
BIDDERS' RETURNS FROM CROSS-BORDER VERSUS DOMESTIC M&A
OF IBERIAN FIRMS

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BIBLIOGRAPHIC NOTE

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ABSTRACT

The present study aims to fill the gap on the lack of research for cross-border deals, especially mergers and acquisitions (hereafter M&A) involving targets located in Portugal or Spain. Looking into the last 17 years of M&A deals involving Iberian target firms, we compared the abnormal returns for the bidders, around the announcement date, when in the presence of a cross-border acquisition (target and bidder are from different countries) or of a domestic one, to understand if there is a difference and which determinants influence it. Using a sample of 458 completed deals between 2005 and 2021, an analysis of the cumulative average abnormal returns was conducted. The number of cross-border acquisitions clearly surpasses the number of domestic ones. Upon announcement, the results show that bidders usually have a null wealth effect, as none of the subsamples showed significance for returns different than zero. A cross-sectional analysis has been performed and the results suggest that the use of cash as a method of payment, diversification and the bidder being from a developed country, specifically from the United States, leads to higher returns for the bidder's shareholders. While the financial crisis and higher levels of investor protection of the bidder's country have a negative impact on the bidder's shares performance around announcement date.

RESUMO

O objetivo deste estudo é providenciar investigação adicional sobre fusões e aquisições entre países, em que as empresas adquiridas são da Península Ibérica – Portugal ou Espanha. Por analisar as transações realizadas nos últimos 17 anos, tentamos compreender se os retornos anormais dos adquirentes variam, perto do dia de anúncio, quando são realizadas entre duas empresas do mesmo país ou entre países diferentes. A partir de uma amostra de 458 transações completadas entre 2005 e 2021, a análise dos retornos anormais médios acumulados foi efetuada. O número de fusões entre países diferentes é claramente maior o número de fusões entre empresas do mesmo país. Os nossos resultados demonstraram que, à data de anúncio, os adquirentes têm retornos nulos, dado que nenhuma das amostras mostraram significância ao testar para retornos diferentes de zero. Através de uma análise multivariável conseguiu-se identificar vários fatores que influenciam os retornos dos adquirentes. Retornos mais altos para os adquirentes estão associados a pagamentos feitos em dinheiro, diversificação e adquirentes de países desenvolvidos, especialmente dos Estados Unidos. Enquanto a crise financeira e níveis altos do índice de proteção do investidor no país do adquirente têm um impacto negativo nos retornos dos adquirentes.

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1. INTRODUCTION

In the literature, M&A has been very well researched, given that it is an approach extremely used by companies as an alternative strategy for their development. Therefore, M&A plays an indisputable role in the economy.

The literature provides unanimous evidence that the target's shareholders receive high returns, in contrast there is limited agreement about the wealth effects for the acquiring firms. Although studies report either zero or small positive abnormal returns for acquirers, or small negative returns (Goergen & Renneboog, 2004). Whether M&A generates value for the acquiring firm shareholder's is a very important issue for researchers (Mateev & Andonov, 2018).

The growth of M&A and, more precisely, cross-border acquisitions can be attributed to globalization, technological development, and is affected by several economic and institutional factors (Danbolt & Maciver, 2012). With cross-border deals, companies are able to explore and develop their activities in foreign markets. In contrast, through domestic acquisitions, they can increase their strategic position on their own market (Conn et al., 2005).

The aim of this study will be to compare the short-term impact of cross-border and domestic acquisitions of Iberian firms. Most of the academic research on M&A is focused on domestic deals, even as cross-country deals have been increasing in the world, there is still a limited understanding of their implications (Bris & Cabolis, 2008). Moreover, the majority of those studies are focused on well developed markets, but studies for countries like Portugal and Spain are scarce.

