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DO EUROPEAN CROSS-BORDER ACQUISITIONS

CREATE OR DESTROY VALUE?

by

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BIBLIOGRAPHIC NOTE

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ABSTRACT

The present study aims at determining the short-term wealth effects of cross-border acquisitions (CBA) launched by European bidders between 2001 and 2010. It contributes to previous research on European CBA by focusing on the wealth gains of not only target shareholders but also bidder and combined firms shareholders. Additionally, it extends existing literature on the wealth effects of acquisitions by providing an insight of the European CBA recently launched. Using a sample of 114 completed European deals, an analysis of the cumulative average abnormal returns of all involving shareholders and the distribution between them is carried out. The number of completed acquisitions of European firms is similar to those acquisitions of non-European firms and the number of all-cash and friendly acquisitions clearly surpasses the number of all-equity or mixed and hostile acquisitions, respectively. Based on event study methodology the results show that target shareholders always gain from the offer. On the other hand, our results suggest that bidder shareholders lose wealth around announcement day. Notwithstanding bidder shares performance, our results evidence a positive combined wealth effect of cross-border deals suggesting that the target gains offset bidder losses. However this positive combined performance does not occur in the following situations: (i) acquisitions of non-European targets; (ii) acquisitions that occurred after the beginning of the financial crisis; (iii) acquisitions between firms in different business sectors, and (iv) acquisitions by relatively large bidders. A cross-sectional analysis has been performed and the results suggest that the relative size and the level of investor protection in the target firm country have an impact on bidder shares performance around announcement date. Concerning to the target shareholders the results suggest that the relative exchange rate and the level of investor protection explain targets CAR.

Keywords: Cross-Border Acquisitions, Abnormal Returns, Industry Relatedness, Relative Size, Exchange Rate, Level of Investor Protection.

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1. INTRODUCTION

Research on mergers and acquisitions (hereinafter "M&A") generically addresses corporate transactions, such as mergers, takeovers (including friendly and tender-offers), assets acquisitions and buyouts. Such corporate deals can be understood as investment plans carried out in order to achieve strategic goals and generate value to the firm. M&A goals are broadly associated to cost savings and revenue enhancement (Sudarsanam, 2004) but it is the assessment of value generation that can state whether those goals have been achieved.

The study of value generation of M&A requires attention to some key points. First of all, it is necessary to define how to measure value creation. Then, one should bare in mind that the conclusions of the acquisitions wealth effects on the bidder shares are much more ambiguous than those on the target shares. Third, the time span of analysis shall be taken into consideration when interpreting the final results. A short-term analysis and a long-term analysis around announcement may lead to different conclusions on the effects of the acquisition.

Prior literature suggests that indeed in some cases M&A create value, however this value creation is dependent on a set of variables such as the means of payment (Servaes, 1991; Barbopoulos and Sudarsanam, 2012), bid attitude (Bhagat *et al.*, 2005), industry relatedness between involving firms (Danbolt, 2004), relative size (Jarrel and Poulsen, 1989; Asquith, Bruner and Mullins, 1983; Moeller *et al.*, 2004), geographical scope (Martynova and Renneboog, 2011; Rossi and Volpi, 2004), exchange rates (Froot and Stein, 1991; Harris and Ravenscraft, 1991; Cebenoyan *et al.*, 1992), the level of development of the firms countries (Doukas and Travlos, 1988) and market regulation (Bris *et al.*, 2008; Anderson *et al.*, 2009).

In addition, historical data illustrates that until the 90`s, M&A usually occurred under national boundaries. Globalization and markets regulations contributed to the emergence of a larger number of cross-border deals (Coeurdacier, 2009). The recent transnational pattern of M&A highlights the differences between cross-border acquisitions ("CBA") and domestic acquisitions, in terms of risk and sources of value. In Europe the number of CBA has improved significantly after 1992, first as result of the implementation of the single market and then from 1999 onwards with the

implementation of a single currency (the Euro). Although CBA have increased over the recent years, either in volume as in number, there are several questions that remain unanswered.

Most of prior investigation is based on US and UK firms, so it turns it would be interesting to improve existing empirical evidence on the European market for corporate control. Also, prior evidence on CBA is mostly focused on transactions over the 90`s, and on the gains of target firms (Danbolt, 2004; Harris and Ravenscraft, 1991; Cebenoyan *et al.*, 1992) whereas evidence of bidders and combined wealth effects is scarce.

The empirical study of foreign transactions presents some constraints, namely in terms of statistical analysis and the set of additional variables that may explain the performance of CBA. The relative lack of research about CBA leads every new research a step ahead in terms of comprehension of these complex operations.

For all the above mentioned, the first goal of this study is to assess whether CBA undertook by European bidders between 2001 and 2010 generated value or not. Our intentions are to provide a better understanding of the effects of the cross-border bids on the abnormal returns of bidders, targets and combined firms shareholders around announcement date.

In order to achieve these goals the analysis has focused on short-term cumulative abnormal returns (CAR) around announcement day. A standard event study of CAR in several day windows around announcement day has been performed. The sample has been split according to a set of variables that might impact shareholders gains such as: i) target origin region, ii) period of bid announcement, iii) industry relatedness and iv) relative size. After a preliminary insight of some factors that may affect the performance of bidder and target shares, a cross-sectional analysis with cross-border variables (exchange rate, country development status and level of investor protection) along with variables related with bid characteristics (means of payment, relative size, industry relatedness and bid attitude) has been carried out in order to determine the relevant variables that have an impact on those shareholders gains.

To our best knowledge, so far none of the existing studies on European CBA has addressed these issues.

2. LITERATURE REVIEW

2.1 Overview of European M&A

Literature focused on European M&A is not as robust as when it comes to transactions in the US market. Prior research on European M&A is mostly focused in the 90`s and includes mainly deals between firms from different European countries (Goergen and Renneboog, 2004; Danbolt, 2004; Martynova and Renneboog, 2011).

The European M&A used to have a smaller dimension than US peer, either in volume as in number of deals. Until the 90`s the European industry profile was dominated by small and medium firms used to do business in domestic markets. The strategy of European firms then changed substantially, in part, due to abolishment of trade barriers and the establishment of the Euro-zone. It started with the single market implementation in 1992 and it was enhanced until 1999 with the European Monetary Union ("EMU") where the Euro-Zone countries share the same currency and have a common monetary policy. In the European Union, trade agreements towards free flow of goods, economic and monetary policy integration as well as convergence in terms of products regulation and fiscal agreements between member-states have contributed to increase M&A activity (Coeurdacier *et al.*, 2009). The reorganization of the European trade policy has encouraged firms to conquer new markets abroad (Campa and Hernando, 2004).

A firm decision on capital allocation across countries carries important sources of risk, namely political, fiscal, exchange rate, cultural, that were, in part, diluted with the EMU, and thus have stimulated foreign investment by European firms. As a consequence of the European market integration there were a lot of industry privatizations in the 90's and a part of them were, in fact, CBA within member-states. Furthermore, convergence in terms of consumer tastes and market organization (for instance, in this period we observed the consolidation of the European bank industry) have also contributed to promote CBA.

The increase of European M&A has demanded a new era of European regulation for corporate takeovers (Goergen *et al.*, 2005). After years of working on an attempt to build a harmonized European law applied to the market of corporate control, it was in 2004 that the European Commission established the Takeover Directive. The Takeover

Directive is based on the following general principles that shall be transposed by all Member-States to their national legislation: (i) mandatory bid-rule[1]; (ii) principle of equal treatment of shareholders[2]; (iii) squeeze-out right and sell-out right[3]; (iv) prohibition of market manipulation or abuse and; (v) the shareholders must have sufficient time and information to make a properly informed decision on the bid.

2.1.1 Abnormal Returns in M&A

The analysis of the wealth gains of M&A is usually based on the abnormal returns on shares measured as the difference between effective returns and expected returns (Asquith *et al.*, 1983). This incremental share price measures the M&A effect. Also, the share price changes around bid announcement highlight market reaction to expectations of future cash flows of firms involved in M&A.

Overall, empirical evidence provides support either to positive (albeit in same cases very small) abnormal returns on targets shares (Lang *et al.*, 1989; Campa and Hernando, 2004; Franks *et al.*, 1991; Goergen and Renneboog, 2004; Asquith *et al.*, 1983; Martynova and Renneboog, 2011; Moeller *et al.*, 2004; Moeller *et al.*, 2005) or to negative abnormal returns on bidders shares (Servaes, 1991; Sudarsanam and Mahate, 2003; Sudarsanam and Mahate, 2006) as well as to positive combined abnormal returns (Bradley *et al.*, 1988; Lang *et al.*, 1989; Servaes, 1991; Campa and Hernando, 2004).

Prior evidence shows that bidders do not always benefit from wealth creation of the acquisition. In fact, the bid announcement effect in the shares of bidders is puzzling even today, because in cases that M&A reduce the value of the shares of bidders, shareholders would be better without the transaction. For instance, Sudarsanam (2004) shows that bidders experience negative returns in the short-term period after the offer announcement, suggesting that those firms that entered into acquisitions have

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[1] Mandatory bid rule establishes that an investors that gains control of a firm, extends the offer to remaining shareholders at a fair price.

[2] Principal of equal treatment of shareholders establishes that shareholders rights are proportional to the shares they hold at the firm.

[3] Squeeze-out right states that a shareholder that launched a bid that allowed to hold not less than 90% of firm capital and voting rights has the right to buy the remaining capital shares at a fair price.

Sell-out right states that minority shareholders have the right to sell their shares to a majority shareholder in case of change of control.

underperformed. However Jarrel and Poulsen (1989) as well as Dodd and Ruback (1977) report statistically significant positive abnormal returns to bidders shareholders.

