.0123 <i>n=418</i>	0.0098 <i>n=205</i>	0.0026	0.3781
difference (ii)-(i)	-0.0013	-0.0047	0.0066		
t-statistic	-0.2913	-0.7911	0.9793		
<i>Panel C: [-10;+10]</i>					
1999-2015	0.0108 <i>n=1,631</i>	0.0140 <i>n=1,120</i>	0.0037 <i>n=511</i>	0.0103*	1.7367
1999-2007 (i)	0.0112 <i>n=1,008</i>	0.0146 <i>n=702</i>	0.0034 <i>n=306</i>	0.0112	1.3870
2008-2015 (ii)	0.010 <i>n=623</i>	0.013 <i>n=418</i>	0.004 <i>n=205</i>	0.009	1.036
difference (ii)-(i)	-0.0010	-0.0015	0.0009		
t-statistic	-0.1773	-0.2093	0.0958		
<i>Panel D: [-30;+30]</i>					
1999-2015	0.003 <i>n=1,631</i>	0.010 <i>n=1,120</i>	-0.013 <i>n=511</i>	0.0231**	2.170
1999-2007 (i)	0.002 <i>n=1,008</i>	0.010 <i>n=702</i>	-0.015 <i>n=306</i>	0.0248*	1.657
2008-2015 (ii)	0.0045 <i>n=623</i>	0.0113 <i>n=418</i>	-0.0094 <i>n=205</i>	0.0206	1.4545
difference (ii)-(i)	0.002	0.002	0.006		
t-statistic	0.2364	0.1310	0.3461		

Figure 2: Domestic vs. Cross-border cumulative average daily abnormal announcement returns

These figures present a plot of daily cumulative abnormal announcement returns for a [-30;+30] event window. Figure A, B and C show average CARs for respectively (A) 1,631 European acquisitions from 1999-2015, subsets consist of 511 cross-border and 1,120 domestic acquisitions, (B) 1,008 European acquisitions from 1999-2007, subsets consist of 306 cross-border and 702 domestic acquisitions, and (C) 623 European acquisitions from 2008-2015 with subsets consisting of 205 cross-border and 418 domestic acquisitions. Subsets and stock prices are extracted from ThomsonONE. Market-adjusted returns constructed using the MSCI Europe index.



Cross-sectional analysis

The cross-sectional regression models test whether the cross-border effect continues to hold after controlling for firm-, deal- and country-specific factors expected to affect announcement returns. The dependent variable for each regression is $CAR_{-1,+1}$ as the three-day event window provides strongest and most significant stock price reaction as presented in Table 4 and Figure 2. As discussed fixed year and target country effects are included, the coefficients of these

effects for each regression are presented in Table 19 of the appendix. A Breusch–Pagan test for homogeneity of standard errors is performed and its X^2 -scores are presented. White's heteroskedasticity adjusted standard errors are used where homoscedasticity is rejected.

Table 9 presents full sample regression results. Model 1 includes no control-variables; a cross-border effect of 0.8% is equal to univariate analysis. Model 2 operates exclusively fixed year and target country effects, the cross-border effect persists, amounts to 0.7%, and remains significant at the 5%-level. Model 3 includes firm-specific control variables Log bidder market value, MTB-ratio and FCF-level. Bidder market value is highly significant and has a negative correlation with bidder returns. More importantly, a cross-border effect is insignificant when adding bidder size to the model, raising the suspicion that a conjectured cross-border effect may simply be a size-effect (Moeller, Schlingemann, & Stulz, 2004) that is expressed through discrepant subset average bidder values. Market value, deal value and relative deal value however, suffer from covariance and cannot be included in the same regression (Table 16 of the appendix). For the remaining models I therefore choose to additionally test log deal value and relative deal value as proposed by Asquith, Bruner, & Mullins (1983) following Moeller & Schlingemann (2005), whereby the latter obviously captures some effects from deal value as well as bidder size. The remaining firm-specific control variables Bidder MTB-ratio and FCF-level both have an insignificant correlation to $CAR_{-1,+1}$; Model 5 and 6 control for deal-specific variables including respectively log deal value and relative deal value. Deal value shows no significant correlation with announcement returns while relative deal value is positively and significantly related with $CAR_{-1,+1}$; firms acquiring equally sized targets realize on average 2.4% higher announcement returns compared to firms acquiring targets that represent (close to) 0% of bidder market value. Diversifying acquisitions have equal announcement returns. Hostile takeovers insignificantly yield lower abnormal returns of approximately 2.4% Deals fully paid in cash yield a significant 0.8% higher abnormal return than other consideration structures. And as expected, bidders realize significantly lower abnormal returns of 2.0% when acquiring public firms. Model 7 and 8 include firm- and deal-specific variables as well as target market liquidity. The latter is expectedly and negatively albeit insignificantly associated with bidder returns; acquisitions in markets with a high level of competition realize slightly lower bidder gains. Lastly, model 9 present the interaction with bidder legal systems; those bidders stemming from a French or English legal system realize slightly higher returns of respectively 1.1% and 2.1% significant at the 10%-level, which is surprising as the French legal system is associated with lower levels of shareholder protection. A dummy for high shareholder protection rights as defined by La Porta, Lopez-de-Silanes, Schleifer, & Vishny (2000) in its place yields slightly higher yet insignificant abnormal returns. A cross-border effect over the full sample remains significant for most control variables except for bidder market value, which

withholds the unconditional affirmation of a cross-border effect over the full sample.

Evidence from univariate analysis suggests that a cross-border effect is particularly strong for the period 1999-2007 and may indeed be non-existent for the period 2008-2015. I therefore suspect the cross-border effect to be larger and more robust to control-variables for the former period. Table 10 presents the results for methodologically and structurally similar regressions on $CAR_{-1,+1}$ controlling for firm-, deal- and country-specific factors for the 1999-2007 period. Similar to univariate tests, the cross-border effect is larger and amounts to approximately 1.0%. Moreover, the cross-border effect remains highly significant for all models employed. Similar to the full sample; bidder MTB-ratio and bidder FCF have no correlation with bidder gains while bidder market value negatively and significantly impacts $CAR_{-1,+1}$, providing evidence for the co-existence of a size-effect (Moeller, Schlingemann, & Stulz, 2004) parallel to a cross-border effect. Deal characteristics variables for the period 1999-2007 display similar signs and magnitude as the full sample; deal value in itself is indistinguishable from zero while relative deal value is positive and significant at the 1%-level. Whether acquisitions are diversifying or hostile seems to make no difference while deals paid in cash realize approximately 1.2% higher abnormal returns and those that entail public targets have approximately 2.1 percentage points lower $CAR_{-1,+1}$. For 1999-2007 only acquirers governed by English law show significant higher returns. while in contrast with the full sample, those from different legal systems including the French remain insignificant. Most importantly, the cross-border effect is significant at the 1%-level for all models over the 1999-2007 sample period. Table 8 provides an overview of effects found to be significant at a minimum level of 10%.

Table 8: Summary findings cross-border effect

This table presents a summary of predictors of CARs with a minimum significant of 10% over the full sample and the 1999-2007 period.

Predictor	Type	Effect on CAR	
		1999-2015	1999-2007
Cross-border	Country level	-	-
Bidder market value	Firm level	-	-
Bidder FCF-level	Firm level	+	
Relative deal value	Deal level	+	+
Public target	Deal level	-	-
Cash only	Deal level	+	+
Bidder legal French	Country level	+	
Bidder legal English	Country level	+	+

Based on univariate and cross-sectional analysis I can partly confirm my first hypothesis: “*There exists a cross-border effect within Europe, cross-border acquisitions yield lower bidder gains than their domestic counterparts*”. A cross-border effect is significant and robust for multiple event-windows and a range of control variables known to affect announcement returns. When taking acquirer market value in consideration however, the cross-border effect becomes insignificant over the full sample. Nonetheless, the 1999-2007 subset provides strong evidence of a cross-border effect robust for all control variables, this suggests that a cross-border effect has existed yet does not necessarily persist over the full sample period. In support thereof, univariate analysis finds a significant difference in cross-border bidder returns for the 1999-2007, and 2008-2015 period. As such these findings jointly confirm my fourth hypothesis: “*A cross-border effect decreases over time*”. The results are mostly coherent in sign and magnitude to the closest related methodology on cross-border effects using a U.S. sample from 1985 to 1995 (Moeller & Schlingemann, 2005), which presented evidence for a cross-border effect using a three-day event window of approximately 1%.

Table 9: Cross-sectional regression models 1999-2015

This table presents the cross-sectional regression results for the full sample 1999-2015 with $CAR_{-1,+1}$ as dependent variable. Cross-border is a dummy variable for cross-border acquisitions. Log bidder market value is the logarithmic function of bidder market capitalization measured 30 days prior to the announcement date and provided by Datastream. MTB-ratio is a firm's similarly measured market value divided by its book value of assets for the fiscal year ending prior to the announcement date. Bidder FCF represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ending prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Log deal value is the logarithmic function of the disclosed equity deal value excluding fees as provided by ThomsonONE. Relative deal value is deal value divided by bidder market value. Diversifying, Hostile, Cash only, and Public target are dummy variables where the classification stems from ThomsonONE. Target market liquidity the yearly fraction of total transaction value of all targets in a country in the sample weighted for its yearly GDP. Bidder legal French, German, English and Scandinavian are dummy variables when bidders stem from a respective legal system. Bidder high protection is a dummy variable when its shareholder protection ranks high (above three) according to LLSV (1997). When appropriate, White's heteroskedasticity adjusted standard errors are used and indicated with ^a. Statistical significance denoted at *10%, **5%, and ***1%.

	$CAR_{-1,+1}$									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crossborder	-0.008*** (-2.90)	-0.007** (-2.48)	-0.003 (-1.00)	-0.008*** (-2.92)	-0.006** (-2.04)	-0.006** (-1.99)	-0.008*** (-2.74)	-0.006** (-2.01)	-0.006** (-2.05)	-0.006** (-2.01)
Log bidder market value			-0.007*** (-6.74)							
Bidder MTB-ratio			-0.000 (-0.22)			-0.000 (-0.36)	-0.000 (-0.58)	-0.000 (-0.32)	-0.000 (-0.38)	-0.000 (-0.30)
Bidder FCF			0.003 (1.08)			0.005* (1.72)	0.001 (0.26)	0.005* (1.72)	0.005 (1.64)	0.005* (1.68)
Log deal value				-0.001 (-0.68)			-0.001 (-1.02)			
Relative deal value					0.024*** (4.97)	0.026*** (5.09)		0.026*** (5.12)	0.026*** (5.13)	0.026*** (5.11)
Diversifying				0.001 (0.28)	0.001 (0.32)	0.001 (0.32)	0.002 (0.66)	0.001 (0.33)	0.001 (0.27)	0.001 (0.30)
Hostile				-0.025 (-0.76)	-0.023 (-0.68)	-0.024 (-0.69)	-0.023 (-0.69)	-0.024 (-0.70)	-0.023 (-0.65)	-0.024 (-0.70)
Cash only				0.009*** (2.84)	0.009*** (2.85)	0.008*** (2.66)	0.007** (2.39)	0.008*** (2.69)	0.008*** (2.62)	0.008*** (2.70)
Public target				-0.014*** (-3.20)	-0.019*** (-4.33)	-0.020*** (-4.52)	-0.016*** (-3.45)	-0.020*** (-4.44)	-0.020*** (-4.43)	-0.020*** (-4.43)
Target market liquidity							-0.027 (-0.15)	-0.108 (-0.61)	-0.114 (-0.65)	-0.110 (-0.63)
Bidder legal French									0.011* (1.95)	
Bidder legal German									0.006 (0.98)	
Bidder legal English									0.021* (1.72)	
Bidder legal Scandinavian									0.010 (0.92)	
Bidder high protection										0.004 (1.26)
Constant	0.013*** (6.80)	0.002 (0.16)	0.043*** (3.34)	0.008 (0.52)	0.000 (0.02)	-0.007 (-0.55)	0.005 (0.36)	-0.004 (-0.31)	-0.008 (-0.57)	-0.005 (-0.36)
N	1631	1631	1551	1631	1608	1551	1551	1551	1551	1551
X ²	48.69 ^a	221.18 ^a	411.82 ^a	138.14 ^a	320.24 ^a	367.32	190.81 ^a	361.24 ^a	357.27 ^a	365.33 ^a
R ²	0.004	0.041	0.073	0.054	0.083	0.081	0.054	0.082	0.083	0.082
Adjusted R ²	0.004	0.026	0.055	0.035	0.065	0.061	0.033	0.061	0.060	0.061
Year FE	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
Target nation FE	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