For that matter, the goal of this study is to assess if there is a difference in the bidders' returns when comparing cross-border to domestic M&A of Iberian firms and what variables are influencing it. Thus, the focus will be on completed M&A deals involving Iberian target firms from 2005 forward and try to identify which variables have a significant impact in the return measure – CAR (cumulative average return), which has been the measure most commonly used on the literature. Besides that, the values of the return measure will be analysed for different time windows, not just on the announcement date, to better capture the full scenario.

The present dissertation is organized as follows. In the subsequent section, the most relevant literature will be presented in order to synthesize the theories that support our study. Chapter 3 describes the data, the sample characteristics, and the event study methodology. In chapter 4, we present the results. Finally, in chapter 5, we draw the main conclusions, implications, extensions, and the limitations of our study.

2. LITERATURE REVIEW

In this Chapter, the main focus will be to make a summary of the literature related to the theme of the dissertation, by providing a theoretical background of cross-border M&A and their impact on returns. Likewise, the main theories and empirical evidence found on similar studies of the topic will be analysed.

Mergers and acquisitions refer to transactions between two companies that are combined in some form, either to create a new single entity or when the acquirer absorbs the business of the target (Lin et al., 2013). Even though M&A is one of the most researched topics in academia, still most of the studies are focused on well developed markets, mainly the U.S, U.K and, more recently, on Continental Europe (Danbolt & Maciver, 2012; Erel et al., 2012; Goergen & Renneboog, 2004; Gregory & O'Donohoe, 2014; Mateev & Andonov, 2016, 2018). Furthermore, even fewer studies exist on smaller, less developed markets (Bhagat et al., 2011), like the Iberian market (Farinha & Miranda, 2003).

On that note, Mateev and Andonov (2016) have stated that it would be relevant, to pay attention to the M&A announcement effects in cross-border acquisitions involving less developed European markets, in order to create profitable acquisition strategies. Moreover, Chari et al. (2010) found evidence that bidders from developed countries have significant returns from acquisitions into emerging markets. Likewise, M&A deals in emerging markets show several particularities when compared to well developed markets. The research of those markets is relevant as it points out other areas for investigation that can be important for both emerging and developed markets (Farinha & Miranda, 2003).

Similarly, considering the increase of cross-country deals there is still a limited understanding of their implications, when compared to domestic ones (Bris & Cabolis, 2008; Erel et al., 2012; Gregory & O'Donohoe, 2014). Whereas the determinants for why acquires engage in domestic acquisitions are well detailed in the literature (Berkovitch & Narayanan, 1993). The growth of cross-border deals can be attributed to the reduction of barriers to enter international markets, to the attempts to deal with strong competition in those markets, and to take advantage of the imperfections of international capital markets (Danbolt & Maciver, 2012; Gregory & O'Donohoe, 2014; Mateev & Andonov, 2018).

Therefore, it is plausible to the market to expect that cross-border deals generate higher value than domestic ones. However, the literature presents contradictory arguments to whether cross-border acquisitions create or destroy value, and whether they generate higher wealth effects than domestic M&A (Mateev & Andonov, 2018). Evidence from the yearly 2000's shows that, acquirers from cross-border deals have lower returns than domestic ones (Aw & Chatterjee, 2004; Conn et al., 2005; Eckbo & Thorburn, 2000; Martynova & Renneboog, 2008; Moeller & Schlingemann, 2005). While more recent studies suggest that acquires get better returns with cross border deals (Danbolt & Maciver, 2012; Dutta et al., 2013; Feito-Ruiz & Menéndez-Requejo, 2011; Goergen & Renneboog, 2004; Gregory & O'Donohoe, 2014). There is consistent evidence for US (Harris & Ravenscraft, 1991; Kang, 1993), for the UK (Danbolt, 2004) and for Europe (Campa & Hernando, 2004).