The analysis of the performance of the shares of bidders deserves additional attention because bidder firms may be involved in acquisitions program for a long time (Jensen and Ruback, 1983) that not always is understood by the market. In case of multiple bids the analysis of bidder returns should consider the total number of offers launched and not just a single offer, otherwise the interpretation of bidder share price variation may not be complete.

Moreover, the combined wealth effect is also ambiguous among previous research. Roll (1986) suggests that there is a transfer of returns from bidders to targets firms. Servaes (1991) also suggests that targets gains are at cost of bidders losses but Limmack (1991), for instance, does not conclude on a wealth transfer from bidders shareholders to targets.

To sum up, one thing that seems to gather consensus among previous research is that around the announcement date abnormal returns earned by target firm shareholders are positive and much larger than those of bidder shareholders (Jarrel and Poulsen, 1989; Limmack, 1991).

2.2 Overview of Cross-Border M&A

Cross-border acquisitions account for a great part of foreign direct investment (FDI) in developed countries. After the 80's, research on CBA has increased because of the growing magnitude of international trade and capital flows. According to UNCTAD[4] data, the number of CBA deals has increased steadily (see Figure 1) over the last two decades. In the 90's there were 27,283 CBA. From 1998 to 2000 there were 11,283 CBA deals which represented 41% of total CBA deals launched between 1990 and 2000. In the following decade there were 29,177 CBA deals, 4% more than the previous decade.

UNCTAD data also shows that there was a higher volume and number of CBA deals in Europe than in the US (see Figures 1 and 2). The larger dimension of US domestic market allows firms to grow within national boundaries, whereas in Europe,

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[4] United Nations Conference on Trade and Development

each country has its singularities. Only after the monetary policy harmonization in 1992 conditions were created to generate a wave of acquisitions between firms from different European countries.

Figure 1 - Number of Cross-Border Deals by Region of Target Firm

Moreover, from 1997 to 2001 and then from 2005 to 2009 there is a large gap in terms of transaction volume between CBA undertook by European and US firms (see Figure 2).

Prior literature suggests that factors such as differences in law, stronger investor protection and better accounting standards may contribute to the higher volume of CBA in certain countries. Additionally, the likelihood of acquiring a firm from a nearby country is also higher than a firm from a farther country (Erel *et al.*, 2012). Also, hostile bids are more likely to occur in countries with higher investor protection and firms from countries with weaker investor protection are more likely targets in CBA (Rossi and Volpi, 2004). On the other hand, bidders often choose to cross-list in target firms country first and then place the offer on. Therefore Tolmunen and Tostila (2005) suggest that European cross-listed firms in US stock markets are more likely to go for a CBA than non-cross listed European firms. Cross-listing is also found to be part of internationalization process of a firm as well as play the role of means of exchange. It may work as the M&A currency because in equity bids, target firm shareholders prefer to be paid with domestic shares rather than foreign shares because of taxes, regulatory framework and quality of investor protection, among other reasons.

Figure 2 – Value of Cross-Border M&A Acquisitions by Region of Target Firm
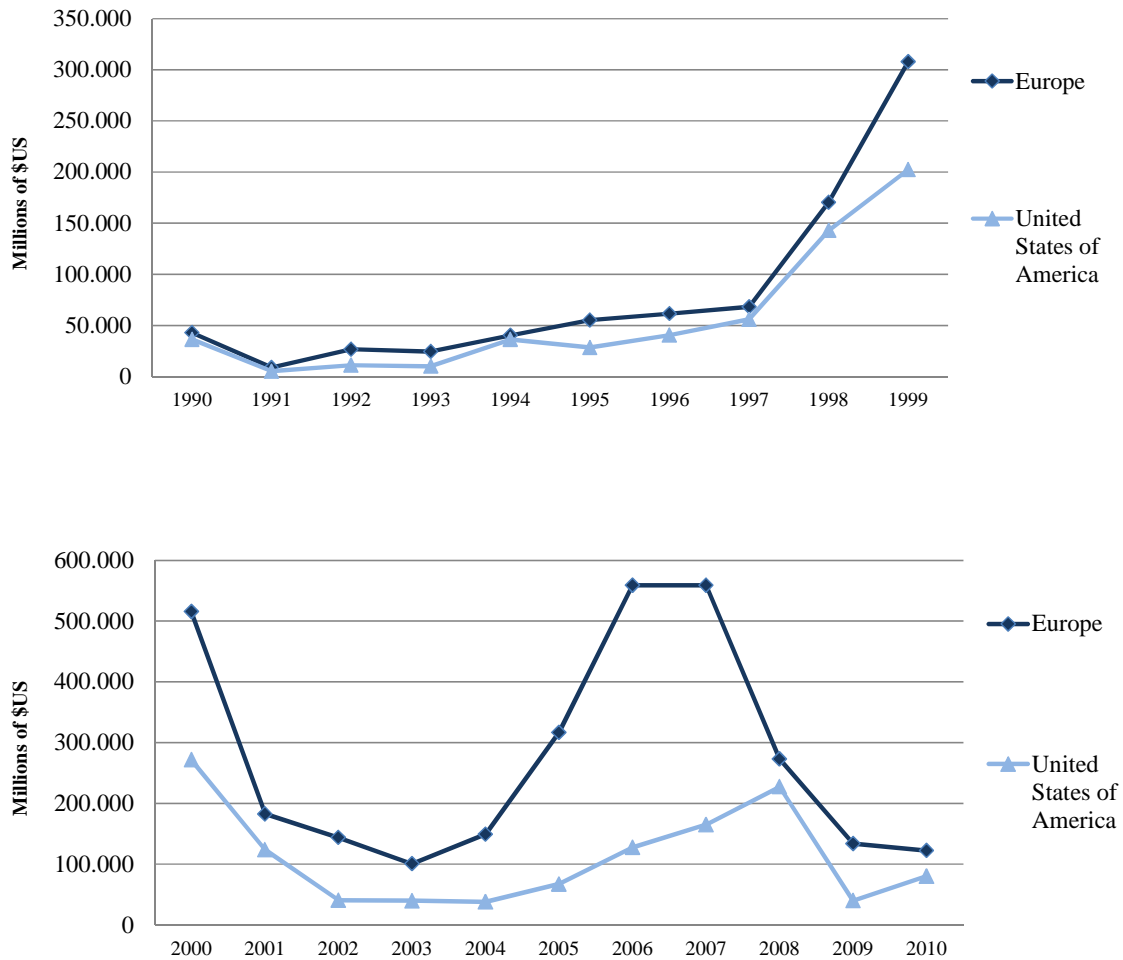
Source: UNCTAD World Investment Report 2012

Volume of cross-border deals in $US million. The graph on the top shows evolution of volume of cross-border deals, per country of target firm in $US millions from 1990 to 1999. The graph on the bottom shows evolution of volume of cross-border deals, per country of target firm in $US millions from 2000 to 2010.

In terms of industry focus, CBA often occur between firms operating in R&D intensive industries and between firms in related industries, hence supporting the hypothesis of imperfections in markets of goods and factors (Harris and Ravenscraft, 1991).

2.2.1 Abnormal Returns in Cross-Border M&A

Empirical evidence on CBA wealth creation is not abundant. Moreover, most studies address the bid effect on bidder shareholders (Moeller and Schlingemann, 2005;

Doukas and Travlos, 1988) or target shareholders (Harris and Ravenscraft, 1991) but not often provide data of combined returns.

Prior research on CBA shows that, on average, target firms experience positive significant abnormal returns on bid announcement day and post-bid period (Danbolt, 2004; Campa and Hernando, 2004), and also suggest that bidders tend to gain from CBA around announcement (Goergen and Renneboog, 2004; Martynova and Renneboog, 2011; Bhagat *et al.*, 2011). For instance, regarding the European market, findings from Martynova and Renneboog (2011) show that in CBA launched by firms from Continental Europe and UK, both bidders and targets shareholders earn positive abnormal returns around the announcement day, though the gains of bidders are lower than those of targets. Consistent with previous results, Bhagat *et al.* (2011) analyzed a sample of CBA undertook by bidders located in emerging countries and their results confirm positive market reaction on announcement day, materialized in a cumulative average abnormal return of 1.09% on the shares of bidders.

Notwithstanding previous general findings, the analysis of CBA performance is not so clear and depends on a set of other variables. For instances, the work of Doukas and Travlos (1988) reports that acquisition announcement by US multinational firms with no operations in the target firm country has positive effect on bidder shares. Their findings are consistent with the theory of multinational firms that states that internationalization plans are implemented only if they generate value for the firm. However, in cases where US firms already have operations in target firm country, the acquisition has not led to gains to bidder shareholders. Furthermore, the research of Eun *et al.* (1996) holds that CBA generate positive gains for target firms but the effect on the gains of bidders depends on the capacity to internalize activities of target firms.

2.2.2 Abnormal Returns in Domestic and Cross-Border M&A

Most CBA studies focus on comparisons with domestic acquisitions.

Previous empirical evidence shows that targets tend to earn higher abnormal returns in CBA than in domestic bids around announcement (Harris and Ravenscraft, 1991; Goergen and Renneboog, 2004; Campa and Hernando, 2004; Danbolt, 2004). However the recent study of European M&A lead by of Martynova and Renneboog

(2011) shows the opposite, i.e., targets shareholders present higher gains in domestic bids rather than in cross-border bids.