Table 10: Cross-sectional regression models 1999-2007

This table presents the cross-sectional regression results for the years 1999-2007 with $CAR_{-1,+1}$ as dependent variable. Cross-border is a dummy variable for cross-border acquisitions. Log bidder market value is the logarithmic function of bidder market capitalization measured 30 days prior to the announcement date and provided by Datastream. MTB-ratio is a firm's similarly measured market value divided by its book value of assets for the fiscal year ending prior to the announcement date. Bidder FCF represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ending prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Log dal value is the logarithmic function of the disclosed equity deal value excluding fees as provided by ThomsonONE. Relative deal value is deal value divided by bidder market value. Diversifying, Hostile, Cash only, and Public target are dummy variables where the classification stems from ThomsonONE. Target market liquidity is the yearly fraction of total transaction value of all targets in a country in the sample weighted for its yearly GDP. Bidder legal French, German, English and Scandinavian are dummy variables when bidders stem from a respective legal system. Bidder high protection is a dummy variable when its shareholder protection ranks high (above three) according to LLSV (1997). When appropriate, White's heteroskedasticity adjusted standard errors are used and indicated with ^a. Statistical significance denoted at *10%, **5%, and ***1%.

Model	$CAR_{-1,+1}$									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cross-border effect	-0.013*** (-3.66)	-0.013*** (-3.32)	-0.008** (-2.19)	-0.014*** (-3.58)	-0.011*** (-2.83)	-0.010*** (-2.66)	-0.013*** (-3.18)	-0.010*** (-2.67)	-0.010*** (-2.77)	-0.010*** (-2.67)
Log bidder market value			-0.006*** (-5.80)							
Bidder MTB-ratio			-0.000 (-0.40)			-0.000 (-0.50)	-0.000 (-0.97)	-0.000 (-0.45)	-0.000 (-0.54)	-0.000 (-0.44)
Bidder FCF			0.002 (0.46)			0.003 (0.88)	-0.001 (-0.21)	0.003 (0.87)	0.003 (0.82)	0.003 (0.87)
Log deal value				-0.001 (-0.94)			-0.001 (-1.20)			
Relative deal value					0.024*** (3.99)	0.024*** (3.96)		0.024*** (3.99)	0.024*** (3.98)	0.024*** (3.97)
Diversifying				0.001 (0.37)	0.001 (0.29)	0.002 (0.50)	0.004 (0.94)	0.002 (0.52)	0.002 (0.49)	0.002 (0.51)
Hostile				-0.029 (-1.01)	-0.026 (-0.75)	-0.025 (-0.72)	-0.025 (-0.88)	-0.025 (-0.74)	-0.025 (-0.72)	-0.025 (-0.74)
Cash only				0.014*** (3.22)	0.013*** (2.97)	0.012*** (2.71)	0.011*** (2.62)	0.012*** (2.76)	0.012*** (2.73)	0.012*** (2.76)
Public target				-0.014*** (-2.75)	-0.021*** (-3.46)	-0.022*** (-3.69)	-0.016*** (-3.03)	-0.022*** (-3.59)	-0.021*** (-3.53)	-0.021*** (-3.59)
Target market liquidity							-0.089 (-0.49)	-0.156 (-0.85)	-0.156 (-0.85)	-0.156 (-0.85)
Bidder legal French									0.009 (1.25)	
Bidder legal German									0.006 (0.76)	
Bidder legal English									0.029** (2.26)	
Bidder legal Scandinavian									0.011 (0.84)	
Bidder high protection										0.001 (0.23)
Constant	0.014*** (6.06)	0.006 (0.37)	0.053*** (3.58)	0.012 (0.67)	0.003 (0.19)	0.002 (0.15)	0.016 (0.82)	0.006 (0.42)	0.002 (0.14)	0.005 (0.40)
N	1008	1008	947	1008	991	947	947	947	947	947
X ²	14.08 ^a	0.05	17.74 ^a	2.82	13.22 ^a	21.57 ^a	0.25	21.13 ^a	21.15 ^a	21.12 ^a
R ²	0.011	0.040	0.074	0.061	0.093	0.089	0.061	0.090	0.092	0.090
Adjusted R ²	0.010	0.023	0.053	0.039	0.072	0.064	0.035	0.064	0.062	0.063
Year FE	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES
Target nation FE	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES

4.2 Does cultural distance explain a cross-border effect?

Table 11 presents the results of cross-sectional regression analysis on announcement returns for all cross-border acquisitions over the full sample, employing cultural distance as independent variable. Model 1 represents the construct for cultural distance operationalizing the four original Hofstede cultural dimensions CD_{ba4} (PDI, IDV, MAS, and UAI) as proposed by Kogut & Singh (1988). CD_{ba4} has a negative yet insignificant effect on announcement returns. Model 2 represents the composite cultural distance construct operating a total of six individual cultural dimensions including extensive dimensions LTO and IND. CD_{ba6} has a more pronounced negative effect and is significant at the 5%-level. The effect of CD_{ba6} should be interpreted as the effect of one unit of cultural distance on bidder returns (-0.4%). Table 6 provides guidance in the comprehension of this parameter; i.e. for a Portuguese firm, cultural distance between a Spanish and Dutch target amounts to respectively 1.0 and 5.9 units. All else equal, an acquisition in the Netherlands for this specific firm is expected to realize approximately 2% lower bidder returns attributable to expected frictions as a results of greater cultural distance. The discrepancy in magnitude and significance between CD_{ba4} and CD_{ba6} raises the suspicion that differences in individual cultural dimensions act on announcement returns independently rather than collectively. Model 3 therefore employs all 6 dimensions (DD_{bai}) as independent variables. Surprisingly considering earlier work (Datta & Puia, 1995), none of the original four dimensions seems to be of influence, as is true for extensions LTO (Long-term orientation). In contrast, the observed effect in model 2 is entirely attributable to DD_{baIND} (Indulgence vs. restraint) which is negative and highly significant. Nonetheless all dimensions are negative in sign. Table 17 in the appendix presents a correlation matrix for cultural dimensions and some individual cultural dimensions suffer from multicollinearity. To deal with this potential problem, model 4-9 separately describes the influence of all six individual dimensions. The results for these regressions are similar to model 3 and DD_{baIND} remains the only significant cultural predictor.

Model 10, 11, and 12 employ CD_{ba6} and control for a range of deal-specific variables. Similar to previous results, bidder market value is negatively and significantly associated with bidder gains. Surprisingly, for the cross-border results, hostile takeovers realize significantly higher announcement returns of approximately 7%, this is however attributable to an extremely low number of hostile cross-border acquisitions which have most likely coincidentally realized high returns. Lastly the acquisition of public targets is associated with lower returns of roughly 1%. Other control variables including dummies for payment in cash and shareholder protection have unobservable effects. Target market liquidity and geographical distance are equivalently insignificant; a cross-border effect cannot be explained through

physical distance. Additionally Model 13, 14 and 15 replace CD_{ba6} for individual cultural dimension distances DD_{bai} yielding similar results. Table 12 provides an overview of effects found to be significant at a minimum level of 10%.

Figure 3: Culturally proximate vs. distant acquisitions cumulative average daily abnormal announcement returns

Figure A, B and C show average CARs for a [-30;+30] event window for respectively (A) 511 European cross-border acquisitions from 1999-2015, subsets consist of 150 culturally distant and 351 culturally proximate acquisitions, and (B) 306 European cross-border acquisitions from 1999-2007, subsets consist of 102 culturally distant and 204 culturally proximate acquisitions, and (C) 205 European cross-border acquisitions from 2008-2015 with subsets consisting of 58 culturally distant and 147 culturally proximate acquisitions. Subsets are constructed by relatively high or low CD_{ba6} based on a bidder country's optional investment universe. Stock prices extracted from ThomsonONE. Market-adjusted returns constructed using the MSCI Europe index.

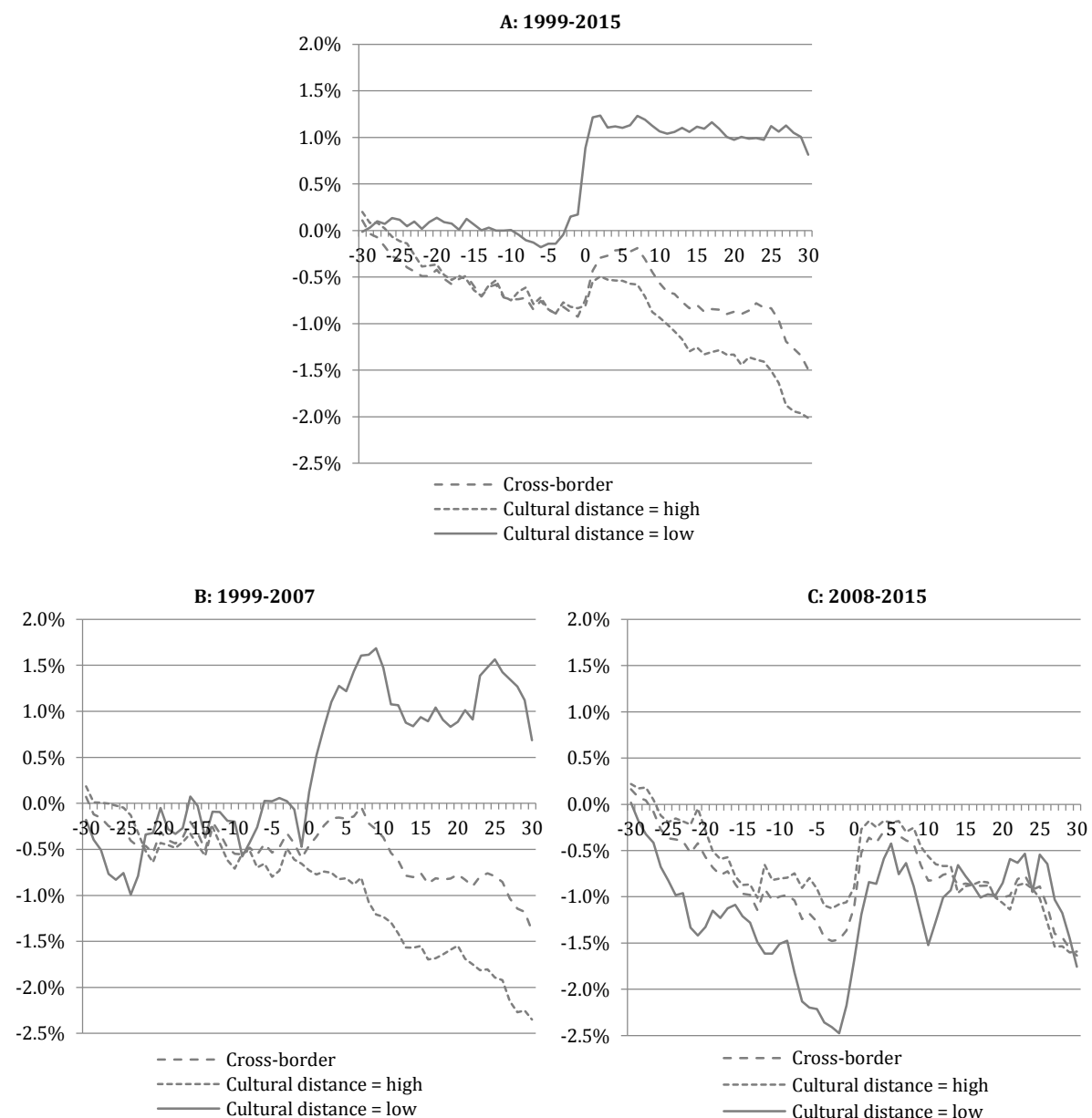


Table 11: “Cross-sectional regression models on cultural distance”