With cross-border acquisitions, it can be anticipated that they will be more complex, consequently more costly (Datta & Puia, 1995; Markides & Ittner, 1994) and risky (Gatignon & Anderson, 1988) to execute, than domestic acquisitions (Danbolt & Maciver, 2012). Also, if we add the possibility of agency conflict between managers and shareholders to be larger in cross-border than in domestic acquisitions, we can anticipate bidders to perform worse in cross-border than in domestic acquisitions (Danbolt & Maciver, 2012).

Hence, considering the added cost and risk entailed by cross-border deals compared to domestic ones, the reason behind the existence of cross-border deals and even its increase, can be associated with their significant additional benefits. Returns for acquirers in foreign markets are associated with the benefits (and costs) of geographical diversifications, as cross-border M&A allows firms to expand their boundaries (Conn et al., 2005).

In line with the multinational network theory, it can be expected for the announcement return of acquiring firms to exceed those of domestic acquirers, in contrast domestic bidders may exceed foreign ones because of the cost of geographic diversification being higher than its benefits or due to information asymmetry (Gregory & O'Donohoe, 2014). Danbolt and Maciver (2012) found evidence that cross-border M&A deals generate higher abnormal returns than domestic ones and that bidders on average perform significantly better – or more precisely, significantly less poorly – in cross-border acquisitions than in domestic ones.

Even so, it is shown in the literature that some relevant determinants generate the cross-border effect, like differences in bid and company characteristics (Mateev & Andonov, 2016, 2018). Some examples are geographic and cultural proximity, toeholds, relative size of the target to the bidder, their activity relatedness, financial development and performance, corporate governance, type of transaction and method of payment.¹ While other studies still find evidence for significant cross-border effect even when controlling for bid characteristics (Campa & Hernando, 2004; Danbolt, 2004). The existing empirical evidence is, for that matter, still mixed.

The impact of the investor regime of the target's country and of the foreign acquirors presents conflicting evidence. Dahlquist et al. (2003) gathered evidence that bidders benefit from acquiring targets from well protected environments because of lower agency costs and higher disclosure associated with these deals. Therefore, the higher the investor protection of the target country, the higher the total returns for bidders' shareholders (Martynova & Renneboog, 2011; Rossi & Volpin, 2004; Starks & Wei, 2013). Congruently, the abnormal return to the bidding firm's shareholders is positively related to the quality of their home country corporate governance standards (Kuipers et al., 2009). Since, strong corporate governance in the acquirer country can restrict the ability of managers to embark on value destroying acquisitions, and firms with better shareholder protection are likely to make better acquisitions by more cautiously identify lucrative investments and eventually pay lower premiums on targets (Danbolt & Maciver, 2012). Thus, it can be expected that abnormal returns are higher in cross-border deals where the corporate governance standards are higher in the acquirer than in the target country. Also, that can be justified by the fact that, cross-border buyers usually experience lower returns when targets are from countries like Continental Europe, since they have stronger investor protection mechanisms, which suggests that acquirers must pay higher premiums if the quality of their corporate governance is reduced. However, no evidence was found that this effect is more pronounced in deals performed with stock (Mateev & Andonov, 2018). For the case of emerging markets, Bhagat et al. (2011) found evidence that the stock market rewards bidders from

¹ The implications of those determinants will be explained afterwards in a more detailed manner, based on the empirical evidence found on the literature.

emerging countries and that returns are positively correlated with the presence of good corporate governance measures in the target country².

Furthermore, as mentioned beforehand, the literature identifies important bid and firm characteristics that explain the differences in abnormal returns between domestic and cross-border acquisitions (Mateev & Andonov, 2016, 2018). Empirical evidence suggests that, there is a large increase in the acquiring firm's stock price, when a firm from a developed country acquires an emerging market firm (Chari et al., 2010). Better performance in acquisitions can be obtained if bidding companies have prior experience in the target country (Aybar & Ficici, 2009) or are from competitive takeover markets, which have more experience with acquisitions, like the US (Conn & Connell, 1990). However, Doukas and Travlos (1988) suggest that bidder's gains may be higher when they enter new markets. Additionally, the abnormal return for bidders increases with the relative size of the target to the bidder (Asquith et al., 1983; Danbolt & Maciver, 2012) and if the bidder has a toehold stake prior to the takeover (Farinha & Miranda, 2003; Gregory & O'Donohoe, 2014).