General theory of FDI predicts that bidders launch cross-border offers to take advantage of market imperfections and thus generate more value to the firm. On the other hand, bidders are expected to pay higher premiums in cross-border deals than in domestic deals because they have to launch attractive offer prices in order to acquire target shares and the lack of knowledge and uncertainty about a firm from a foreign country turns it more difficult to be aware of target value.

Prior empirical evidence of Goergen and Renneboog (2004) and Martynova and Renneboog (2011) has not confirmed a negative effect of the cross-border bid over the bidders wealth. These authors have found positive abnormal returns on bidder shares, although Martynova and Renneboog (2011) find them to be lower in cross-border acquisitions than in domestic acquisitions. Their results suggest that market has anticipated some constrains that could arise from integration process during post-acquisition period.

For the reasons above mentioned, the combined wealth effect is also expected to be higher in cross-border than in domestic deals. However, Moeller and Schlingemann (2005) find statistically significant negative combined cross-border effect of -0.866% (measured as the difference between abnormal returns in transnational bids and domestic bids) in European transactions. In addition, evidence from Campa and Hernando (2004) also reports higher combined wealth creation in domestic deals.

Difficulty on valuating foreign firms due to different accounting standards, exchange rate fluctuations, cultural disparities and other factors may contribute to enlarge valuation errors in CBA (Danbolt, 2004).

Literature suggests that the premium paid by bidders depends on specific features of the target country such as corporate governance regimes, ownership concentration, takeover regulation or information transparency. Rossi and Volpi (2004) show that bid premiums are higher in CBA wherein target firms are located in countries with stronger investor protection and that the higher the investor protection of the target firm country, the less likely all-cash bids are. If there is a stronger level of investors protection in the target country, the chance of an unsuccessful bid increases, which makes cash transactions to be avoided and encourages bidders to pay higher premiums.

Managerial goals may, as well, justify the managers decision of overpaying for corporate acquisitions (Eun *et al.*, 1996) and in case of CBA the stimulus to pay a larger premium is higher.

2.3 Value Drivers of Abnormal Returns

Previous studies on the sources of value creation identify a set of factors that affect the profitability of acquisitions. Some of these sources are related to general bid characteristics, others are specific to CBA.

2.3.1 Cross-Border Characteristics

Prior research suggests that the performance of CBA depends on a set of factors, namely the exchange rate movements, the countries development status and the level of investor protection.

CBA characteristics related with law, accounting standards, corporate governance systems, economic environment, cultural differences, fiscal policy, information transparency and investor protection, among others, require a complex analysis of their effects. The decision for a transnational bid shall bare in mind these differences and the way to minimize the negative effects that may arise on the post-acquisition period. Only through an integrated management approach can CBA surpass these obstacles and generate value.

2.3.1.1 Exchange Rate

Previous literature suggests that exchange rates not only pursue the choice for CBA instead of domestic deals, but also have an impact on abnormal returns from CBA.

Erel *et al.* (2012) document that currency movements influences the option to launch a cross-border bid, especially when involved firms are from geographically close countries or when bidders are from wealthier countries than targets. Moreover, bidder firms located in countries with relative stronger currencies tend to purchase firms in countries with weaker currencies in order to pay smaller premiums than bidders from

countries with relatively weaker currencies (Tolmunen and Tostila, 2005). Bidders that acquire a firm from a country with relative weaker currency become more competitive than domestic bidders (Froot and Stein, 1991).

Literature suggests that the strength of the bidder home currency explains part of its gains because the risk associated with information asymmetry may be, in part, surpassed by the relative exchange rate effect, thus contributing to the improvement of the bidder shares performance (Froot and Stein, 1991).

Consistent with this argument, Harris and Ravenscraft (1991) and Cebenoyan *et al.* (1992) find statistical significant effect of the exchange rate on the gains of target firms in acquisitions where the bidders currency is relative stronger than targets currency. Their results show that CBA generate more gains to target shareholders when the bidders currency is stronger than targets` currency. However the work of Eun *et al.* (1996) and Danbolt (2004) suggest that the exchange rate has no effect over bidder, target and combined abnormal returns around announcement.

2.3.1.2 Country Development Status

Prior research has identified the level of economic development of a country as a factor that may influence the performance of CBA. Literature suggests that the bidders profitability is higher when targets are from less developed countries than bidders.

Doukas and Travlos (1988) find evidence to support this hypothesis. They find a positive relation between US multinational bidders expanding abroad with no operation in target country and bidders gains around announcement. The positive effect on the bidders gains is stimulated by positive market expectations about the set of opportunities that become available in the new market to those US firms.

Erel *et al.* (2012) suggest that the country development status is related to the quality of accounting standards. Countries with high level of development are associated with better quality accounting standards regimes as well as a sophisticated level of corporate governance regime. Bidders from countries with relative higher development status have greater chance to earn abnormal returns because CBA increase the quality of accounting standards of target firms thus improving the post-acquisition performance.

2.3.1.3 Level of Investor Protection

Investor protection is provided by the commercial code or corporate law valid in the country of origin of the firm. CBA to target firms in countries with strong level of investor protection have more difficulties on passing without prior market notice before the announcement. A set of regulatory demands turns the bid more predictable.

As such, target firms from countries with stronger investor protection are found to earn larger abnormal returns (Bris *et al.*, 2008; La Porta *et al.*, 1998; Anderson *et al.*, 2009) and bidders to pay higher premiums to prevent from competitive bids (Bebchuk, 2005). In addition, CBA wherein bidders are from countries with above-median shareholder protection and targets are from countries with low-median shareholder protection, have positive significant combined abnormal returns at announcement. When the opposite verifies, that is to say, targets are from high-median protection countries and bidders are from low-median protection countries, CBA have significant negative combined abnormal returns (Bris *et al.*, 2008).

Other studies show that countries with stronger shareholder protection present larger M&A activity and firms located in countries with weaker investor protection are generally acquired by firms from countries with stronger one (Rossi and Volpin, 2004).

2.3.2 Bid Characteristics

Prior literature has shed light on the impact of bid characteristics in M&A gains, in particular, those of targets and bidders shareholders. Factors such as means of payment (cash, equity, mixed), bid attitude (friendly, hostile), firms relative size and industry relatedness are hypothesised to influence wealth creation of M&A.

2.3.2.1 Means of Payment

Prior empirical evidence shows that cash offers usually lead to gains not only to targets shareholders (Goergen and Renneboog, 2004) but also to bidders' (Martynova and Renneboog, 2011) while equity exchange offers have negative effect on the bidders wealth (Franks *et al.*, 1991). Consequently, cash offers are suggested to have positive combined wealth effect (Servaes, 1991).

The explanation is that cash offers deserve more reflection from bidders' management since it is hard for a firm manager that has cashed in to spend the money in unprofitable businesses. Moreover, the means of exchange of the offer may be a market sign of bidder shares value. The underlying idea is that in periods of high equity market valuations and information asymmetry, bidders managers that think the firms share are overvalued prefer to exchange them in M&A, instead of paying the offer with cash.

The hypothesis of means of payment is confirmed in the works of Servaes (1991) and Martynova and Renneboog (2011) that suggest cash bids to provide positive abnormal returns to targets and moderate abnormal positive returns to bidders.

Goergen and Renneboog (2004) show that target shareholders present larger gains in all-cash offers and their abnormal returns are indeed sensitive to the means of payment, albeit they do not find evidence consistent with this hypothesis when it comes to bidders. The authors find that bidder shareholders report statistically significant larger gains in all-equity bids than in all-cash bids suggesting that means of payment do not act as a market sign of under or overvaluation of bidder shares. Furthermore in case of high uncertainty around the target firm value, bidders may prefer the stock exchange payment, instead of cash, in order to prevent the negative consequences from information asymmetry.

Information asymmetry is hence, one of the causes highlighted to the use of earnouts as part of the payment. The use of earnouts allows reducing the risk from information asymmetry since a part of the price is contingent to some events and so limits the adverse selection problem. As such the means of payment may contribute to risk diversification in M&A, thus improving the bidder shares performance in relation to transactions where there are no earnouts (Barbopoulos and Sudarsanam, 2012). Barbopoulos and Sudarsanam (2012) suggest that the higher the proportion of price paid as earnouts, the better the bidders performance in post-acquisition period.

To the extent that targets valuation is more complex in CBA we would expect bidders to prefer equity bids. However, the means of payment in CBA is dictated by the preference of target shareholders for cash, instead of foreign equity.

Not consistent with previous evidence some studies do not find significant abnormal returns for bidder shares nor for targets attending hypothesis of means of exchange (Leeth and Borg, 2000; Bhagat *et al.*, 2005).

Finally, some authors have studied the relation between the means of payment of M&A and the firms' size concluding that cash bids are more likely to occur when they involve small targets (Goergen *et al.*, 2004)

2.3.2.2 Bid Attitude

Bid attitude hypothesis suggests that hostile takeovers are more profitable than friendly acquisitions. A possible explanation is the market expectation that the impact of bidder management on target firm is higher in hostile than in friendly bids, thus resulting in larger value creation (Bhagat *et al.*, 2005).

Prior empirical evidence supports larger positive abnormal returns to target shares in hostile rather than in friendly bids around announcement day (Goergen and Renneboog, 2004; Martynova and Renneboog, 2011; Servaes, 1991).

Concerning to bidders performance, prior empirical evidence is not consistent with the theoretical bid attitude framework. Bhagat *et al.* (2005) show that bidders of friendly M&A outperform bidders of hostile ones. Consistent with their findings, Goergen and Renneboog (2004) also find negative abnormal returns for bidders in hostile European bids whereas positive abnormal returns in friendly bids in short-term windows around announcement day. Sudarsanam and Mahate (2006) confirm that in long event windows post announcement period bidders also experience negative abnormal returns in hostile bids.