This table presents the results for the full sample of cross-border acquisitions from 1999-2015 with $CAR_{-1,+1}$ as dependent variable. Distance (4) describes the composite construct CD_{ba4} based on Hofstede’s individual dimension distances PDI, IDV, MAS and UAI as proposed by (Kogut & Singh, 1988). Distance (6) describes the composite construct CD_{ba6} which is CD_{ba4} including later extensions and replications LTO and IND. Δ PDI, Δ IDV, Δ MAS, Δ UAI, Δ LTO, and Δ IND describe respective individual dimension distances DD_{baPDI} , DD_{baIDV} , DD_{baMAS} , DD_{baUAI} , DD_{baLTO} , and DD_{baIND} . Log bidder market value is the logarithmic function of bidder market capitalization measured 30 days prior to the announcement date and provided by Datastream. MTB-ratio is a firm’s similarly measured market value divided by its book value of assets for the fiscal ear ending prior to the announcement date. Bidder FCF represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ending prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Log dal value is the logarithmic function of the disclosed equity deal value excluding fees as provided by ThomsonONE. Relative deal value is deal value divided by bidder market value. Diversifying, Hostile, Cash only, and Public target are dummy variables where the classification stems from ThomsonONE. Target market liquidity is the yearly fraction of the total transaction value of all targets in a country in the sample weighted for its yearly GDP. Bidder legal French, German, English and Scandinavian are dummy variables when bidders stem from a respective legal system. Bidder high protection is a dummy variable when its shareholder protection ranks high (above three) according to LLSV (1997). When appropriate, White’s heteroskedasticity adjusted standard errors are used and indicated with ^a. Statistical significance denoted at *10%, **5%, and ***1%.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	$CAR_{-1,+1}$ (8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Distance (4)	-0.003 (-1.29)														
Distance (6)		-0.004** (-2.12)								-0.004* (-1.76)	-0.004 (-1.59)	-0.004* (-1.76)			
Δ PDI			-0.000 (-0.34)	-0.000 (-0.13)									-0.000 (-0.44)	-0.000 (-0.34)	0.000 (0.30)
Δ IDV			-0.001 (-0.99)		-0.001 (-0.97)								-0.001 (-0.85)	-0.001 (-0.69)	-0.001 (-1.31)
Δ MAS			0.001 (0.74)			-0.001 (-1.16)							0.000 (0.38)	0.000 (0.29)	0.001 (0.66)
Δ UAI			-0.001 (-0.42)				-0.001 (-0.56)						-0.001 (-0.44)	-0.001 (-0.39)	-0.002 (-1.07)
Δ LTO			0.001 (0.53)					0.001 (0.58)					0.001 (0.64)	0.001 (0.65)	0.002 (1.52)
Δ IND			-0.004*** (-3.35)						-0.003*** (-3.48)				-0.003*** (-2.63)	-0.003** (-2.39)	-0.003** (-2.57)
Log bidder market value											-0.003*** (-2.65)	-0.003*** (-2.65)		-0.003** (-2.43)	-0.003** (-2.59)
Bidder MTB-ratio										-0.001 (-0.63)	-0.001 (-0.66)	-0.001 (-0.71)	-0.001 (-0.56)	-0.001 (-0.59)	-0.001 (-0.60)
Bidder FCF										0.003 (0.47)	0.003 (0.54)	0.002 (0.47)	0.003 (0.49)	0.003 (0.56)	0.002 (0.40)
Relative deal value										0.009 (0.99)			0.009 (0.94)		
Hostile ¹⁹										0.070*** (5.65)	0.064*** (5.08)	0.069*** (5.15)	0.070*** (5.52)	0.064*** (5.04)	0.072*** (5.39)
Cash only										0.004 (0.84)	0.003 (0.73)	0.003 (0.60)	0.002 (0.49)	0.002 (0.41)	0.001 (0.32)
Public target										-0.016** (-2.22)	-0.012* (-1.68)	-0.012* (-1.75)	-0.015** (-2.13)	-0.012 (-1.63)	-0.011 (-1.60)
Diversifying										-0.006 (-1.19)	-0.005 (-1.03)	-0.005 (-1.07)	-0.005 (-1.15)	-0.005 (-1.01)	-0.006 (-1.21)
Target market liquidity										-0.129 (-0.53)	-0.040 (-0.16)	-0.010 (-0.04)	-0.115 (-0.47)	-0.029 (-0.12)	0.037 (0.15)
Geographical distance										-0.000 (-1.13)	-0.000 (-1.06)	-0.000 (-0.70)	-0.000 (-1.18)	-0.000 (-1.13)	-0.000 (-0.80)

¹⁹ The cross-border sample contains only one hostile takeover, its effects can thereby not be robustly interpreted

Table 11 (continued)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	$CAR_{-1,+1}$ (8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Bidder high protection										0.002 (0.55)	0.004 (0.90)		-0.000 (-0.08)	0.001 (0.27)	
Bidder legal French												0.009 (1.33)			0.010 (1.31)
Bidder legal German												0.001 (0.08)			-0.002 (-0.22)
Bidder legal English												0.016 (1.37)			0.001 (0.03)
Bidder legal Scandinavian												0.003 (0.27)			-0.008 (-0.56)
Constant	-0.002 (-0.30)	0.001 (0.15)	0.006 (0.91)	-0.006 (-0.70)	-0.005 (-0.63)	-0.004 (-0.54)	-0.005 (-0.60)	-0.006 (-0.77)	0.005 (0.88)	0.015 (1.21)	0.035** (2.32)	0.030* (1.90)	0.020 (1.60)	0.039** (2.52)	0.032* (1.88)
<i>N</i>	511	511	511	511	511	511	511	511	511	489	489	489	489	489	489
<i>X</i> ²	18.96 ^a	17.07 ^a	11.71 ^a	19.90 ^a	16.48 ^a	17.50 ^a	20.83 ^a	19.16 ^a	12.13 ^a	16.90 ^a	15.95 ^a	17.68 ^a	13.93 ^a	14.17 ^a	16.71 ^a
<i>R</i> ²	0.062	0.066	0.082	0.059	0.060	0.061	0.060	0.060	0.079	0.092	0.103	0.107	0.103	0.112	0.122
Adjusted <i>R</i> ²	0.030	0.034	0.041	0.027	0.028	0.029	0.028	0.027	0.047	0.039	0.050	0.049	0.040	0.050	0.054
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Target nation FE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO

Figure 3 displays stock price development for culturally distant vs. culturally proximate cross-border acquisitions as defined in section 3.5.3. For the full sample (A) we can observe a weaker positive price reaction in the three-day event window around the announcement day for culturally distant acquisitions while they underperform culturally proximate acquisitions with almost three percentage points over a 60-day event window. This effect is even stronger for the 1999-2007 period. Noticeably, the 2008-2015 series show different patterns for both subsets which leads me to conjecture that the effect of cultural distance on CARs may not be persistent through time. A difference in pattern of bidder gains over the 60-day interval between culturally distant and proximate acquisitions for the full sample is strikingly similar to the differential patterns between cross-border and domestic acquisitions, this adds to the suspicion that cultural distance is to partly explain a cross-border effect.

In conclusion, a composite measure of cultural distance is associated with lower bidder returns, Firms acquiring targets in countries with a large discrepancy in national cultures from their own, on average realize lower announcement returns. I therefore accept hypothesis 2a: *“Bidder gains are lower for acquisitions in culturally disparate countries”*. Moreover, the six individual dimensions of national cultures affect bidder gains to different extents, where individual dimension indulgence vs. restraint is particularly determinative. I therefore jointly confirm hypothesis 2b: *“Bidder gains are influenced by different aspects of culture independently rather than collectively”*. The effects of cultural distance within the cross-border subset are similar in size to the cross-border effect in full sample analysis, as such we can conclude that national culture is of considerable economic relevance in cross-border acquisition performance.

Table 12: Summary findings cultural distance

This table presents a summary of predictors of CARs with a minimum significant of 10% over the cross-border subset

Predictor	Type	Effect on CAR
Cultural distance (6)	Country level	-
Dimension distance (IND)	Country level	-
Bidder market value	Firm level	-
Hostile ²⁰	Deal level	+
Public target	Deal level	-

4.3 Do managers avoid culturally distant acquisitions?

As the first two scenarios outlined in section 2.2.2 describe a mechanism wherein managers are unaware of costs and risk associated with cultural distance through i.e. adverse selection, information costs and valuation difficulties. The third and fourth scenario allow for the possibility that managers actively avoid culturally distant acquisitions. As a consequence, when

presented with equal investment opportunities, the propensity of culturally distant acquisitions is expected to be lower compared to more culturally proximate options. Table 13 presents the observed number of culturally distant acquisitions as defined in section 3.5.3, versus the expected number of observations assuming cultural distance is irrelevant in managerial target selection. The composite cultural distance index using six individual dimensions as introduced by Hofstede (CD_{ba6}) as well as individual dimension distance (DD_{baIND}) specifically associated with lower bidder gains as provided in section 4.2 are tested. Expected probabilities are constructed on the basis of a uniformly distributed investment universe, given nine country options for each cross-border bidder weighted for GDP, assuming all else to be equal. The expected number of culturally distant acquisitions on the basis of CD_{ba6} is 149, while 175 are observed. When employing individual cultural dimension DD_{baIND} , 152 acquisitions are expected to be specified as highly distant, while a remarkable 258 acquisitions are observed as such. When managers actively avoid such deals we should at least find a lower than expected propensity. Evidence suggests the contrary is true; full cross-border sample propensities show higher frequencies of culturally distant vs. culturally proximate acquisitions given a homogeneously distributed investment universe. Whether or not conscious, these results suggest a pertinent managerial preference for presumable risk-related cultural distance in cross-border acquisitions and are consistent with managerial hubris (Roll, 1986). I therefore reject the third hypothesis: *“There is a lower propensity of culturally distant- than proximate cross-border acquisitions”*.

It is of additional relevance to investigate what firm and deal-specific variables could be associated with acquisition target selection now we have established cultural distance to be of influence. The choice for either domestic or cross-border acquisitions for that matter can be approached as being a qualitative choice problem. Table 13 presents the outcome of (multinomial) probit regressions as specified in section 3.5.3.. The estimated coefficient should be interpreted as the marginal probability of a firm choosing one alternative over the other e.g. a positive coefficient signifies the greater the value of an explanatory variable, the more likely the specified alternative is chosen. A respective negative coefficient signifies the contrary. Model 1 denotes the probability of choosing to engage in cross-border over domestic acquisitions. Consistent with theory and earlier findings, being a larger bidder increases the likelihood of engaging in cross-border acquisitions. The effect of high MTB-ratios is insignificant and indistinguishable from zero while the effect of higher free cash flows in the year prior to the acquisition is to increase the likelihood of choosing a cross-border target and is significant at the 5%-level. Consistent with the free cash flow hypothesis (Jensen, 1986); managers with more free cash at their disposal are found to be more likely to take on presumably riskier cross-border acquisitions. It is reasonable to assume that deal value, and thereby relative deal value

are amongst the criteria when selecting targets and therefore known by approximation to managers prior to the announcement. Relative deal value is negatively and significantly associated with cross-border choice probability. Surprisingly when bidders stem from a legal system associated with higher shareholder protection rights, we observe a lower propensity of cross-border acquisitions, this could however theoretically stem from an intrinsically more active domestic M&A market consistent with Rossi & Volpin (2004). Model 2 specifies the choice for culturally proximate vs. the alternative of a culturally distant acquisitions. Most noticeably the effect of bidder market value is positive and significant at the 1%-level; larger acquirers have a higher probability of acquiring culturally distant targets. MTB-ratio, FCF and deal value have no significant effect while relative deal value is negatively associated with the probability of culturally distant acquisition at the 10%-level. Lastly, the effect of a high level of bidder shareholder protection is insignificant. Model 3 introduces a multinomial probit regression with alternatives of culturally proximate and culturally distant acquisitions, both specified vs. the base case of a domestic acquisition. Noticeably, the effect of FCF and high bidder shareholder protection levels from model 1, predominantly stem from culturally proximate acquisitions compared to domestic acquisitions. Other variables are consistent with model 1 in sign, magnitude and significance.