Moreover, a considerable debate is associated with the impact of industry relatedness of the target and bidder on the returns of acquiring firms. The most commonly tested source is the presence of operating synergy, given that the higher the industry relatedness between the parties, the greater potential there is for economies of scale and/or scope, and also the lower integration costs compared to distinct industries (Gregory & O'Donohoe, 2014). There is evidence on the positive impact of industry relatedness for both domestic (Morck et al., 1988) and cross-border (Santos et al., 2008) M&A deals. The rationale behind it is that, companies should not try to create diversified portfolios, as investors can do it better (Goergen & Renneboog, 2004). In addition, for U.S acquisitions, evidence suggests that cross-border deals are more frequent in related industries (Harris & Ravenscraft, 1991). On the other hand, there is also evidence that diversification can generate higher gains for the acquiring firms (Corhay & Rad, 2000; Doukas & Travlos, 1988).

² Their discovery is in line with Martynova & Renneboog (2008) results that the market positively rewards when the acquirer opts for higher corporate governance standards of the target.

Erel et al. (2012) found evidence that the shorter the distance between two countries, the more likely it is to observe acquisitions between them, which is evidence for geographic proximity as a determinant of cross-border M&A deals. Still in the context of proximity, empirical evidence indicated that national culture influences corporate risk-taking, with the use of Hofstede's proxies of cultural dimensions, which opens a possibility for additional academic research to include national culture to enlighten corporate decisions, like M&A deals (Díez-Esteban et al., 2019).

For European bids, Goergen and Renneboog (2004) found evidence that when an UK target or bidder is involved, the abnormal returns are twice as high when compared to bids involving both a Continental European target and bidder.³ Those conclusions can be justified by the better performance in cross-border deals, not as a result of the bidder overpaying, but rather as a reflection of the higher overall wealth effect in cross-border deals. This argument is supported by Mateev and Andonov (2018) analysis, which stated that the larger cross-border premiums paid by European bidders is not driven by their preferences for certain types of firms with greater value or return.

Other relevant determinant of cross-border M&A returns is the method of payment chosen. Empirical evidence shows that all-cash takeovers generate higher returns for both bidder's and target's shareholders when compared to all-equity ones (Andrade et al., 2001; Goergen & Renneboog, 2004; Moeller et al., 2004). That is usually explained by the fact that, investors consider the form of payment to have a strong signalling effect (Mateev & Andonov, 2018). Empirical evidence suggests that bidders have lower returns from equity payments because it signals overvaluation of acquirers' stock or uncertainty of the true value of the target (Franks & Harris, 1989; Walker, 2000). As in cross-border transactions, foreign targets are more difficult to evaluate, hence bidders would prefer an equity payment (Gaughan, 2010). Consequently, investors consider equity offers as a signal that the shares of the bidder are overpriced and thus adjust the share price downwards (Myers & Majluf, 1984). In that matter, when a bidder uses cash, the market sees it as a positive signal of the target firm's quality, and that the bidding firm is not willing to share future value increases with them (Martynova & Renneboog, 2011). By the

³ Evidence is in line with Danbolt and Maciver (2012), that UK targets and bidders generate higher abnormal returns than targets located in Continental Europe, for both domestic and cross border deals.

same token, cross-border deals are mainly all-cash, since most target shareholders' are hesitant to accept foreign equity (Gaughan, 2010).