Rossi and Volpi (2004) study the likelihood to launch a hostile bid and their results show that hostile bids are more likely to occur in countries with stronger shareholders protection.

2.3.2.3 Industry Relatedness

M&A can be driven by focus or diversification strategies, whether the offer goes for a firm in same or different business sector. The industry hypothesis suggests that diversification strategy tend to be less profitable for bidders than focus oriented ones, due to lack of knowledge of the new business they are entering into.

Prior research has shown that target firms tend to experience larger positive abnormal returns in M&A driven by diversification rather than focus goals suggesting

that bidders overpay for the acquisitions (Martynova and Renneboog, 2011). Consistent with previous evidence, Danbolt (2004) confirms that the industry relatedness between firms explains part of targets abnormal returns.

The research of Martynova and Renneboog (2011) shows that in short event windows around announcement focus oriented M&A tend to be more profitable to bidder shareholders than diversified ones. Evidence from Agrawal *et al.* (1992) also shows that in the post-acquisition period bidders of acquisitions cross-industry present significant higher losses than those in oriented acquisitions. Not consistent with previous results Eun *et al.* (1996) provides evidence that in CBA of US target firms operating in different business area, bidders experience higher share price variation around announcement than peers that entered into related industry acquisitions.

Additionally, Doukas and Travlos (1988) suggest that in CBA of bidders expanding into new geographical markets the industry relatedness between firms has a positive impact in the bidders gains. These authors defend that bidders benefit from acquisition when they diversify in terms of industry and geographical market.

2.3.2.4 Relative Size

Prior studies on M&A performance support the relation between bidders returns and target firm relative size, suggesting that the larger the target size, the higher the abnormal returns to bidders around announcement (Asquith *et al.*, 1983; Jarrel and Poulsen, 1989; Moeller *et al.*, 2004; Martynova and Renneboog, 2011). They suggest that relative larger bidders overpay in larger scale and the size of premium paid is positively related with relative size of the bidder firm (Moeller *et al.*, 2004).

Large firms tend to have more regulation constrains than small firms which may explain evidence of higher abnormal returns on shares of small bidders. Nonetheless, the research of Agrawal *et al.* (1992) does not confirm that the bidders relative size is a statistically significant variable to explain bidders post-acquisition performance (up to 60 months) in completed mergers. Also, prior research of Asquith *et al.* (1983) has not found evidence of the impact of relative size in target shares performance.

From a different perspective, Tolmunen and Tostila (2005) and Erel *et al.* (2012) suggest that large firms are more likely to be acquirers in CBA than small firms.

3. DATA SOURCES, SAMPLE AND METHODOLOGY

3.1 Sample Selection and Data Sources

For the purpose of this study a CBA is a transaction between two firms, each one with primary location in different countries. In order to perform the analysis, a sample of CBA announced between January 2001 and December 2010, by European bidders, has been selected. Our sample was selected using S&P Capital IQ database.

First, all CBA transactions launched by bidders with primary location in Europe over the last decade were collected. The data was then restricted to deals involving public firms (bidder and target) at the announcement date. Deals with at least one firm operating in the financial industry were excluded due to specificities of this industry in terms of accounting information and nature of operations, which has led to 1,641 CBA deals.

Then, 1,186 deals were dropped as they did not involve the acquisition of a majority stake. This was due not only to the fact that, according to Rossi and Volpi (2004), the acquisition of a stake below 50% is affected by severally cross-country differences in disclosure requirements but also to the combined wealth effect that this study is trying to assess makes sense if bidders gain control over targets with the acquisition.

From the remaining 455 deals only successful deals (closed or effective deals on or prior December 2012) were considered. At this stage 87 deals were dropped. Finally, for methodology purposes, from the 368 deals only those that, for both bidder and target firms, share price were available throughout the 60 month-period before the announcement date were kept in our sample.

Given all these constrains the sample comprises 114 CBA occurred between 2001 and 2010 where bidder firms are from 18 European countries and target firms are from 26 European and non-European countries. For each deal in the sample data, the share prices (in domestic currency) and shares outstanding were collected from the Reuters Datastream database. The shares price was then converted ton US dollars using the historical exchange rate, also collected from Thompson Reuters database. Additional information on the offer such as means of payment (cash, equity, mixed),

deal attitude (hostile, friendly, friendly to hostile) and industry relatedness were collected from S&P Capital IQ database.

3.2 Sample Composition

3.2.1 Means of Payment, Deal Attitude, Industry Sector and Relative Size

As expected and consistent to prior evidence from Danbolt (2004) and Goergen and Renneboog (2004) Table 1 shows that a large part of the sample is represented by all-cash deals (86%). In CBA the offer is more likely to be accepted if it is an all cash-offers.

Table 1 – Sample Composition

Nr. of Cross-Border Bids	Target Region					
	Europe	United States and Canada	Asia / Pacific	Latin America and Caribbean	Africa / Middle East	Total
Panel A: Means of Payment						
All- Cash	42	45	6	1	4	98
All- Equity	5	3	-	-	-	8
Mixed	4	2	1	-	1	8
Panel B: Deal Attitude						
Friendly	50	48	7	1	5	111
Friendly to Hostile	-	1	-	-	-	1
Hostile	1	1	-	-	-	2
Panel C: Industry Sector						
Different	9	13	1	-	1	24
Same	42	37	6	1	4	90
Panel D: Relative Size						
Small Bidders	30	17	-	-	-	47
Large Bidders	21	33	7	1	5	67
Total	**51**	**50**	**7**	**1**	**5**	**114**

Source: Own calculations based on S&P Capital IQ data

The sample is also dominated by friendly acquisitions (97%) and of firms from the same industry (roughly 79%), suggesting that bidders were not looking for business diversification.

In terms of relative size, in 47 deals (about 41% of total sample) the target market capitalization exceeds in more than 10% of bidder market capitalization. The relative size was measured six months before announcement following Asquith *et al.* (1983). Therefore, most of the sample deals (59%) comprise relative large bidder firms.

3.2.2 Country of Origin

Table 2 shows that 55% of European offers in the sample targeted firms from a country outside Europe, in particular, from US and Canada (44%). In fact, Europeans firms have acquired US and Canadian firms as much as European firms. This bid exposure is different from the studies based on the 90 decade where most of the cross-border acquisitions were intra-European.

Bidder firms are mainly from the UK (23%), France (17%), Germany (11%) and Switzerland (10%) whereas most target firms are located in the US (37%), UK (15%) and Canada (7%). Firms from Anglo-Saxon countries are far more active in the market for corporate control than Continental European firms, either as target or bidder firms. Cultural similarities and historical development of equity markets may justify the relevance of these countries.

Notwithstanding, bidder firms from France and Switzerland are far beyond the most active Continental European firms with predominance to make cross-border acquisitions outside Europe. On the contrary, bidder firms from German and Netherlands are more focused in cross-country acquisitions within the European market.

Table 2– Number of Cross-Border M&A by Bidder and Target Country of Origin

Targets	FIN	FRA	GER	IRE	ITA	NET	SPA	SWE	SWI	UK	OEC	Total
						Bidders						
AUS	-	-	-	-	-	-	-	-	-	4	-	4
CAN	-	1	1	-	1	-	-	1	1	3	-	8
FRA	-	-	1	-	1	1	-	-	-	2	-	5
NET	-	1	-	-	-	-	-	1	-	1	2	5
SAF	-	-	-	-	-	-	-	-	-	3	1	4
SWE	2	1	-	-	-	-	-	-	-	-	2	5
UK	1	3	2	3	1	1	2	1	3	-	-	17
USA	2	10	3	2	3	3	0	2	6	9	2	42
OEC	-	1	5	-	-	3	2	1	1	2	3	18
ONEC	-	2	-	-	-	-	1	-	-	2	1	6
Total	**5**	**19**	**12**	**5**	**6**	**8**	**5**	**6**	**11**	**26**	**11**	**114**

Source: own calculations

AUS – Australia; CAN – Canada; FRA – France; GER – Germany; IRE - Ireland; ITA – Italy; NET – The Netherlands; SAF – South Africa; SPA – Spain; SWE – Sweden; SWI – Switzerland; UK - United Kingdom; USA - United States; OEC – Other European countries including (i) target firms from countries such as Austria, Belgium, Cyprus, Czech Republic, Finland, Hungary, Italy, Norway, Poland, Portugal and Switzerland and (ii) bidder countries such as, Austria, Belgium, Gibraltar, Greece, Lithuania, Luxemburg and Norway; ONEC – Other Non-European Countries such as Chile, China, Israel, Japan and Philippines.

3.2.3 Year of Announcement

The CBA sample is clearly concentrated over the period between 2005 and 2008 (particularly during 2007). Over this time period the total transaction value of CBA accounts for approximately 330 billion dollars which represents more than 84% of all CBA in this 10-year period (see Figure 3). Additionally, the number of deals during these years (74) represents 65% of total sample and the mean transaction value during the same period was 54% higher than the mean value for the all period.

As expected after 2008 there was a slow-down of CBA activity by European firms, nonetheless the number of CBA exceeds those announced between 2001 and 2003. Cross-border acquisitions of European firms have presented a sharper fall than firms from overseas. The CBA activity behavior is consistent with the findings of Eckbo (2010) that states that waves generally start in the periods of economic growth

and credit expansion, being the peak usually associated with high bid premiums, and then finish at the beginning of recession.