With respect to domestic vs. cross-border acquisitions; larger bidders and bidders with high levels of FCF more often acquire cross-border targets while the opposite is true for bidders aiming at relatively similar-sized targets and bidders stemming from environments of high shareholder protection. Considering only cross-border acquisitions, larger bidders significantly more often acquire culturally-distant targets. However when aiming for relatively large firms, bidders more often target culturally-proximate acquisitions. This might suggest that managers are willing to take risks in cultural incompatibility for relatively small acquisitions, yet refrain from taking such risks in larger investments. When the effect of cultural distance on CARs is related to post-merger integration costs, relative deal size could be associated with higher costs. As such, these findings possibly demonstrate managerial awareness of the issue, and lead them to accept cultural-distance related risks for relatively small acquisitions by exception. The latter findings would be inconsistent with managerial hubris (Roll, 1986) as it would predict a similar appetite for risk-related cultural distance in acquisition independent of relative deal size, and more compatible with managerial risk aversion. To draw more meaningful conclusions, a more profound analysis on this topic is needed and left for future research.

Table 13: Binomial probabilities for culturally distant acquisitions

This table presents the expected and observed probabilities of acquisitions being culturally distant given a bidder country's optional investment universe weighted for GDP. Observed p -value describes the probability of k observed acquisitions under the assumed expected probability under the assumption cultural distance is irrelevant in target selection.

High	n	Observed k	Expected k	Assumed p (%)	Observed p (%)	p -value (observed)
Cultural distance (6)	511	181	149	29.07	34.25	0.0011
Δ IND	511	258	152	29.56	50.49	0.0000

Table 14: Multinomial probit models:

This table presents the parameter estimates for a multinomial probit model of choosing acquisition type alternatives. Model 1 describes the qualitative choice of acquiring cross-border vs. domestic. Model 2 describes the qualitative choice of acquiring culturally distant vs. culturally proximate. Model 3 specifies two cultural distance related alternatives vs. the base-case of acquiring domestic. Log bidder market value is the logarithmic function of bidder market capitalization measured 30 days prior to the announcement date and provided by Datastream. Bidder MTB-ratio is a firm's similarly measured market value divided by its book value of assets for the fiscal year ending prior to the announcement date. Bidder FCF represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ending prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Log deal value is the logarithmic function of the disclosed equity deal value excluding fees as provided by ThomsonONE. Relative deal value is deal value divided by bidder market value. Bidder high protection is a dummy variable when its shareholder protection ranks high (above three) according to LLSV (1997). Estimated parameters should be interpreted as the marginal probability of a firm choosing one alternative over the other e.g. a positive coefficient signifies the greater the value of an explanatory variable, the more likely the specified alternative is chosen. Statistical significance denoted at *10%, **5%, and ***1%.

Model	(1)		(2)		(3)	
Base case	Domestic		Culturally proximate		Domestic	
Alternative A	Cross-border		Culturally distant		Culturally proximate	
	Coefficient	t -statistic	Coefficient	t -statistic	Coefficient	t -statistic
Log bidder market value	0.159***	4.66	0.181***	4.06	0.118***	3.25
Bidder MTB-ratio	0.001	0.07	0.011	0.92	-0.008	-0.54
Bidder FCF	0.244**	2.27	0.167	1.20	0.228**	1.99
Log deal value	0.000	-1.04	0.000	-0.57	0.000	-0.86
Relative deal value	-0.534***	-3.01	-0.484*	-1.81	-0.479**	-2.55
Bidder high protection	-0.263***	-2.73	-0.096	-0.78	-0.279***	-2.72
Constant	-1.542***	-5.94	-2.926***	-8.40	-1.539***	-5.60
Alternative B					Culturally distant	
Log bidder market value					0.204***	4.71
Bidder MTB-ratio					0.009	0.75
Bidder FCF					0.218	1.61
Log deal value					0.000	-0.79
Relative deal value					-0.569**	-2.21
Bidder high protection					-0.175	-1.46
Constant					-2.691***	-7.99
N	1551		1551		1551	

V. Conclusion

The objective of this paper has been four-fold. First, to assess if intra-European cross-border acquisitions create value for shareholders of the acquiring firm relative to domestic deals. Second, to examine if the extent of value creation is dependent of national cultural distance between the acquired and acquiring firms. Third, to investigate whether different components of cultural distance act upon M&A performance independently rather than collectively and lastly to see whether managers anticipate on potential culture-related frictions by examining differential propensities of culturally distant acquisitions.

For a large sample of European acquisitions from 1999-2015 I find cross-border bidders to realize announcement returns of approximately 0.8 percentage points less than domestic acquirers. The difference in announcement returns is commonly referred to as the 'Cross-border effect' and is consistent with prior similarly designed U.S. research. The European cross-border effect is statistically and economically significant and particularly strong for the first half of the sample period (1.3%). This result is robust for most event windows varying from $[-1;+1]$ to $[-30;+30]$ trading days around the announcement date. Moreover, the effect remains significant in most models for the full sample, and highly significant in all models for the 1999-2007 period, after controlling for a variety of factors expected to affect bidder gains.

Next, this paper provides new evidence that cultural distance contributes to a cross-border effect. Focussing on the cross-border acquisition subset, culturally distant acquisitions realize significantly lower announcement returns than culturally proximate acquisitions on the basis of a composite index of Hofstede's six dimensions of national culture. These effects are robust for firm-, deal-, and country-level control variables and cannot be attributed to geographical distance or differences in legal origins. The individual cultural dimension 'Indulgence vs. restraint' – which stands for a measure of the degree to which a society allows relatively free gratification of human desires vs. its suppression by strict social norms – is herein particularly determinative. Although none of the distances in individual dimensions of national culture were found to affect bidder gains positively, the exceptional significance of 'Indulgence vs. restraint' proves that different aspects of culture affect the likelihood of M&A success independently rather than collectively. This finding potentially justifies contradicting results in prior literature, which have applied different methods in the operationalization of culture. Surprisingly given my results, I do not find a managerial tendency of cultural distance avoidance in acquisition target selection as the propensities of culturally acquisitions are higher than expected under the assumption that cultural distance is irrelevant in this process.

Predictors found to affect the qualitative choice of culturally distant vs. proximate acquisitions are bidder size (positively) and relative deal value (negatively); larger firms are more likely to acquire culturally distant while they generally avoid cultural distance when targeting similar-sized targets.

This paper stands on the confluence of at least two distinct bodies of literature – that on M&A, particularly cross-border, and that on culture, more specifically, cross-national differences. The findings of this research on cross-border effects are consistent with Eckbo & Thorburn (2000), Datta & Puia (1995), Moeller & Schlingemann (2005), and Aw & Chatterjee (2004) whilst they contradict European evidence provided by Goergen & Renneboog (2004), and Danbolt & Maciver (2012). Nonetheless, the potential sources of a cross-border effect – either negative or positive – have so far remained largely unexplained. By operationalizing cultural distance, this paper provides new insights in cross-sectional variance in cross-border bidder returns and underlines the relevance of national cultures previously associated with post-merger integration costs (Gertsen, Sørderberg, & Torp, 1998; Olie, 1990; Weber, Shenkar, & Raveh, 1996; Shimizu, Hitt, Vaidyanath, & Pisano, 2004), double-layered acculturation (Barkema, Bell, & Pennings, 1996), the accessibility of foreign markets (Johanson & Vahlne, 1990), and choice of entry mode (Kogut & Singh, 1988). Moreover, the effect of cultural distance on M&A performance for intra-European acquisitions is consistent with evidence on global acquisitions (Ahern, Daminelle, & Fracassi, 2012; Datta & Puia, 1995).

The next section will continue to discuss this paper's limitations and future recommendations for operationalizing culture, sample design, performance measurement, and conjectured mechanisms. In conclusion of the main body of work, Intra-European cross-border acquisitions underperform their domestic counterparts in terms of announcement returns and cultural distance is found to contribute to this underperformance. Differences in cultural dimension 'Indulgence vs. restraint' are found to be particularly detrimental to the likelihood of realizing synergies. As such, evidence from this paper provides new insights that can be developed into valuable normative guidelines for decision-makers in pursuit of value creation in a multi-trillion cross-border acquisition industry, and prevent them from being lost in translation.

VI. Limitations and future recommendations

The established results in this paper are constricted by a set of limitations which are left as recommendation for future research.

Cultural difference remains an arbitrarily defined concept. First, having chosen Hofstede's widely accepted constructs for cultural dimensions on a national level does not necessarily guarantee it quantifies culture best, nor that it is most related to economic consequences or relevant for cross-border acquisitions. It is therefore of additional value to continue to operationalize different constructs of cultural distance in future research as a robustness check for my results. Second, my research equals quantified cultural distance on the basis of personal preferences of one state of affairs over another (Hofstede's indices), to an external shareholder's perception of cultural distance, which may be inherently different. To be able to be more conclusive on my results, more research is needed to affirm the similarity of the two concepts. Third, cultural distance has been assumed to be one-directional and equal for reciprocal acquisitions of two particular countries. The effect of cultural distance may however be asymmetrical and act upon bidder gains differently when acquirers stem from individual dimension's high-end score than the other way around. An interesting topic as extension to this paper might therefore focus on different directions of cultural distance. Fourth, cultural distance is assumed to affect any acquisition homogenously while it may act upon specific acquisitions differently i.e. service sector labor-intensive acquisitions may suffer more from presupposed post-merger integration frictions than those in capital-intensive technology sector acquisitions. Fifth, limited by data availability this paper disregards prior cross-border acquisitions or presence in foreign markets by other means of geographical expansion. My research design thereby treats add-on acquisitions for foreign subsidiaries of parent companies as first-time cross-border acquisitions, and considers a similar cultural distance while this may equal zero in reality. If anything, I conjecture controlling for these circumstances to strengthen the significance of my findings as some presupposed better-performing domestic add-on acquisitions are now labelled as cross-border. Similarly, this paper disregards the required level of post-merger integration of acquisitions which undoubtedly correlates with the effect of cultural distance on its performance. Since my results demonstrate on average negative cultural distance effects on bidder gains, future research may provide more insights as to what acquisitions suffer most from cultural distance. Lastly, this paper has drawn a sharp distinction between national and corporate culture, while differences in the latter have been associated with M&A performance similarly. Future research on the effect of the two concepts and their interaction might enhance our understanding of how culture in its entirety affects M&A performance.

Another discussed issue is the plausibility that bilateral cultural distance will diminish within Europe to some extent over time through a mechanism of integration on both an economical and cultural level. If the latter is true, and cultural distance has an inverse relation with bidder gains for cross-border acquirers, we would expect the cross-border effect to decrease as a result of converging cultures. Testing the convergence of national cultures over time using Hofstede's cultural dimension scores is however difficult as the original dimensions as well as its later replications and extensions stem from surveys conducted over several years. National culture as such is presupposed to remain (relatively) robust over time and cultural difference thereby unchanged. Nonetheless it is possible that the effect of cultural distance on bidder returns does not persist over time. It is then conjectured that either 1) cultural distance has become of decreasing relevance to acquisition success through cultural and economic integration, or 2) shareholders' perception of culturally distant acquisitions has improved through e.g. the decreased unfamiliarity of distant cultures. Future research is to provide a decisive answer to this matter.