Cross-border effects are associated with significant payment effects (Danbolt, 2004). For the European market, all-stock payments have a more positive impact in cross-border than in domestic acquisitions and there is no statistical difference when the payment are made in cash (Mateev & Andonov, 2016). Furthermore, foreign bidders are comfortable using cash for acquiring targets that are located in Continental Europe and bid premiums are much larger for stock than cash offers, which is in line with the empirical evidence found for US takeover market (Mateev & Andonov, 2018). Additionally, empirical evidence indicates that more cross-border acquisitions are conducted in cash than in equity, and that the quality of the bidder's country corporate governance increases the likelihood of using bidder's equity (Mateev & Andonov, 2018; Starks & Wei, 2013).

As a result, considering the several bid and firm characteristics presented that can explain the differences in abnormal returns between domestic and cross-border acquisitions, it is appropriate to investigate if that difference is persistent for the case of M&A deals involving Iberian targets, with the proper methodology to capture the short-term effect around the announcement day and to reach statistically significant conclusions.

3. DATA SOURCES, SAMPLE AND METHODOLOGY

3.1 Sample Selection and Data Sources

The present study will focus on M&A activities that involved Iberian targets, both domestic and cross-border deals from 2005 forward. The information about announcement dates and bid characteristics are obtained from Zephyr database of Bureau van Dijk, while the stock prices were extracted from Thomson Reuters DataStream database. For an M&A deal to be included in the sample, the following criteria was defined: (1) the target firm is from an Iberian country – Portugal or Spain; (2) the bidder must be a listed company; (3) the transaction must be announced and completed between January 2005 and January 2022; (4) the rumour date and the announcement date of the deal must coincide; (5) the percentage of acquired final stake must be higher than 50% and prior to the deal should be lower than 50%, as an acquisition implies a change in ownership positions; (6) focusing only on transactions classified as mergers or acquisitions of majority interest, excluding all the cases defined as an acquisition of assets, a buyback, or a recapitalization, divestitures, joint-ventures, and management buyouts; (7) given the specificities of the financial industry, in terms of accounting information and nature of operations, deals with at least one firm operating in that industry were excluded; (8) and companies need to have available information, at least, one year prior to the deal and 30 days after. The criteria described led to a sample of 458 deals.

3.2 Sample Composition

In this section we present the main characteristics of the final sample used in our study. The preferred method of payment is all-cash. The sample is mainly composed of M&A transactions with private targets and two-thirds of the sample are cross-border deals. Also, hostile bids are not a common bidder's attitude, for that reason a subsample or a variable for that characteristic will not be considered. Although, there is a reduced number of deals where the acquirer had a toehold in the target prior to the acquisition, a variable controlling for its effect will be included in the multivariate analysis. Following Gregory and O'Donohoe (2014), the acquisitions were defined as focused, when the target and the bidder had the same two-digit SIC code⁴, and as a

⁴ Besides the two-digit SIC code, we checked the major sector in which the target and bidder operated, before classifying the industry relatedness as focused or diversified.

diversified acquisition in all the other cases. There are less diversified deals since the majority of acquires prefer a target from the same industry (Table 1 and 2).

Table 1 – Description of sample characteristics

	No. of deals
Cross-border deals	
Yes	311
No	147
Payment Method	
All cash	157
All stock	28
Mixed	273
Legal form	
Private target	457
Public target	1
Bidder's attitude	
Friendly	458
Hostile	0
Toehold	
Yes	15
No	443
Industry relatedness	
Focused acquisition	264
Diversified acquisition	194
Relative size of target to acquirer	
Less than 50%	437
Between 50% and 100%	8
Cultural Difference	
High	234
Low	224
Total M&A deals considered	458

Source: Own calculations considering the information of Zephyr database.

In most cases, the targets are relatively smaller than the acquirors. As Díez-Esteban et al. (2019) found empirical evidence indicating that national culture influences corporate risk-taking, we will analyse the cultural difference between the target and bidder through a composite index. The index is based on the classification of Hofstede et al. (2005) of six national cultural dimensions: power distance, individualism, masculinity, uncertainty avoidance, long term orientation, and indulgence. The composite index considers the square root of the sum of the squares of the differential between the target and the bidder for each of the six dimensions. After obtaining a median score of 44.4, it was assigned a high level of cultural difference to deals that reached a higher score than 44.4 and low level for the rest of the deals.