Figure 3 – Number of Transactions by Bid Announcement Year

■ Europe ■ United States and Canada ■ Asia / Pacific ■ Africa / Middle East □ Latin America and Caribbean
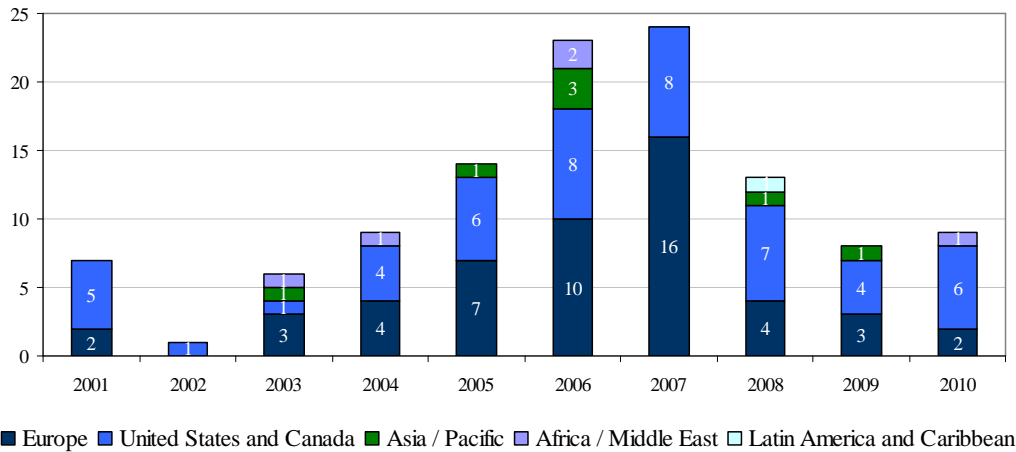
Source: own calculations.

3.2.4 Industry Sector

Table 3 shows the industry of both the bidders and target firms. Although the sample of CBA is very heterogeneous, most bidder firms come from industries such as industrials (19%), healthcare (18%) and information technology (16%). European targets operate mainly in information technology (29%), industrials (20%), and materials (14%) industries, while non-European targets were from healthcare (24%), IT (19%) and industrials (14%) industries. The sample is consistent with the findings of Harris and Ravenscraft (1991) that most cross-border deals occur in R&D intensive industries. Finally, as shown in Table 3 most CBA involved firms of same industry sector (90 out of 114 CBA) suggesting that most acquisitions were driven by business expansion and growth goals, as opposed to diversification strategies.

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Table 3 – Number of Transactions by Industry Sector

	Target firms				Bidder firms	
	European		Non-European			
Industry	Nr.	%	Nr.	%	Nr.	%
Consumer Discretionary	8	16	7	11	16	14
Consumer Staples	6	12	6	10	10	9
Energy	0	0	6	10	6	5
Healthcare	5	10	15	24	20	18
Industrials	10	20	9	14	22	19
Information Technology	10	20	12	19	18	16
Materials	8	16	6	10	13	11
Telecommunication Services	3	6	1	2	5	4
Utilities	1	2	1	2	2	2
Total	51		63		114	

Source: own calculations.

3.2.5 Transaction Value

As shown in Table 4 the average transaction value was 3.4 billion dollars. However, the average transaction value is higher cases where the target firm is from United States, Canada or other European country (around 3.7 billion dollar) whereas the transaction value of firms from other regions is lower than 1.5 billion dollars.

Table 4 – Transaction Value by Target Region

Transaction Value	Target Region					
	Europe	United States and Canada	Asia/ Pacific	Latin America and Caribbean	Africa/ Middle East	Total
Total	196,500	185,510	5,111	1,446	1,606	390,174
Mean	3,853	3,710	730	1,446	321	3,423
Maximum	29,101	61,050	3,064	1,446	805	61,050
Minimum	20	14	7	1,446	18	7
St. Dev.	6,378	9,369	1,088	N/A	338	7,698

Source: own calculations. St. dev stands for standard deviation

Transaction values in millions of US dollars.

3.3 Methodology

3.3.1 Cumulative Abnormal Returns and Test Statistics

In order to assess the short-term impact of European cross-border acquisition in shareholders wealth an event study has been performed based on the cumulative abnormal return (CAAR) around the announcement day. For that purpose, the CAAR has been computed within a short event window around the bid announcement day and then tested on its statistical significance.

The event study analysis has been carried through the following steps: (i) determination of event date that, in this case, is the bid announcement day (t = 0); (ii) definition of event window and (iii) computation of CAAR. The event window has a maximum length of 11 days starting five days prior and goes up to five days after the bid announcement day (following Bradley *et al.*, 1988; Lang *et al.* 1989; Martynova and Renneboog, 2011) to capture short-term effect of CBA announcement.

The CAAR gives the impact of the bid announcement in shareholders wealth and is defined as:

$$CAAR = \frac{\sum_{i=1}^{N} CAR_i}{N} \qquad (1)$$

N represents the number of firm and the cumulative abnormal return of shares of firm *i* at a certain event window (CAR_i) represents the sum of daily abnormal return of shares of for a certain firm *i* during an event window (AR_i) that is computed as:

$$CAR_i = \sum_{t=1}^{T} AR_{i,t} \qquad (2)$$

The daily abnormal return of shares of firm *i* at day *t* ($AR_{i,t}$) is calculated as:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \qquad (3)$$

Where $R_{i,t}$ is the realized return of shares of firm *i* at day *t* and $E(R_{i,t})$ is the expected return of shares of firm *i* at day *t*. The expected returns on shares were estimated based on market model and following Brown and Warner (1985) that concluded that although the market model (see equation 4) is a straightforward

procedure leads to results in estimation of abnormal return (AR) as good as, other more complex models.

$$R_{i,t} = \alpha_i + \beta_i R_{m,t} + e_{i,t} \qquad (4)$$

where:

$R_{i,t}$ – return of the share of the firm i on day t, t = -5,…,5;;

$R_{m,t}$ – return of the market index MSCI World at day t, t = -5,…,5;

β_i – measure of the sensibility of the volatility of shares of firm i towards the market volatility (given by MSCI World Index);

α_i – measure of the average return of shares of firm i independent of market return during the moment t;

$e_{i,t}$ – stochastic error, $\sum e_{i,t} = 0$.

Market model as proposed by Fama (1976) assumes that the expected return on a firm share is linearly related to the market return and to other factors not related with market return. In this dissertation it is assumed that the effect of the event, the announcement bid, is not fully captured by the expected returns obtained through market model, so any difference between the actual return and the expected return is assumed to be the effect of the announcement bid.

The parameters α and β were estimated using market returns (MSCI – World Index as proxy) and realized share returns over the pre-event period. The estimation window starts in the month previous the bid announcement month and goes up to 60 months prior bid announcement (from month=-1 to month =-60). It is assumed that the model parameters are constant throughout event window and estimation period.

The log difference in MSCI – World Index is used as proxy of the market return:

$$R_{m,s} = \ln(P_{m,s}) - \ln(P_{m,s-1}) \qquad (5)$$

where:

$P_{m,s}$ – MSCI World index value at month s , s=-1, …,-60;

$P_{m,s-1}$ – MSCI World index value at month s-1, s=-1, …, -60;

Given that the CAAR gives the impact of the bid announcement in shareholders wealth, if the null hypothesis (H_0: CAAR = 0) is rejected we may conclude that bid announcement has an impact in shareholders wealth.

It is assumed that CAAR follows a normal distribution $\sim N(0, \sigma)$ and since the goal is to test whether CAAR equals zero, the test statistics follows a T-student distribution, as proposed by Brown and Warner (1985):

$$t_{stat} = \frac{CAAR}{S(CAR)} \qquad (6)$$

$$S(CAR) = \sqrt{\frac{1}{N-1}\sum_{i=1}^{N}(CAR_i - CAAR^2)} \qquad (7)$$

where:

t_{stat} - t-student test statistic with n-2 degrees of freedom;

CAAR - Cumulative Average Abnormal Returns;

S(CAR) - Sample standard deviation of CAR, which is the best unbiased estimator of standard deviation of population (σ);

CAR_i – Cumulative Abnormal Return of firm i, i = 1,...,N

N = Total number of firms.

Moreover, the analysis has been performed either for bidders, targets and combined paired match of both firms shares to assess the differences that bid announcement has in all firms involved in the transaction.

The total return for combined pair of bidders and targets shares is computed following Goergen *et al.* (2004) and Cybo-Ottone and Murgia (2000):

$$CAAR^{Combined} = \frac{CAAR^{Target} * MV^{Target} + CAAR^{Bidder} * MV^{Bidder}}{MV^{Target} + MV^{Bidder}} \qquad (8)$$

where:

$CAAR^{Combined}$ – CAAR of combined sample of bidders and targets;

$CAAR^{Target}$ –Targets CAAR;

$CAAR^{Bidder}$ – Bidders CAAR;

MV^{Target} – Market capitalization of portfolio of targets 6 months prior the beginning of event window;

MV^{Bidder} – Market capitalization of portfolio of bidders 6 months prior the beginning of event window.

4. RESULTS

4.1 Short-Term Effects of Bid Announcement

This section presents the effects of bid announcement in targets, bidders and combined firms shares over the following event windows: [-1;0], [-1;+1], [0;0], [-5;0], [-5;+1] and [-5;+5]. The results of the tests of sample split by means of payment and deal attitude are not presented because the sample is dominated by all-cash (85.96%) and friendly (95.61%) acquisitions so the conclusions would be very similar to the ones presented in following section 4.1.1.

4.1.1 Abnormal Returns by Target Region

As shown in Table 5, target shareholders experience, on average, positive wealth gains while bidder shareholders, generally, present wealth losses around bid announcement day. These results suggest that the market does not expect the bid to benefit bidder shareholders. The combined effect is positive though statistical significance is not found in the case where the target is a non-European firm.