Considering my sample design there is another number of limitations. First, The choice for using exclusively Eurozone countries in my sample is a constraint. Although the demarcation has many advantages as it eliminates potential problems such as different currencies and religions, or substantial differences in economic development, its intrinsic proximity may bias or underestimate the gravity of cultural distance on general M&A performance. Additionally, this particular consideration limits my sample size in width due to a select number of countries, and in length to the introduction of the Euro in 1999. As such, it restrains the inductive power of my results as well as the ability to perform more analysis on effects through time. Future research should therefore aim at replicating the results over a larger and possibly more diverse sample as robustness check for my results. Second, my sample only includes completed acquisitions and relates cultural differences mainly to post-merger integration costs. An interesting extension of this paper would be to focus on pre-merger frictions e.g. the relation between cultural distance to negotiations and completion rates.

As discussed earlier our ability to say anything meaningful about M&A success highly depends on the confidence we have in the methods from which we extract our conclusions (Bruner, 2002). First, this paper operationalizes abnormal announcement returns as economic measurement of short-term wealth effects. The reliability of using this construct as proxy for M&A performance is however strongly dependent of the degree of market efficiency. When information with respect to the predicted effect of something as subjective as cultural distance is not perfectly incorporated in stock prices in sign and magnitude, my results become unreliable or at least difficult to interpret. Future research should therefore test the robustness of my models using different proxies for M&A performance i.e. improvements in operating

performance and longer-term stock price performance. Second, this paper employs a market model for the estimation of abnormal returns. A potential improvement may be the operationalization of multi-factor models (e.g. Fama-French three-factor-model, Carhart four-factor model) even if the gains from employing them are limited as added factors have empirically proven to add marginal explanatory power in event studies (MacKinlay, 1997). Third, my research has merely focused on value creation from a bidding shareholder's perspective, it is of additional relevance to investigate the effects of cultural distance on total value creation, distribution of wealth effects and bid premiums by analysis of target performance. Similarly, a focus on abnormal returns has limited my research to the use of publicly listed firms which induces a size bias. Additionally, the effect may be different for privately owned firms.

With respect to my results, more research is needed on the exact mechanisms of cultural distance on M&A performance, and particularly that on a dimension of indulgence vs. restraint. The simultaneous notions of a negative impact of cultural distance on cross-border bidder gains and higher propensities of culturally distant acquisitions are difficult to reconcile and leaves the question if managers fail to identify what shareholders already seem to know or whether shareholders react irrationally. Even though my results allow for some speculation on managerial hubris, risk averse patterns are inconsistent with this explanation. As such, it remains a puzzle what factors contribute to managers choosing potentially value-destructing culturally distant acquisitions.

Conclusively the results of this paper underline the economic significance of culture, yet many of its implications are not fully understood. As such, there is an important task for future literature to further explore the interface of economics and social studies.

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VIII. Appendix

Table 15: Definitions of Hofstede's cultural dimensions

This table provides definitions of Hofstede's indices for cultural dimensions

<p><u>Power Distance (PDI)</u></p> <p>This dimension expresses the degree to which the less powerful members of a society accept and expect that power is distributed unequally. The fundamental issue here is how a society handles inequalities among people. People in societies exhibiting a large degree of Power Distance accept a hierarchical order in which everybody has a place and which needs no further justification. In societies with low Power Distance, people strive to equalise the distribution of power and demand justification for inequalities of power.</p>
<p><u>Individualism (IDV)</u></p> <p>The high side of this dimension, called individualism, can be defined as a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, collectivism, represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. A society's position on this dimension is reflected in whether people's self-image is defined in terms of "I" or "we."</p>
<p><u>Masculinity (MAS)</u></p> <p>The Masculinity side of this dimension represents a preference in society for achievement, heroism, assertiveness and material rewards for success. Society at large is more competitive. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented. In the business context Masculinity versus Femininity is sometimes also related to as "tough versus tender" cultures.</p>
<p><u>Uncertainty avoidance (UAI)</u></p> <p>The Uncertainty Avoidance dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. The fundamental issue here is how a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? Countries exhibiting strong UAI maintain rigid codes of belief and behaviour and are intolerant of unorthodox behaviour and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles.</p>
<p><u>Long term orientation (LTO)</u></p> <p>Every society has to maintain some links with its own past while dealing with the challenges of the present and the future. Societies prioritize these two existential goals differently. Societies that score low on this dimension, for example, prefer to maintain time-honoured traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future. In the business context this dimension is related to as "(short term) normative versus (long term) pragmatic" (PRA).</p>
<p><u>Indulgence (IND)</u></p> <p>Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms.</p>

Table 16: Correlation matrix control variables

This table provides correlation coefficients of operationalized control variables

	Cross-border	Market value	Book value	MTB-ratio	Free Cash Flow	Deal value	Relative value (%)	Diversifying (%)	Hostile (%)	Cash only (%)	Public target (%)	Geographical distance (Km)	Market liquidity (%)	High bid. Protection (%)	_Constant
Cross-border	1.0000														
Market value	-0.0080	1.0000													
Book value	0.0074	-0.8227	1.0000												
MTB-ratio	0.0359	-0.5643	0.6269	1.0000											
Free Cash Flow	-0.0097	-0.0223	0.0423	-0.0230	1.0000										
Deal value	-0.0283	-0.4101	-0.0859	0.0318	-0.0480	1.0000									
Relative value (%)	0.0392	0.4216	-0.0123	-0.0467	0.1803	-0.6918	1.0000								
Diversifying (%)	0.0219	-0.0067	0.0177	0.0080	-0.0048	-0.0379	0.0173	1.0000							
Hostile (%)	-0.0971	0.0029	-0.0145	0.0166	-0.0318	0.0353	0.0018	-0.0493	1.0000						
Cash only (%)	0.0169	0.0308	0.0184	0.0249	-0.0753	-0.1933	0.0160	-0.1032	-0.0446	1.0000					
Public target (%)	-0.0378	-0.0649	0.1153	-0.0201	-0.0893	-0.0606	0.0053	0.0019	0.0511	-0.0841	1.0000				
Geo. distance (Km)	-0.8325	-0.0843	0.0526	-0.0010	-0.0124	0.0588	-0.0417	-0.0206	0.0609	0.0290	-0.0015	1.0000			
Market liquidity (%)	-0.0502	-0.1118	0.1307	-0.0250	0.0520	-0.0957	-0.0193	0.0074	-0.0128	-0.0611	0.0180	0.0852	1.0000		
High bid. Protection (%)	0.1291	-0.0152	0.0131	0.0118	0.0323	-0.0113	-0.0224	0.0046	0.0060	-0.0183	-0.0232	-0.1110	0.0026	1.0000	
_Constant	-0.0447	-0.3881	-0.0374	-0.0364	0.0253	0.3464	-0.5256	0.0194	-0.1365	0.0305	-0.1552	0.0493	0.0479	-0.1601	1.0000

Table 17: Correlation matrix cultural dimensions

This table provides correlation coefficients of Hofstede's individual dimension distances

	PDI	IDV	MAS	UAI	LTO	IND
Power distance (PDI)	1.000					
Individualism (IDV)	-0.172	1.000				
Masculinity (MAS)	-0.108	-0.042	1.000			
Uncertainty avoidance (UAI)	0.424	-0.059	0.104	1.000		
Long-term orientation (LTO)	-0.151	0.221	-0.049	0.126	1.000	
Indulgence vs. restraint (IND)	-0.126	0.022	0.490	0.034	-0.073	1.000

Table 18: Descriptive statistics of continuous variables

This table describes the means, standard deviations, minimum- and maximum values for continuous control-variables over the full, cross-border and domestic sample of transactions. Market value, Book value and Deal value are denoted in millions of Euros. Bidder market value is measured 30 days prior to the announcement date and provided by Datastream. Bidder book value is the book value of assets for the fiscal year ending prior to the announcement date. MTB-ratio is a firms market value divided by its book value. Free cash flow represents the cash earnings, net of capital expenditures and total dividends paid of the company, for the fiscal year ended prior to the announcement date normalized by its book value of assets for the same fiscal year ending. Deal value is the disclosed equity deal value excluding fees in extracted from ThomsonONE. Relative deal value is deal value divided by bidder market value.

	Full sample				Domestic (1)				Cross-border (2)			
	mean	σ	Min	Max	mean	σ	Min	Max	mean	σ	Min	Max
<i>Panel A: Bidder characteristics</i>												
Market value	4564.7	12436.8	10.8	216244.1	3403.8	10600.0	10.8	216244.1	7092.8	15423.5	19.6	127282.5
Book value	2650.8	6823.5	-6008.0	77515.3	2043.9	5525.5	-6008.0	77515.3	3975.3	8894.2	-341.0	57747.7
MTB-ratio	2.393	4.333	0.2737	120.833	2.345	4.893	0.274	120.833	2.499	2.741	0.274	33.930
FCF/Book value	-0.052	0.519	-4.477	4.583	-0.082	0.572	-4.766	4.583	0.013	0.372	-1.851	3.770
<i>Panel B: Deal characteristics</i>												
Deal value	553.2	2149.0	10.0	49990.0	535.2	2337.2	10.0	49989.9	592.7	1665.1	10.0	15072.6
Relative value (%)	25.693	41.653	0.01	4.812	29.765	46.773	0.010	4.812	16.824	25.227	0.010	2.512
<i>N</i>	1631				1120				511			

Table 19: Fixed effects coefficients for table 9

This table provides coefficients for fixed effects of regression models presented in table 9 of the main body of work with $CAR_{-1,+1}$ as dependent variable. Cross-border is a dummy variable for cross-border acquisitions. Panel A presents fixed year effects, panel B presents fixed target nation effects. Statistical significance denoted at *10%, **5%, and ***1%.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crossborder	-0.008*** (-2.90)	-0.007** (-2.48)	-0.003 (-1.00)	-0.008*** (-2.92)	-0.006** (-2.04)	-0.006** (-1.99)	-0.008*** (-2.74)	-0.006** (-2.01)	-0.006** (-2.05)	-0.006** (-2.01)
A: Year FE										
1999		0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2000		-0.018 (-1.31)	-0.009 (-0.79)	-0.019 (-1.33)	-0.021 (-1.47)	-0.006 (-0.55)	-0.006 (-0.55)	-0.008 (-0.67)	-0.008 (-0.69)	-0.008 (-0.66)
2001		-0.018 (-1.35)	-0.007 (-0.67)	-0.019 (-1.43)	-0.021 (-1.51)	-0.006 (-0.50)	-0.006 (-0.49)	-0.007 (-0.63)	-0.007 (-0.63)	-0.007 (-0.60)
2002		-0.010 (-0.79)	-0.001 (-0.07)	-0.012 (-0.89)	-0.014 (-1.04)	-0.001 (-0.13)	0.000 (0.00)	-0.004 (-0.31)	-0.004 (-0.33)	-0.003 (-0.29)
2003		-0.009 (-0.67)	-0.002 (-0.23)	-0.010 (-0.78)	-0.013 (-0.93)	0.001 (0.07)	0.001 (0.08)	-0.002 (-0.17)	-0.002 (-0.17)	-0.002 (-0.14)
2004		-0.005 (-0.38)	0.004 (0.36)	-0.007 (-0.54)	-0.008 (-0.59)	0.005 (0.44)	0.004 (0.36)	0.003 (0.28)	0.003 (0.24)	0.003 (0.28)
2005		0.005 (0.37)	0.013 (1.29)	0.003 (0.19)	0.001 (0.09)	0.014 (1.30)	0.014 (1.27)	0.012 (1.05)	0.011 (1.00)	0.012 (1.06)
2006		-0.006 (-0.51)	0.003 (0.30)	-0.009 (-0.69)	-0.012 (-0.91)	0.001 (0.13)	0.003 (0.28)	0.000 (0.03)	0.000 (0.00)	0.000 (0.04)
2007		-0.012 (-0.97)	-0.003 (-0.26)	-0.015 (-1.13)	-0.016 (-1.20)	-0.003 (-0.30)	-0.003 (-0.30)	-0.005 (-0.43)	-0.005 (-0.43)	-0.004 (-0.41)
2008		-0.019 (-1.43)	-0.010 (-0.95)	-0.023* (-1.69)	-0.023* (-1.65)	-0.010 (-0.92)	-0.011 (-0.94)	-0.013 (-1.07)	-0.013 (-1.11)	-0.013 (-1.07)
2009		-0.006 (-0.46)	0.002 (0.16)	-0.010 (-0.68)	-0.009 (-0.64)	0.005 (0.43)	0.003 (0.28)	0.002 (0.20)	0.002 (0.17)	0.003 (0.21)
2010		0.016 (0.87)	0.020 (1.24)	0.012 (0.67)	0.012 (0.63)	0.022 (1.32)	0.022 (1.20)	0.020 (1.07)	0.020 (1.08)	0.020 (1.09)
2011		-0.014 (-1.11)	-0.009 (-0.83)	-0.018 (-1.38)	-0.018 (-1.33)	-0.006 (-0.51)	-0.007 (-0.60)	-0.008 (-0.71)	-0.009 (-0.73)	-0.008 (-0.68)
2012		-0.014 (-1.09)	-0.007 (-0.64)	-0.018 (-1.31)	-0.020 (-1.43)	-0.006 (-0.55)	-0.007 (-0.58)	-0.009 (-0.73)	-0.009 (-0.74)	-0.009 (-0.73)
2013		-0.015 (-1.20)	-0.007 (-0.72)	-0.019 (-1.43)	-0.020 (-1.48)	-0.007 (-0.69)	-0.007 (-0.66)	-0.010 (-0.87)	-0.010 (-0.90)	-0.010 (-0.85)
2014		-0.006 (-0.45)	0.004 (0.42)	-0.010 (-0.78)	-0.012 (-0.91)	0.001 (0.10)	0.002 (0.16)	-0.001 (-0.11)	-0.001 (-0.11)	-0.001 (-0.10)
2015		0.001 (0.07)	0.010 (0.93)	-0.006 (-0.42)	-0.006 (-0.43)	0.007 (0.63)	0.006 (0.50)	0.005 (0.41)	0.005 (0.40)	0.005 (0.42)