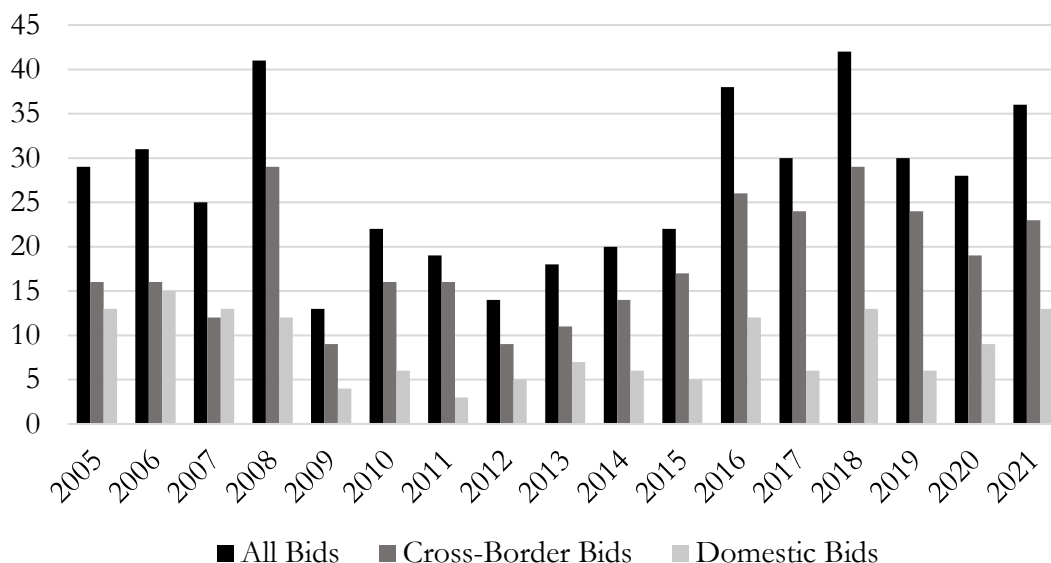
Table 2 – Number of acquirers and targets by sector

Major Sector	No. of targets	No. of acquirers
Chemicals, rubber, plastics	32	36
Construction	23	29
Education, Health	7	2
Food, beverages, tobacco	11	15
Gas, Water, Electricity	17	12
Hotels & restaurants	4	8
Machinery, equipment, furniture	45	85
Metals and metal products	9	11
Other services	182	163
Post and telecommunications	11	15
Primary Sector	3	5
Public administration and defence	4	0
Publishing, printing	31	19
Textiles, wearing apparel, leather	5	3
Transport	9	6
Wholesale and retail trade	57	42
Wood, cork, paper	8	7

Source: Zephyr database

As it can be observed on Figure 1, there is a reduction on the M&A activity in the years following the financial crisis of 2008. In the time period that is being analysed, more cross-border deals have occurred than domestic ones.

Figure 1 – Number of M&A bids by announcement year



Source: own calculations considering information of Zephyr database.