Panel A of Table 5 shows that the bid announcement has positive effect on target shareholders wealth in all event windows. The target shareholders $CAAR_{[-5;+5]}$ is higher than the one observed by Martynova and Renneboog (2011) for European CBA (12.17%), however it is lower than the one reported by Eun *et al.* (1996) for CBA of US targets (37.02%). The results also show that the $CAAR_{[-1;+1]}$ of target shareholders equal to 17.55% is higher than the one observed in Campa and Hernando (2004) and Martynova and Renneboog (2011) of, 4.08% and 11.52%, respectively. The $CAAR_{[-1; 0]}$ of 12.33% is also higher than the 11.25% reported by Goergen and Renneboog (2004).

The results also show that CBA of non-European target firms provide a higher abnormal return to target shareholders, which means that bids to overseas firms priced larger premiums. Assuming that the acquisition of European firms by European firms may be similar to domestic M&A due to harmonized framework of corporate law and monetary policy, these results suggest that cross-border acquisitions provide higher

returns than domestic deals, confirming evidence from Goergen and Renneboog (2004) but not from Martynova and Renneboog (2011) nor Moeller *et al.* (2005).

Table 5 - Cumulative Abnormal Returns by Target Region

This Table shows the cumulative abnormal returns measured over several event windows for targets, bidders as well as combined paired sample by target region.

Event window (days)	Total Sample		European Targets		Non-European Targets	
	CAAR (%)	Positive CAR (%)	CAAR (%)	Positive CAR (%)	CAAR (%)	Positive CAR (%)
Panel A: Targets						
[-1 ; 0]	12.33***	71.93	9.26***	68.63	14.81***	74.60
[0 ; 0]	11.08***	71.93	8.42***	72.55	13.23***	71.43
[-1;+1]	17.55***	78.07	12.23***	70.59	21.86***	84.13
[-5 ; 0]	14.20***	72.81	12.23***	74.51	15.80***	71.43
[-5;+1]	19.43***	75.44	15.20***	70.59	22.85***	79.37
[-5;+5]	18.87***	66.67	15.34***	64.71	21.72***	68.25
Observations	114		51		63	
Panel B: Bidders						
[-1 ; 0]	-0.82*	40.35	-0.15	41.18	-1.36**	39.68
[0 ; 0]	-0.15	42.98	0.49	45.10	-0.67	41.27
[-1;+1]	-0.43	40.35	0.16	37.25	-0.91	42.86
[-5 ; 0]	-2.90***	31.58	-2.62*	23.53	-3.12**	38.10
[-5;+1]	-2.51**	33.33	-2.32	25.49	-2.67*	39.68
[-5;+5]	-4.73***	31.58	-5.79**	27.45	-3.87	34.92
Observations	114		51		63	
Panel C: Combined						
[-1 ; 0]	1.50**	52.63	3.19***	62.75	0.13	95.24
[0 ; 0]	1.88***	55.26	3.30***	66.67	0.72	100.00
[-1;+1]	2.61***	51.75	4.95***	54.90	0.71	93.65
[-5 ; 0]	0.66	47.37	1.87	49.02	-1.27	85.71
[-5;+1]	1.77	47.37	4.82**	43.14	-0.69	85.71
[-5;+5]	0.18	41.23	2.61	41.18	-1.80	74.60
Observations	114		51		63	

Source: own calculations.
t-statistic follows a t-student distribution. ***, **, * denotes for 1%, 5% and 10% significance level for a two-tailed test.

Contrary to targets scenario, Panel B of Table 5 shows that CBA announcement causes short-term negative effect on the wealth of bidder shareholders. The negative performance of bidder shares is worse in longer windows, which is consistent with Eun *et al.* (1996). The losses of bidder shareholders around announcement suggest that market does not expect CBA to generate value to bidder shareholders.

At announcement day, bidder shares present a negative CAAR of 0.15%, which is opposite to positive CAAR of 0.39% found by Martynova and Renneboog (2011). Our results also document statistically negative CAAR$_{[-1;0]}$ of -0.82% in bidder shares which is also opposite to the results found by Goergen and Renneboog (2004) that report a positive and significant CAAR of 2.38% for European bidders. In the longest event window ([-5;+5]) the CAAR of bidder shareholders remains negative and statistically significant (-4.73%). This result is consistent with Eun *et al.* (1996) that find that the cross-border acquisition of US targets cause wealth destruction for bidder shareholders. The results also show that CBA of non-European firms motivate higher losses for bidder shareholders than those of European firms. These results suggest that bidder firms pay larger premiums to acquire non-European firms.

While CBA of European firms provide a positive and statistically significant combined (bidder and target firms) effect, the same does not happen in the case of CBA of non-European target firms, where the CAAR is positive (less than 1%) but not statistically significant. The statistical significant positive effect of CBA announcement on combined shareholders wealth suggests that the bidders losses are offset by targets gains. Nevertheless, our evidence is contrary to Moeller and Schlingemann (2005) that report a negative and statistically significant combined CAAR$_{[-1;+1]}$.

4.1.2 Abnormal Returns by Period of Bid Announcement

Table 6 shows the results of bid announcement effect before and after the financial crisis of 2008.

As shown in Table 6, the main conclusions on targets and bidders gains around announcement remain the same. The bid announcement effect on target shares is once more, strongly positive, although higher in post-2008 period. Providing that the sample is composed only by closed or effective CBA, the results show that target shareholders

earn larger abnormal returns in stages of economic and financial constraints transactions suggesting they retain more benefits in period of economic crisis than other periods.

Table 6 – Cumulative Abnormal Returns by Bid Announcement Period

This Table shows the cumulative abnormal returns measured over several event windows for targets, bidders as well as combined paired sample, by period of bid announcement (pre-2008, post-2008).

Event window (days)	Pre-2008		Post-2008	
	CAAR (%)	Positive CAR (%)	CAAR (%)	Positive CAR (%)
Panel A: Targets				
[-1 ; 0]	10.55***	69.05	17.31***	80.00
[0 ; 0]	9.34***	69.05	15.96***	80.00
[-1;+1]	16.50***	76.19	20.51***	83.33
[-5 ; 0]	11.19***	69.05	22.65***	83.33
[-5;+1]	17.14***	70.24	25.85***	90.00
[-5;+5]	16.62***	63.10	25.17***	76.67
Observations	84		30	
Panel B: Bidders				
[-1 ; 0]	-0.90*	42.86	-0.60	33.33
[0 ; 0]	-0.36	45.24	0.42	36.67
[-1;+1]	-0.60	40.48	0.05	40.00
[-5 ; 0]	-3.10***	32.14	-2.33	30.00
[-5;+1]	-2.81**	34.52	-1.68	30.00
[-5;+5]	-4.89***	35.71	-4.29	20.00
Observations	84		30	
Panel C: Combined				
[-1 ; 0]	1.59**	54.76	1.25	46.67
[0 ; 0]	1.80***	55.95	2.08	53.33
[-1;+1]	2.43**	54.76	3.10	43.33
[-5 ; 0]	0.42	50.00	1.34	40.00
[-5;+1]	1.27	50.00	3.19	40.00
[-5;+5]	-0.42	42.86	1.85	36.67
Observations	84		30	

Source: own calculation.
t-statistic follows a t-student distribution. ***, **, * denotes for 1%, 5% and 10% significance level for a two-tailed test. The Post-2008 period includes the period from 2008 (including) to 2010.

In terms of bidder shareholders our evidence only shows a significant and negative CAAR in longer windows in pre-2008 period where bidder shareholders face greater losses, which may suggest that in pre-crisis period bidders pay large premiums for targets. The CBA undertook before 2008 present positive combined wealth effect, although only statistically significant for shorter windows. For CBA launched on or after 2008, although the combine effect is still positive, it is not statistically significance in any time window.

4.1.3 Abnormal Returns by Industry Relatedness

Panel A of Table 7 shows that in shorter event windows target firms shareholders experience higher CAAR in CBA between firms from different industry than in those from same industry which is consistent with previous evidence from by Martynova and Renneboog (2011).   However, for lengthen event windows ([-5;0] and [-5;+5]) CBA within same industry are more profitable for shareholders of target firms.

Panel B of Table 7 shows that bidder shareholders tend to lose more in CBA between firms from the same industries than from different industries. For longer event windows CBA involving firms from the same industries have a significant negative impact in the bidder shareholders wealth. The effect on bidder shareholders wealth is negative but not significant in case of CBA between firms operating in different industries.

Panel C of Table 7 shows that CBA between firms from the same industries have higher and positive combined wealth effect, although only statistically significant in shortest windows around announcement day.

Table 7 - Cumulative Abnormal Returns by Industry Relatedness

This Table shows the cumulative abnormal returns over several event windows for targets, bidders as well as combined paired sample by industry code (different industry, same industry).