Table 19 (Continued)

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
B: Target nation FE										
Austria		0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Belgium		0.022** (2.26)	0.016* (1.78)	0.021** (2.14)	0.021** (2.16)	0.016* (1.77)	0.016* (1.74)	0.016* (1.83)	0.009 (1.02)	0.016* (1.81)
Finland		0.037*** (2.79)	0.027** (2.17)	0.035*** (2.66)	0.036*** (2.71)	0.031** (2.39)	0.030** (2.36)	0.030** (2.37)	0.024* (1.74)	0.027** (2.18)
France		0.018** (2.23)	0.013* (1.88)	0.018** (2.19)	0.017** (2.04)	0.013* (1.75)	0.013* (1.81)	0.013* (1.80)	0.006 (0.81)	0.011 (1.46)
Germany		0.022*** (2.68)	0.017** (2.38)	0.021** (2.48)	0.021** (2.54)	0.015** (2.10)	0.014** (1.97)	0.015** (2.09)	0.012 (1.59)	0.015** (2.06)
Republic of Ireland		0.027* (1.77)	0.026* (1.69)	0.027* (1.75)	0.030** (1.97)	0.025* (1.68)	0.023 (1.50)	0.025* (1.68)	0.014 (0.82)	0.023 (1.54)
Italy		0.010 (1.15)	0.005 (0.67)	0.010 (1.14)	0.008 (1.01)	0.002 (0.31)	0.002 (0.25)	0.003 (0.35)	-0.004 (-0.56)	0.003 (0.37)
Netherlands		0.014 (1.60)	0.010 (1.23)	0.013 (1.46)	0.013 (1.45)	0.008 (0.95)	0.009 (1.06)	0.009 (1.08)	0.002 (0.30)	0.009 (1.04)
Portugal		0.017* (1.65)	0.018* (1.89)	0.017 (1.62)	0.019* (1.83)	0.016* (1.70)	0.014 (1.45)	0.016* (1.68)	0.009 (0.92)	0.014 (1.41)
Spain		0.023*** (2.81)	0.020*** (2.71)	0.023*** (2.72)	0.024*** (2.80)	0.018** (2.48)	0.017** (2.26)	0.018** (2.46)	0.011 (1.45)	0.016** (2.08)

Table 20: Fixed effects coefficients for table 10

This table provides coefficients for fixed effects of regression models presented in table 10 of the main body of work with $CAR_{-1,+1}$ as dependent variable. Cross-border is a dummy variable for cross-border acquisitions. Panel A presents fixed year effects, panel B presents fixed target nation effects Statistical significance denoted at *10%, **5%, and ***1%.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Crossborder	-0.013*** (-3.66)	-0.013*** (-3.32)	-0.008** (-2.19)	-0.014*** (-3.58)	-0.011*** (-2.83)	-0.010*** (-2.66)	-0.013*** (-3.18)	-0.010*** (-2.67)	-0.010*** (-2.77)	-0.010*** (-2.67)
A: Year FE										
1999		0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
2000		-0.019 (-1.48)	-0.010 (-0.92)	-0.020 (-1.59)	-0.022 (-1.58)	-0.008 (-0.71)	-0.009 (-0.69)	-0.011 (-0.90)	-0.011 (-0.90)	-0.010 (-0.89)
2001		-0.019 (-1.44)	-0.009 (-0.80)	-0.021 (-1.60)	-0.023 (-1.61)	-0.008 (-0.68)	-0.009 (-0.65)	-0.010 (-0.88)	-0.011 (-0.89)	-0.010 (-0.87)
2002		-0.012 (-0.90)	-0.003 (-0.27)	-0.014 (-1.08)	-0.017 (-1.18)	-0.004 (-0.36)	-0.004 (-0.28)	-0.007 (-0.62)	-0.007 (-0.61)	-0.007 (-0.62)
2003		-0.009 (-0.70)	-0.004 (-0.34)	-0.011 (-0.84)	-0.013 (-0.97)	-0.001 (-0.06)	-0.002 (-0.16)	-0.005 (-0.40)	-0.004 (-0.36)	-0.005 (-0.39)
2004		-0.006 (-0.45)	0.002 (0.18)	-0.009 (-0.65)	-0.010 (-0.68)	0.003 (0.22)	0.001 (0.04)	-0.000 (-0.00)	-0.000 (-0.04)	-0.000 (-0.00)
2005		0.004 (0.31)	0.011 (1.11)	0.002 (0.13)	0.000 (0.02)	0.012 (1.09)	0.011 (0.76)	0.009 (0.78)	0.008 (0.73)	0.009 (0.78)
2006		-0.008 (-0.63)	0.000 (0.03)	-0.011 (-0.84)	-0.014 (-1.03)	-0.002 (-0.14)	-0.001 (-0.05)	-0.003 (-0.28)	-0.003 (-0.28)	-0.003 (-0.28)
2007		-0.014	-0.005	-0.016	-0.018	-0.006	-0.007	-0.008	-0.008	-0.008
B: Target nation FE										
Austria		0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)	0.000 (.)
Belgium		0.022 (1.50)	0.009 (0.78)	0.023 (1.58)	0.021 (1.52)	0.011 (0.99)	0.013 (0.86)	0.012 (1.06)	0.007 (0.58)	0.012 (1.06)
Finland		0.020 (1.42)	0.005 (0.49)	0.019 (1.33)	0.019 (1.48)	0.009 (0.96)	0.009 (0.63)	0.009 (0.96)	0.002 (0.17)	0.009 (0.86)
France		0.018 (1.39)	0.006 (0.77)	0.020 (1.54)	0.016 (1.40)	0.008 (1.00)	0.011 (0.80)	0.009 (1.13)	0.004 (0.41)	0.008 (1.04)
Germany		0.022* (1.72)	0.012 (1.40)	0.022* (1.70)	0.022* (1.88)	0.012 (1.46)	0.011 (0.82)	0.012 (1.47)	0.009 (1.07)	0.012 (1.47)
Republic of Ireland		0.010 (0.49)	0.008 (0.44)	0.013 (0.62)	0.018 (0.91)	0.010 (0.51)	0.009 (0.40)	0.010 (0.55)	-0.008 (-0.46)	0.010 (0.52)
Italy		0.007 (0.57)	-0.004 (-0.45)	0.009 (0.66)	0.007 (0.56)	-0.005 (-0.63)	-0.005 (-0.34)	-0.004 (-0.49)	-0.009 (-1.01)	-0.004 (-0.48)
Netherlands		0.016 (1.18)	0.006 (0.56)	0.016 (1.13)	0.015 (1.15)	0.005 (0.51)	0.008 (0.53)	0.007 (0.78)	0.002 (0.22)	0.007 (0.77)
Portugal		0.015 (0.94)	0.012 (1.08)	0.017 (1.07)	0.018 (1.29)	0.012 (1.07)	0.011 (0.64)	0.012 (1.09)	0.007 (0.59)	0.011 (1.02)
Spain		0.028** (2.11)	0.017* (1.96)	0.029** (2.21)	0.029** (2.39)	0.018** (2.19)	0.018 (1.30)	0.018** (2.17)	0.013 (1.44)	0.018** (2.06)

Table 21: Fixed effects coefficients for table 11

This table provides coefficients for fixed effects of regression models presented in table 9 of the main body of work with $CAR_{-1,+1}$ as dependent variable. Cross-border is a dummy variable for cross-border acquisitions. Statistical significance denoted at *10%, **5%, and ***1%.