Event window (days)	Different industry		Same industry	
	CAAR (%)	Positive CAR (%)	CAAR (%)	Positive CAR (%)
Panel A: Targets				
[-1 ; 0]	13.49***	62.50	12.02***	74.44
[0 ; 0]	14.50***	66.67	10.17***	73.33
[-1;+1]	19.10***	83.33	17.14***	76.67
[-5 ; 0]	12.48***	70.83	14.66***	73.33
[-5;+1]	18.09***	75.00	19.79***	75.56
[-5;+5]	15.10***	66.67	19.87***	66.67
Observations	24		90	
Panel B: Bidders				
[-1 ; 0]	-1.09	54.17	-0.75	36.67
[0 ; 0]	-0.84	41.67	0.03	43.33
[-1;+1]	-0.92	41.67	-0.30	40.00
[-5 ; 0]	-2.56	50.00	-2.99**	26.67
[-5;+1]	-2.39	45.83	-2.55*	30.00
[-5;+5]	-3.37	45.83	-5.09**	27.78
Observations	24		90	
Panel C: Combined				
[-1 ; 0]	0.67	54.17	1.72**	52.22
[0 ; 0]	1.23	66.67	2.05***	52.22
[-1;+1]	0.82	50.00	3.09***	52.22
[-5 ; 0]	-0.63	66.67	1.01	42.22
[-5;+1]	-0.47	58.33	2.37	44.44
[-5;+5]	-1.94	50.00	0.74	38.89
Observations	24		90	

Source: own calculation

t-statistics follows a t-student distribution. ***, **, * denotes for 1%, 5% and 10% significance level for a two-tailed test.

4.1.4 Abnormal Returns by Relative Size

In this section the bid announcement effect is tested according to the relative size. The market capitalization of the firms six month before the bid announcement was used as proxy of the relative size, as per Asquith *et al.* (1983) and Agrawal *et al.* (1992).

Table 8 – Cumulative Abnormal Returns by Relative Size

This Table shows the cumulative abnormal returns over several event windows for targets, bidders as well as combined paired sample by relative size (proportion of market capitalization of target firm over market capitalization of bidder firm).

Event window (days)	≧ 10% (Relatively Small Bidders, Large Targets)		<10% (Relatively Large Bidders, Small Targets)	
	CAAR (%)	Positive CAR (%)	CAAR (%)	Positive CAR (%)
Panel A: Targets				
[-1 ; 0]	11.69***	70.21	12.77***	73.13
[0 ; 0]	10.95***	76.60	11.17***	68.66
[-1;+1]	14.93***	80.85	19.40***	76.12
[-5 ; 0]	13.74***	76.60	14.53***	70.15
[-5;+1]	16.97***	76.60	21.16***	74.63
[-5;+5]	15.53***	65.96	21.21***	67.16
Observations	47		67	
Panel B: Bidders				
[-1 ; 0]	-1.41*	36.17	-0.41	43.28
[0 ; 0]	-0.53	48.94	0.11	38.81
[-1;+1]	-1.36	38.30	0.22	41.79
[-5 ; 0]	-4.94***	23.40	-1.47	37.31
[-5;+1]	-4.89***	23.40	-0.84	40.30
[-5;+5]	-9.01***	21.28	-1.73	38.81
Observations	47		67	
Panel C: Combined				
[-1 ; 0]	3.81***	59.57	-0.12	59.57
[0 ; 0]	4.02***	65.96	0.37	65.96
[-1;+1]	5.48***	63.83	0.59	63.83
[-5 ; 0]	3.19**	57.45	-1.11	57.45
[-5;+1]	4.86**	53.19	-0.39	53.19
[-5;+5]	2.18	42.55	-1.23	42.55
Observations	47		67	

Source: own calculation.
t-statistics follows a t-student distribution. ***, **, * denotes for 1%, 5% and 10% significance level for a two-tailed test.

The results presented in Table 8 show that for relative small bidders, i.e., the case the target market capitalization represents more than 10% of the bidder market capitalization, the CAAR is positive for target shares, negative for bidder shares and the combined effect is also positive and statically significant in longer event windows. These results suggest that the abnormal returns of target shares have compensated the negative abnormal returns of bidder shares. In case of relative large bidders (the target represents less than 10% of the bidder market capitalization), although the effect on target shareholders is still positive and statistically significant, the effect on bidder shareholders and the combined effect are not statistically different from zero.

Panel A of Table 8 shows that in cross-borders acquisitions shareholders of small target firm experience larger wealth creation than shareholders of large target firms.

Panel C of Table 8 shows that in CBA of relative larger targets, the combined effect of bid announcement is positive and significant which means that the losses observed in bidder shares are completely offset by the gains on target shares. It may also suggest that bidders offered too high premiums and there was a distribution of wealth from bidders to targets. In CBA of relative large bidders, the combined wealth effect is negative but not statistically significant.

4.2 Cross-Sectional Analysis

After the comprehensive assay of the firms CAAR in several sub-samples for assessing the value created/destroyed in CBA transactions a step further will be taken in the analysis of variables that may impact the CAAR of bidder and target shares in order to allow us to have a better understanding under what circumstances the bidder firms overpay and target shareholders present larger gains.

4.2.1 The Model

The impact of all variables on bidders and targets CAR was tested, by running the following regression[5]:

$$CAR_{i_{(-5;+5)}} = \alpha + \beta_1 PAY_i + \beta_2 INDUST_i + \beta_3 LN(SIZE_i) + \beta_4 ATTIT_i + \\ + \beta_5 CNTR_i + \beta_6 EXR_i + \beta_7 INVPRO_i + \varepsilon_i$$

The dependent variables are the cumulative abnormal return (CAR) of bidders (targets) shares within the event window [-5;+5][6] around announcement day and the explanatory (exogenous) variables are presented in Table 9

The exogenous variables can be split in two groups, the cross-border variables (target country status of development, relative exchange rate and level of investor protection in target country) and the bid characteristics variables (means of payment, industry relatedness, relative size and bid attitude) which will be considered separately and together.

Regarding the cross-border variables the variable PAY is used to test the hypothesis of means of payment, that is to say if bidder and target shares tend to have better performance in all-cash or other type of offers around announcement date. Therefore if all-cash offers have better impact on shares price change than equity and mixed offers, this variable should have a positive sign. The variable INDUST is used to capture the effect of focus and diversification goals of cross-border bids on bidders and targets shares and so if acquisitions within same industry sector are better for shareholders than acquisitions of firms in different industries this variable should have associated a positive coefficient. The variable ATTIT tests whether hostile bids provide better returns to bidder and target shareholders than friendly ones. If true the coefficient associated to this variable should assume a negative value. SIZE explanatory variable is used to test if the relative size of both firms involved has an impact on shares CAR around announcement. This variable is composed by the linear logarithm of target

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[5] The regression has been run using White (1980) procedure for purposes of control of heteroskedasticity.
[6] The regression has also been conducted for [-1;+1] and [-1;0] windows, nonetheless the results obtained were not statistically significant in the case of the bidders (which may be a sign that the bids were, on average, foreseen by the market) and were similar to the results of the CAR regression over [-5;+5] window in the case of the targets and so, for purposes of brevity, the results are not reported .

firms' market capitalization of target firm in relation to the bidders market capitalization, following Asquith *et al.* (1983) and Jarrel and Poulsen (1989). For instances, if acquisitions of relative large targets provide better CAR for bidder shareholders around announcement, this variable should have a positive sign.

Table 9 – Variable Definitions

Variable	Description
CAR	Cumulative Average Returns of bidders/targets shares within event window around announcement day.
PAY	A zero-one dummy variable taking the value 1 if the bid is all cash paid and 0 otherwise (equity or mixed)
INDUST	A zero-one dummy variable taking the value 1 if involving firms operate in the same industry sector and 0 otherwise.
ATTIT	A zero-one dummy variable taking the value 1 in case of a friendly bid and 0 otherwise (hostile or hostile to friendly).
SIZE	The ratio between target and bidder market capitalization six months prior the bid announcement.
CNTR	A zero-one dummy variable taking the value 1 if target is from a less developed country and 0 otherwise (see details in Appendix I)
EXR	The ratio of the difference between the yearly average exchange rate of target home currency (units of target home currency per unit of bidder home currency) and the exchange rate of target currency in the announcement year divided by the average exchange rate of the target relative to the bidder in the 2001-2010 period.
INVPRO	A zero-one dummy variable measuring the level of investor protection of target country. It takes 1 if target is from a country with strong or medium investor protection and 0 otherwise. It follows classification of "Strong", "Medium" and "Weak", as per Anderson *et al.*, 2009 (see details in Appendix I).

Regarding the cross-border variables, the variable CNTR is a dummy one-zero variable (following Doukas and Travlos, 1988) that is meant to capture the degree of economic development of the target firm country. If CNTR assumes a positive value it means that CBA of firms from less developed countries have larger impact on the short-term performance of bidders and targets shares than CBA of firms from other countries. EXR variable is meant to capture the effect of exchange rates on the shares CAR, as

previously tested by Harris and Ravenscraft (1991), Cebenoyan *et al.* (1992) and Eun *et al.* (1996). In case the EXR assumes a negative (positive) value, it means that the target firms currency is cheaper (expensive) for the European bidder firm in the announcement year than in average sample period. INVPRO variable is used to test whether the level of investor protection has an impact on the performance of the firm shares. If INVPRO assumes a negative value it means that CBA of target firms from countries with low investor protection have greater impact on the CAR of bidder and target shares than acquisitions of firms from countries with stronger market regulation[7].

4.2.2 Results of Cross-Sectional Analysis

The following sections 4.2.2.1 and 4.2.2.2 present the results of the regressions of bidders and targets $CAR_{[-5;+5]}$.

4.2.2.1 Bidders

The results presented in Table 10 show that only the relative size and the level of investor protection of target shareholders have statistical significant power to explain bidders CAR.

Surprisingly, the results show that the relative size of the target has a negative effect on bidder shares CAR (statically significant at 5% level), which is contrary to the findings of Asquith *et al.* (1983) and Jarrell and Poulsen (1989) that support that the larger the relative size of the target the larger the improvement in the bidder shares CAR.