Model	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)	(.)
2000	-0.014	-0.015	-0.020*	-0.015	-0.015	-0.015	-0.015	-0.016	-0.020**	-0.011	-0.011	-0.012	-0.015	-0.014	-0.016
	(-1.25)	(-1.37)	(-1.91)	(-1.28)	(-1.27)	(-1.39)	(-1.23)	(-1.30)	(-1.99)	(-1.05)	(-0.89)	(-0.94)	(-1.44)	(-1.21)	(-1.21)
2001	0.005	0.005	0.000	0.004	0.004	0.004	0.004	0.004	0.001	0.007	0.008	0.006	0.003	0.004	0.003
	(0.49)	(0.51)	(0.03)	(0.39)	(0.37)	(0.43)	(0.41)	(0.34)	(0.07)	(0.61)	(0.63)	(0.50)	(0.29)	(0.36)	(0.25)
2002	0.000	0.000	-0.005	-0.000	0.000	-0.001	-0.000	-0.001	-0.005	0.001	0.002	0.002	-0.003	-0.001	-0.002
	(0.02)	(0.02)	(-0.40)	(-0.02)	(0.01)	(-0.06)	(-0.02)	(-0.08)	(-0.43)	(0.09)	(0.16)	(0.12)	(-0.22)	(-0.11)	(-0.14)
2003	0.017	0.018*	0.015*	0.017	0.017	0.017*	0.017	0.016	0.016*	0.014	0.015	0.015	0.012	0.012	0.013
	(1.62)	(1.80)	(1.65)	(1.53)	(1.52)	(1.71)	(1.51)	(1.49)	(1.83)	(1.20)	(1.09)	(1.08)	(1.00)	(0.93)	(0.87)
2004	0.010	0.010	0.004	0.010	0.011	0.010	0.010	0.009	0.005	0.009	0.009	0.008	0.004	0.005	0.004
	(1.12)	(1.20)	(0.51)	(1.05)	(1.10)	(1.14)	(1.01)	(0.96)	(0.63)	(0.87)	(0.79)	(0.67)	(0.42)	(0.42)	(0.32)
2005	0.023**	0.023***	0.018**	0.024**	0.024**	0.023***	0.023**	0.023**	0.018**	0.019*	0.019	0.018	0.015	0.015	0.014
	(2.50)	(2.69)	(2.18)	(2.38)	(2.37)	(2.63)	(2.36)	(2.30)	(2.47)	(1.89)	(1.63)	(1.43)	(1.47)	(1.29)	(1.09)
2006	0.008	0.008	0.004	0.008	0.009	0.007	0.008	0.008	0.004	0.003	0.004	0.001	0.001	0.002	-0.001
	(0.80)	(0.80)	(0.45)	(0.74)	(0.77)	(0.75)	(0.73)	(0.71)	(0.41)	(0.26)	(0.30)	(0.10)	(0.07)	(0.14)	(-0.10)
2007	0.012	0.012	0.007	0.012	0.012	0.012	0.012	0.011	0.007	0.008	0.009	0.009	0.003	0.005	0.004
	(1.26)	(1.35)	(0.77)	(1.18)	(1.17)	(1.24)	(1.16)	(1.09)	(0.88)	(0.74)	(0.75)	(0.71)	(0.33)	(0.40)	(0.28)
2008	0.018	0.018	0.013	0.018	0.018	0.018	0.018	0.018	0.014	0.012	0.014	0.013	0.009	0.011	0.011
	(1.44)	(1.49)	(1.14)	(1.41)	(1.40)	(1.50)	(1.39)	(1.36)	(1.30)	(0.88)	(0.92)	(0.85)	(0.67)	(0.74)	(0.67)
2009	0.009	0.009	0.010	0.008	0.008	0.008	0.008	0.008	0.009	0.003	0.004	0.003	0.003	0.004	0.003
	(0.81)	(0.95)	(1.02)	(0.72)	(0.74)	(0.78)	(0.71)	(0.68)	(1.05)	(0.21)	(0.28)	(0.24)	(0.23)	(0.29)	(0.23)
2010	0.029**	0.029***	0.023**	0.028**	0.028**	0.029**	0.028**	0.027**	0.024**	0.013	0.014	0.014	0.008	0.009	0.009
	(2.43)	(2.59)	(2.11)	(2.28)	(2.23)	(2.51)	(2.26)	(2.21)	(2.38)	(1.10)	(1.04)	(1.01)	(0.67)	(0.69)	(0.62)
2011	0.014	0.014	0.009	0.013	0.013	0.013	0.013	0.012	0.010	0.007	0.008	0.007	0.003	0.005	0.004
	(1.30)	(1.40)	(0.93)	(1.17)	(1.16)	(1.35)	(1.19)	(1.13)	(1.09)	(0.59)	(0.62)	(0.55)	(0.28)	(0.36)	(0.32)
2012	0.013	0.013	0.007	0.012	0.012	0.012	0.012	0.011	0.007	0.004	0.004	0.005	-0.001	-0.000	0.000
	(0.98)	(1.04)	(0.52)	(0.87)	(0.85)	(0.94)	(0.89)	(0.83)	(0.59)	(0.29)	(0.27)	(0.32)	(-0.04)	(-0.01)	(0.02)
2013	0.006	0.005	-0.001	0.006	0.007	0.005	0.006	0.006	-0.000	-0.006	-0.004	-0.005	-0.010	-0.007	-0.008
	(0.59)	(0.54)	(-0.07)	(0.61)	(0.65)	(0.60)	(0.58)	(0.57)	(-0.03)	(-0.55)	(-0.29)	(-0.35)	(-0.85)	(-0.56)	(-0.58)
2014	0.025**	0.025**	0.021*	0.023*	0.023*	0.023**	0.024**	0.023*	0.021**	0.018	0.020	0.020	0.016	0.019	0.018
	(2.16)	(2.30)	(1.95)	(1.95)	(1.95)	(2.12)	(2.00)	(1.94)	(2.02)	(1.50)	(1.52)	(1.45)	(1.34)	(1.38)	(1.26)
2015	0.024**	0.024**	0.017*	0.023**	0.023*	0.022**	0.024**	0.022*	0.017*	0.017	0.020	0.019	0.013	0.015	0.014
	(2.14)	(2.24)	(1.67)	(1.99)	(1.96)	(2.07)	(2.06)	(1.90)	(1.66)	(1.51)	(1.52)	(1.43)	(1.13)	(1.19)	(1.05)

Table 22: QQ plots

Below figures provide quantile probability plots for continuous variables operationalized. (1) = $CAR_{-1,+1}$ (2) = $CAR_{-5,+5}$ (3) = $CAR_{-10,+10}$ (4) = $CAR_{-20,+20}$ (5) = $CAR_{-30,+30}$ (6) = Bidder market value

(7) = Bidder book value (8) = Bidder MTB-ratio (9) = Bidder FCF (10) = Deal value (11) = Relative deal value (12) = Target market liquidity

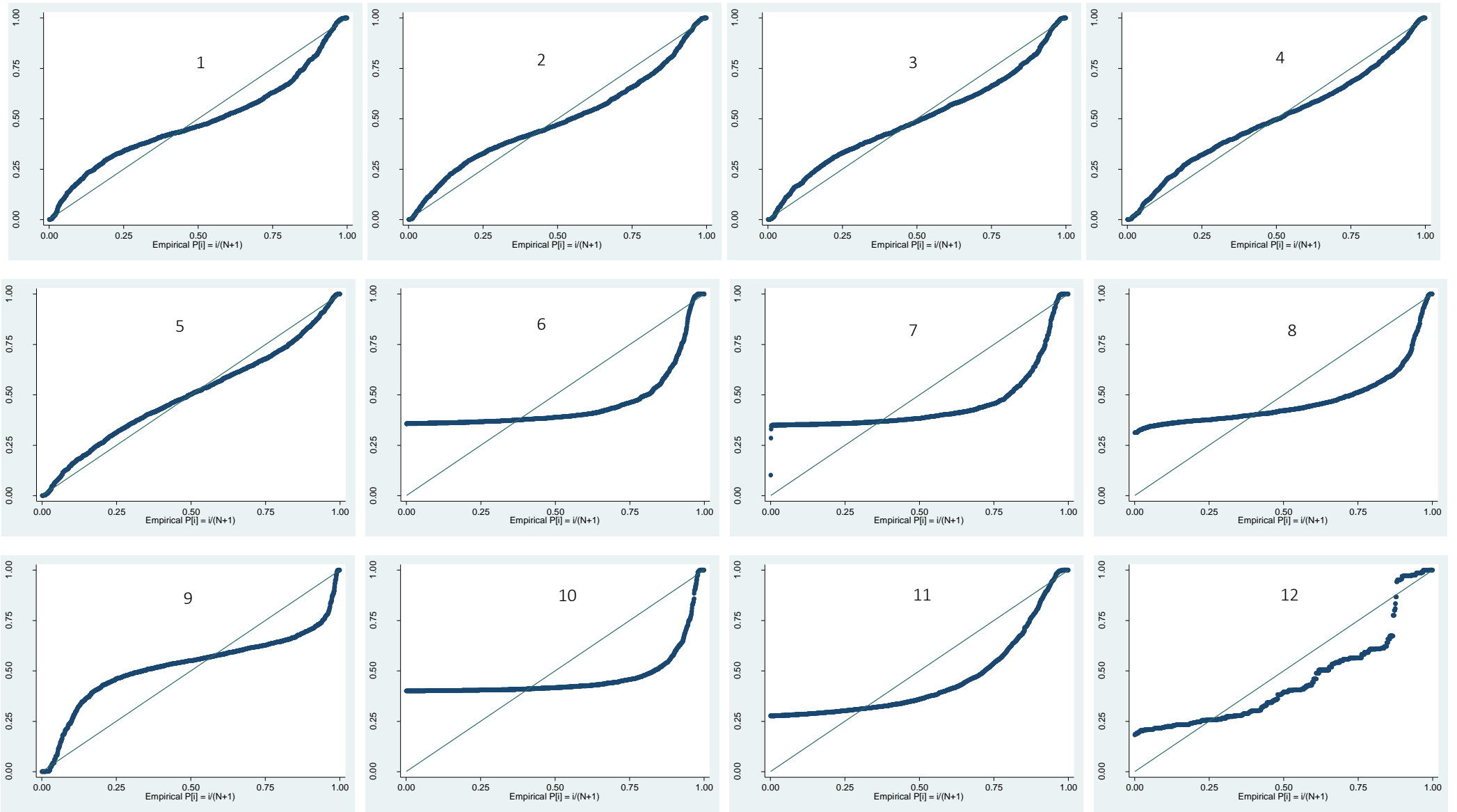


Table 23: Distance in PDI

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'power distance'

PDI											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	0.1	2.2	1.2	3.1	2.5	0.0	0.3	2.5	0.5
Finland		0.1	X	3.1	2.0	4.2	3.5	0.0	0.1	1.7	1.0
Portugal		2.2	3.1	X	0.1	0.1	0.0	2.7	4.2	9.4	0.6
Spain		1.2	2.0	0.1	X	0.4	0.2	1.7	2.9	7.3	0.2
France		3.1	4.2	0.1	0.4	X	0.0	3.8	5.5	11.2	1.1
Belgium		2.5	3.5	0.0	0.2	0.0	X	3.1	4.7	10.1	0.8
Germany		0.0	0.0	2.7	1.7	3.8	3.1	X	0.2	2.0	0.8
Republic of Ireland		0.3	0.1	4.2	2.9	5.5	4.7	0.2	X	1.0	1.7
Austria		2.5	1.7	9.4	7.3	11.2	10.1	2.0	1.0	X	5.3
Italy		0.5	1.0	0.6	0.2	1.1	0.8	0.8	1.7	5.3	X

Table 24: Distance in IDV

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'Individualism vs. collectivism'

IDV											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	1.4	13.8	4.1	0.4	0.1	0.8	0.5	3.1	0.1
Finland		1.4	X	6.4	0.7	0.3	0.7	0.1	0.2	0.3	0.8
Portugal		13.8	6.4	X	2.8	9.5	11.3	7.8	9.1	3.8	11.8
Spain		4.1	0.7	2.8	X	2.0	2.8	1.3	1.8	0.1	3.1
France		0.4	0.3	9.5	2.0	X	0.1	0.1	0.0	1.3	0.1
Belgium		0.1	0.7	11.3	2.8	0.1	X	0.3	0.1	2.0	0.0
Germany		0.8	0.1	7.8	1.3	0.1	0.3	X	0.0	0.7	0.4
Republic of Ireland		0.5	0.2	9.1	1.8	0.0	0.1	0.0	X	1.1	0.2
Austria		3.1	0.3	3.8	0.1	1.3	2.0	0.7	1.1	X	2.2
Italy		0.1	0.8	11.8	3.1	0.1	0.0	0.4	0.2	2.2	X

Table 25: Distance in MAS

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'Masculinity vs. femininity'

MAS											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	0.4	0.9	2.3	2.5	4.7	8.0	8.6	9.3	9.3
Finland		0.4	X	0.1	0.8	0.9	2.3	4.7	5.2	5.7	5.7
Portugal		0.9	0.1	X	0.4	0.4	1.6	3.6	4.0	4.5	4.5
Spain		2.3	0.8	0.4	X	0.0	0.4	1.7	2.0	2.3	2.3
France		2.5	0.9	0.4	0.0	X	0.4	1.6	1.8	2.2	2.2
Belgium		4.7	2.3	1.6	0.4	0.4	X	0.4	0.6	0.8	0.8
Germany		8.0	4.7	3.6	1.7	1.6	0.4	X	0.0	0.0	0.0
Republic of Ireland		8.6	5.2	4.0	2.0	1.8	0.6	0.0	X	0.0	0.0
Austria		9.3	5.7	4.5	2.3	2.2	0.8	0.0	0.0	X	0.0
Italy		9.3	5.7	4.5	2.3	2.2	0.8	0.0	0.0	0.0	X

Table 26: Distance in UAI

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'Uncertainty avoidance'

UAI											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	0.1	6.5	3.4	3.4	5.2	0.4	1.0	0.9	1.5
Finland		0.1	X	4.9	2.2	2.2	3.8	0.1	1.8	0.4	0.8
Portugal		6.5	4.9	X	0.5	0.5	0.1	3.6	12.6	2.6	1.8
Spain		3.4	2.2	0.5	X	0.0	0.2	1.4	8.0	0.8	0.4
France		3.4	2.2	0.5	0.0	X	0.2	1.4	8.0	0.8	0.4
Belgium		5.2	3.8	0.1	0.2	0.2	X	2.6	10.7	1.8	1.1
Germany		0.4	0.1	3.6	1.4	1.4	2.6	X	2.8	0.1	0.3
Republic of Ireland		1.0	1.8	12.6	8.0	8.0	10.7	2.8	X	3.8	4.9
Austria		0.9	0.4	2.6	0.8	0.8	1.8	0.1	3.8	X	0.1
Italy		1.5	0.8	1.8	0.4	0.4	1.1	0.3	4.9	0.1	X

Table 27: Distance in LTO

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'Long-term orientation'

LTO											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	2.4	4.3	1.0	0.0	0.6	0.7	5.2	0.1	0.1
Finland		2.4	X	0.3	0.3	1.8	5.5	5.7	0.6	1.4	1.5
Portugal		4.3	0.3	X	1.1	3.5	8.3	8.6	0.0	2.9	3.1
Spain		1.0	0.3	1.1	X	0.6	3.3	3.5	1.6	0.4	0.5
France		0.0	1.8	3.5	0.6	X	1.0	1.1	4.3	0.0	0.0
Belgium		0.6	5.5	8.3	3.3	1.0	X	0.0	9.5	1.4	1.3
Germany		0.7	5.7	8.6	3.5	1.1	0.0	X	9.9	1.5	1.4
Republic of Ireland		5.2	0.6	0.0	1.6	4.3	9.5	9.9	X	3.7	3.9
Austria		0.1	1.4	2.9	0.4	0.0	1.4	1.5	3.7	X	0.0
Italy		0.1	1.5	3.1	0.5	0.0	1.3	1.4	3.9	0.0	X

Table 28: Distance in IND

This table displays the relative cultural distance between bidder and target countries for Hofstede's dimension 'Indulgence vs. restraint'

IND											
	Target	NL	FI	PO	ES	FR	BE	DE	IR	AU	IT
<i>bidder</i>											
Netherlands		X	0.7	8.0	3.8	2.6	0.8	5.1	0.1	0.2	9.4
Finland		0.7	X	4.1	1.3	0.7	0.0	2.1	0.3	0.2	5.1
Portugal		8.0	4.1	X	0.8	1.5	3.8	0.3	6.7	5.9	0.1
Spain		3.8	1.3	0.8	X	0.1	1.1	0.1	2.9	2.4	1.3
France		2.6	0.7	1.5	0.1	X	0.5	0.4	1.9	1.5	2.1
Belgium		0.8	0.0	3.8	1.1	0.5	X	1.9	0.4	0.2	4.8
Germany		5.1	2.1	0.3	0.1	0.4	1.9	X	4.1	3.5	0.7
Republic of Ireland		0.1	0.3	6.7	2.9	1.9	0.4	4.1	X	0.0	8.0
Austria		0.2	0.2	5.9	2.4	1.5	0.2	3.5	0.0	X	7.1
Italy		9.4	5.1	0.1	1.3	2.1	4.8	0.7	8.0	7.1	X

Table 29: Observed distribution of cross-border acquisitions

This table presents the observed frequencies of cross-border acquisitions over the 1999-2015 sample

Observed	<i>Target</i>	Austria	Belgium	Finland	France	Germany	Ireland-rep	Italy	Netherlands	Portugal	Spain
<i>Bidder</i>											
Austria		X	0	0	4	18	2	4	5	0	2
Belgium		0	X	0	34	10	2	7	17	4	4
Finland		1	1	X	7	20	1	3	8	0	0
France		4	19	2	X	52	3	26	26	2	28
Germany		11	9	3	28	X	4	11	20	2	17
Ireland-rep		1	3	2	4	8	X	2	12	0	1
Italy		3	5	0	33	21	3	X	5	1	18
Netherlands		4	19	4	31	27	1	15	X	2	19
Portugal		0	0	0	0	2	0	0	0	X	8
Spain		3	2	0	16	11	0	25	5	13	X

Table 30: Theoretical distribution of cross-border acquisitions

This table presents the theoretical frequency of cross-border acquisitions given a homogenous 9-country investment universe weighted for respective GDPs under the assumption cultural distance is irrelevant

Expected	<i>Target</i>	Austria	Belgium	Finland	France	Germany	Ireland-rep	Italy	Netherlands	Portugal	Spain
<i>Bidder</i>											
Austria		X	1.4	0.7	7.8	10.5	0.5	6.9	2.4	0.7	3.8
Belgium		2.5	X	1.5	17.6	23.7	1.2	15.5	5.5	1.7	8.5
Finland		1.3	1.6	X	9.1	12.2	0.6	8.0	2.8	0.9	4.4
France		6.5	7.9	3.9	X	60.4	3.0	39.5	14.0	4.2	21.7
Germany		4.6	5.7	2.8	32.2	X	2.1	28.3	10.1	3.0	15.6
Ireland-rep		1.0	1.3	0.6	7.3	9.8	X	6.4	2.3	0.7	3.5
Italy		3.4	4.2	2.1	23.9	32.1	1.6	X	7.5	2.3	11.6
Netherlands		4.1	5.0	2.5	28.4	38.2	1.9	25.0	X	2.7	13.7
Portugal		0.3	0.4	0.2	2.2	3.0	0.1	2.0	0.7	X	1.1
Spain		2.6	3.2	1.6	18.2	24.5	1.2	16.0	5.7	1.7	X

Table 31: Market liquidity

This table presents acquisition market liquidity figures computed as the total acquisition value in a country for a respective year divided by its annual GDP.

	Austria	Belgium	Finland	France	Germany	Ireland-rep	Italy	Netherlands	Portugal	Spain
1999	0.05%	0.12%	1.93%	5.74%	1.97%	0.58%	4.99%	0.83%	2.07%	2.86%
2000	3.15%	2.23%	1.45%	1.30%	0.80%	0.52%	0.71%	4.75%	1.84%	0.73%
2001	0.00%	2.88%	0.27%	1.16%	1.50%	0.21%	1.05%	3.56%	0.40%	0.77%
2002	0.01%	0.35%	1.28%	1.32%	0.20%	0.18%	1.12%	0.60%	1.40%	0.79%
2003	0.45%	0.08%	0.19%	0.34%	0.11%	0.27%	0.28%	0.34%	0.11%	0.57%
2004	0.19%	4.82%	0.10%	3.18%	0.20%	0.22%	0.35%	0.36%	0.39%	0.28%
2005	0.13%	0.70%	1.34%	1.18%	1.18%	0.32%	0.29%	0.23%	0.23%	0.28%
2006	0.35%	0.59%	0.97%	3.11%	1.31%	0.12%	3.41%	0.43%	0.29%	1.26%
2007	1.17%	0.89%	0.50%	0.74%	1.01%	3.32%	2.84%	5.41%	0.68%	0.67%
2008	0.61%	2.74%	0.05%	0.24%	0.24%	0.01%	0.43%	0.40%	0.13%	0.48%
2009	1.28%	0.41%	0.21%	0.13%	0.16%	0.26%	0.14%	1.34%	0.13%	0.51%
2010	0.14%	0.03%	0.55%	0.16%	0.09%	0.01%	1.11%	0.34%	0.19%	0.29%
2011	0.00%	0.18%	0.09%	0.38%	0.10%	0.01%	0.28%	0.20%	0.05%	0.28%
2012	0.26%	0.20%	0.04%	0.11%	0.56%	0.01%	0.04%	1.10%	0.45%	0.27%
2013	0.00%	0.29%	1.01%	0.20%	0.43%	0.08%	0.42%	0.02%	0.07%	0.06%
2014	0.43%	1.02%	0.09%	1.23%	0.22%	0.52%	0.17%	0.85%	0.01%	0.75%
2015	0.12%	3.08%	0.23%	1.14%	0.31%	0.37%	0.15%	0.20%	0.19%	0.35%

Table 32: Geographical distance

This table presents the shortest distance in kilometres by land between country capitals as provided by Google Maps assuming them to be the centre of economic gravity for a respective country.

		Netherlands	Finland	Portugal	Spain	France	Belgium	Germany	Ireland-Rep	Austria	Italy
		<i>Amsterdam</i>	<i>Helsinki</i>	<i>Lisbon</i>	<i>Madrid</i>	<i>Paris</i>	<i>Brussels</i>	<i>Berlin</i>	<i>Dublin</i>	<i>Vienna</i>	<i>Rome</i>
Netherlands	<i>Amsterdam</i>	X	2046	2240	1780	509	203	655	1143	1147	1648
Finland	<i>Helsinki</i>	2046	X	4232	3902	2637	2345	1580	3286	1751	2863
Portugal	<i>Lisbon</i>	2240	4232	X	629	1737	2047	2718	2792	2908	2509
Spain	<i>Madrid</i>	1780	3902	629	X	1270	1580	2314	2325	2420	1953
France	<i>Paris</i>	509	2637	1737	1270	X	320	1054	1073	1236	1421
Belgium	<i>Brussels</i>	203	2345	2047	1580	320	X	777	976	1107	1479
Germany	<i>Berlin</i>	655	1580	2718	2314	1054	777	X	1704	678	1502
Ireland-Rep	<i>Dublin</i>	1143	3286	2792	2325	1073	976	1704	X	2093	2478
Austria	<i>Vienna</i>	1147	1751	2908	2420	1236	1107	678	2093	X	1122
Italy	<i>Rome</i>	1648	2863	2509	1953	1421	1479	1502	2478	1122	X

Table 33: Alternative profitability measurement methods

Accounting studies

Accounting studies draw upon financial reports of acquirers and compare both pre- and post-acquisition financial performance in terms of i.e. return on equity, net income, EPS and leverage ratios. A leading study using such methods is that of Healy, Palepu and Ruback (1992). They examine the post-acquisition for the 50 largest U.S. mergers between 1979 and mid-1984 and find that merged firms show significant improvements in terms of asset productivity relative to their industries. These higher operating cash flows subsequently result in higher equity valuations (Healy, Palepu, & Ruback, 1992). Even though financial statements are credible, the drawback of such studies is that data is backward-looking and might be distorted by comparing different accounting standards and policies. Moreover, it is difficult to accredit changes to a specific deal as it firstly usually takes a considerable amount of time to integrate and operationalize newly formed entities, and secondly when acquisitions are relatively small compared to the bidder, effects are hardly noticeable. As a result it is a challenging task to isolate post-takeover corporate performance effects from a non-acquisitive parallel universe.

Executive surveys

Basically aim at gathering qualitative information with respect to how M&As turned out in retrospect with standardized questionnaires to be able to make inferences over the full sample. Although it yields insights into motives and coherent value creation that might not have been noticed by the stock market, as opinions differ from facts, its outcomes are of an extremely subjective nature and very difficult to compare amongst each other. Additionally there are many biases that handicap our ability to draw conclusions i.e. response bias and self-attribution bias that cause scholars to generally ignore survey-based research in the M&A profitability debate.

Clinical studies

Often have their focus on one, or a small sample of deals. In-depth analysis on both a quantitative and qualitative level should provide insights on how successful specific deals have been. They usually describe extreme cases that have been immensely successful or the absolute opposite. A classic example is the AOL-Time Warner merger; When the deal was announced in 2000, the combined companies boasted a market capitalisation of \$350bn, when the two companies split in 2015 AOL was worth \$3.6bn and Time Warner \$68.9bn. Although they provide valuable insights (in this case on market timing and method of payment)²⁰, in typical research they would be considered outliers and it is unreasonable to make any generalizations based on its evidence.

²⁰ "The biggest reason AOL has been such a dog for investors is that the deal creating the company was done on terms that were insane. And the really painful part is that this was perfectly clear at the time. Trouble was, AOL stock was ridiculously overvalued... So don't blame Steve Case (CEO AOL) for what has happened. He chose the moment, almost to the day when his stock was most valuable and then used it as currency. He served his shareholder well. It was Time Warner that sold itself for Wampum" – Geoffrey Colvin (Fortune, February 2, 2003)