Not consistent with Anderson *et al.* (2009) the results suggest that the strong or medium level of investor protection in the target firms country have a significant positive effect (at 10% level) over bidder shares CAR. Bidders do not take advantage from low investor protection in the target firms country, instead they benefit with high level of rules that protect target shareholders. A possible reason for it is that cross-border acquisitions of targets from countries with strong shareholder protection (usually more developed countries) may represent less risky investments to bidder firms.

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[7] For a more detailed analysis of the exogenous variables, the Pearson correlation between the exogenous variables can be found in Appendix II.

Another explanation is related to the sample composition of closed and effective deals, excluding therefore all cross-border bids launched over the same period of analysis that were not completed until 2012.

Table 10 –Regressions of Bidders CAR

This table shows the effect of a set of variables on bidder shares $CAR_{i[-5;+5]}$.

Variable	Coefficient		
	(1)	(2)	(3)
PAY		-0.090	-0.073
		(0.076)	(0.067)
INDUST		-0.022	-0.010
		(0.039)	(0.039)
LN(SIZE)		-0.010**	-0.010**
		(0.018)	(0.004)
ATTIT		0.004	-0.026
		(0.046)	(0.058)
CNTR	0.076		0.046
	(0.082)		(0.087)
EXR	0.305		0.267
	(0.194)		(0.173)
INVPRO	0.079*		0.077*
	(0.044)		(0.044)
Constant	-0.109***	0.059	-0.045
	(0.039)	(0.094)	(0.100)
Observations	114	114	114
R-squared	0.066	0.080	0.134
Adjusted R-squared	0.040	0.047	0.077
F-statistic	2.582	2.380	2.352
Prob(F-statistic)	0.057	0.056	0.028

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level. Regression (1) presents the impact of cross-border variables in Bidder $CAR_{[-5;+5]}$. Regression (2) presents the effect of firm and bid characteristics in Bidder $CAR_{[-5;+5]}$. Regression (3) presents the effect of both cross-border and well as firm and bid characteristics in Bidder $CAR_{[-5;+5]}$.

4.2.2.2 Targets

The results presented in Table 11 show that the means of exchange, the attitude towards the bid, the relative exchange rate and the level of investor protection have an impact in target shares CAR.

The variable of means of payment is statistical significant only in the regression (1) where just cross-border variables are considered. The high correlation between the means of payment variable and the relative exchange rate variable (see Appendix II) may be the reason why the first one loses statistical significance in regression (3) in which all variables are included. Consistent to previous evidence from Harris *et al.* (1991) and Martynova and Renneboog (2011) the results suggest that target shareholders present higher gains in all-cash acquisitions rather than in equity ones.

Table 11 also shows that the coefficient of the bid attitude variable has a positive sign which is statistically significant at 1%. It suggests that targets earn larger abnormal returns on friendly acquisitions which is not consistent to previous results of Goergen and Renneboog (2004) and Servaes (1991). One possible reason is the uncertainty surrounding targets value, especially in cross-border acquisitions may lead bidders to launch a higher price in friendly acquisitions in order to facilitate the post-acquisition process. Nonetheless the statistical significance of the bid attitude variable, the result shall only concern to friendly acquisitions since 97% of the sample is composed by this type of deals.

The results also show that the relative exchange rate impacts (significant at 1%) the targets CAR. Consistent to Harris and Ravenscraft (1991) the results show that the bidders home currency is relatively stronger than targets home currency in the announcement year.

The variable of level of investor protection in target country is found to be statistical significant to explain not only bidders but also targets CAR. The variable coefficient has a positive sign, suggesting that targets shares present higher gains when targets are from countries with strong level of investor protection. A higher protection of target shareholders represents more negotiation power which may lead to higher price paid for target shares.

Table 11 – Regressions of Targets CAR

This table shows the effect of a set of variables on target shares $CAR_{i[-5;+5]}$.

Variable	Coefficient		
	(1)	(2)	(3)
PAY		0.126*	0.085
		(0.074)	(0.073)
LN(SIZE)		-0.014	-0.016
		(0.010)	(0.010)
INDUST		0.050	0.053
		(0.073)	(0.069)
ATTIT		0.211***	0.253***
		(0.079)	(0.090)
EXR	-0.730***		-0.656***
	(0.242)		(0.248)
CNTR	-0.132		-0.188
	(0.139)		(0.140)
INVPRO	0.109*		0.117*
	(0.061)		(0.063)
Constant	0.107**	-0.209	-0.309*
	(0.047)	(0.139)	(0.168)
Observations	114	114	114
R-squared	0.099	0.050	0.152
Adjusted R-squared	0.074	0.015	0.096
F-statistic	4.008	1.421	3.000
Prob(F-statistic)	0.009	0.232	0.013

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level. Regression (1) presents the impact of cross-border variables in Target $CAR_{[-5;+5]}$. Regression (2) presents the effect of firm and bid characteristics in Target $CAR_{[-5;+5]}$. Regression (3) presents the effect of both cross-border and well as firm and bid characteristics in Target $CAR_{[-5;+5]}$.

5. CONCLUSIONS

This research addresses an important recent phenomenon in world economy, particularly, in M&A market which is the firms internationalization trough cross-border acquisitions. The main goals of this dissertation are to conclude whether CBA create or destroy value and which variables can better explain it.

The sample comprises 114 cross-border deals launched by European firms between 2001 and 2010. The sample is highly concentrated in the period from 2005 to 2008 (65% of total sample) and is mostly composed by friendly and all-cash deals.

The results confirm positive wealth effect for shareholders of target firms in all event windows around announcement day. Plus, target shareholders present higher abnormal returns in CBA of non-European than in acquisitions of European firms, which may be consistent to prior literature that finds that cross-border acquisitions provide higher returns than domestic deals

In case of bidders, the results of this study show that the shares have a negative performance around bid announcement day, suggesting that bidder shareholders loose wealth from the acquisition. Although the negative abnormal returns experienced by bidder shareholders, the performance of combined shares is positive which suggests that the targets gains surpassed the bidders losses. The results evidence that the acquisition of European firms generates value since the total wealth effect is positive and statistically significant. However in case of CBA of non-European firms the results do not confirm that CBA have positive combined wealth effect.

This dissertation also shows that in the post-2008 target shares present larger gains than in preceding period suggesting that targets benefit from economic crisis.

In terms of industry relatedness, the results show that target shares always present gains while bidder shares have larger significant losses in acquisitions involving firms from the same business area. It suggests that focus strategy not only has not lead to short-term benefits to bidder shareholders but instead has caused them wealth destruction.

As expected, the results also show that target shareholders earn more in CBA by relative large bidders and the combined gains are positive but only are statistical significant in acquisitions made by relative small bidders.

Finally, our analysis also shows that the relative size and the level of investor protection impact bidder shares CAR. However, the results show that the relative small size of bidder firms has negative impact on bidder shares performance around announcement day. In addition, our findings also suggest that the level of investor protection has a positive impact on bidder shares CAR, that is to say, CBA of target firms from countries with strong and medium level of investor protection have a positive effect on bidder shares performance. The stronger level of investor protection also has a positive impact on target gains suggesting that the target firms shareholders from countries with severe regulation benefit more from CBA than shareholders from countries with weaker regulation. The analysis of targets CAR suggests that a stronger bidder home currency also impacts targets CAR.

To sum up, the analysis of European cross-border acquisitions undertaken between 2001 and 2010 shows that target shareholders tend to earn positive abnormal returns while bidder shareholders tend to lose wealth. However the combined short-term wealth effect is found to be positive around the announcement day, thus suggesting that bidders overpaid and that there is a wealth transfer from bidders to targets shareholders. Variables such as the relative size and the level of investor protection are found to have an impact on bidders CAR. On other hand, variables such as the relative exchange rate and the level of investor protect are suggested to explain the CAR of target shares.

Further research may consist on a comparative analysis of conclusions presented here on CBA with domestic M&A. Additional research on features and events that took place before and after the bid are also important to the analysis on CBA performance and its determinants.

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APPENDIX

Appendix I - Status of Development and Level of Investor Protection in Target Country

Target Country	Target Country Status of Development	Target Country Level of Investor Protection
Australia	Developed	Strong
Austria	Developed	Medium
Belgium	Developed	Weak
Canada	Developed	Strong
Chile	Non-developed	Weak
China	Non-developed	Strong
Cyprus	Non-developed	Weak
Czech Republic	Developed	Weak
Finland	Developed	Strong
France	Developed	Weak
Germany	Developed	Medium
Hungary	Developed	Weak
Israel	Developed	Weak
Italy	Developed	Weak
Japan	Developed	Strong
Netherlands	Developed	Weak
Norway	Developed	Medium
Philipppines	Non-developed	Weak
Poland	Developed	Weak
Portugal	Developed	Weak
South Africa	Non-developed	Weak
Spain	Developed	Weak
Sweden	Developed	Strong
Switzerland	Developed	Medium
United Kingdom	Developed	Strong
United States	Developed	Strong

Appendix II - Correlation Matrix between Exogenous Variables

	PAY	INDUST	SIZE	ATTIT	CNTR	EXR	INVPRO
PAY	1.000	-0.023	0.061	-0.066	0.012	-0.199	0.013
INDUST	-0.023	1.000	0.011	-0.085	0.058	-0.084	-0.085
SIZE	0.061	0.011	1.000	0.000	-0.204	0.033	0.074
ATTIT	-0.066	-0.085	0.000	1.000	0.045	0.012	-0.092
CNTR	0.012	0.058	-0.204	0.045	1.000	-0.043	-0.412
EXR	-0.199	-0.084	0.033	0.012	-0.043	1.000	0.033
INVPRO	0.013	-0.085	0.074	-0.092	-0.412	0.033	1.000