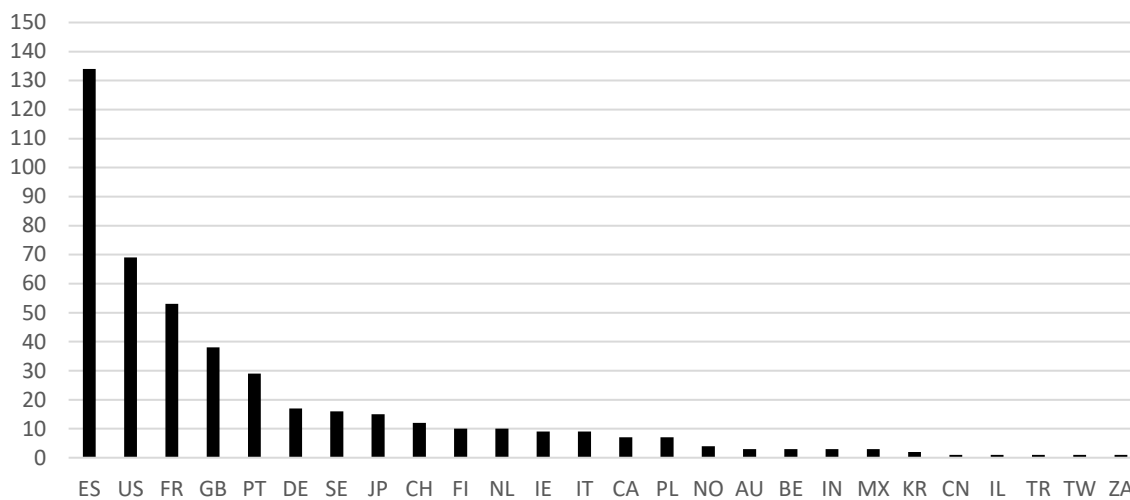
The sample is mainly composed of Spanish targets (Figure 2). The main origin of acquires is Spain, the United States, France and the United Kingdom (Figure 3), due to the competitive takeover market that those countries have (US and UK), and the geographic proximity and strong economic relations (Spain and France) the other ones have (Rossi & Volpin, 2004).

Figure 2 – Number of targets by country



Source: own calculations considering information of Zephyr database. Legend: ES - Spain; PT - Portugal.

Figure 3 – Number of acquirers by country



Source: own calculations considering information of Zephyr database. Legend: AU - Australia; BE - Belgium; CA - Canada; CH - Switzerland; CN - China; DE - Germany; ES - Spain; FI - Finland; FR - France; GB - United Kingdom; IE - Ireland; IL - Israel; IN - India; IT - Italy; JP - Japan; KR - Korea; MX - Mexico; NL - Netherlands; NO - Norway; PL - Poland; PT - Portugal; SE - Sweden; TR - Turkey; TW - Taiwan; US - United States of America; ZA - South Africa.

3.3 Methodology

Given that stock prices are less susceptible to be manipulated by managers than accounting returns, event studies are more effective than accounting studies, since the incremental changes in stock prices are based on the firms' right value (McWilliams & Siegel, 1997). Therefore, an event study methodology was implemented for the analysis of the significance of the variables mentioned on the papers beforehand and to understand the short-term impact of M&A deals on the returns for acquiring firms. The return measure used, to try and understand which variables have a significant impact, is the cumulative abnormal return (CAR), which has been the one usually used in most empirical studies (Chikamoto et al., 2013; Farinha & Miranda, 2003; Gregory & O'Donohoe, 2014; Mateev & Andonov, 2016, 2018; Rodrigues, 2003). Also, an analysis of the values of the return measure for different time windows was included, besides on the announcement date, to better capture the full scenario.

The event study methodology is the main method used to measure the reaction of stock prices to merger announcements (Binder, 1998), capturing their wealth effects. Event studies deduce the economic impact of a given event from the impact of it on the affected firms' share price.

Therefore, comparing the returns of the affected firm by the event and the estimate of what those returns would be in the absence of the event. The difference between them is the abnormal return, which is the measure of the event's effect⁵. Since, expected returns do not consider all the announcement effects, the difference between the actual return (R) and the normal return [$E(R)$] was calculated for each day and bidder, in order to obtain the abnormal return (AR):

$$AR = R - E(R) \quad (3.1)$$

Fama et al. (1969, as cited in Mateev & Andonov, 2018) stated that the analysis of stock price reaction to the announcement of an event should be performed following two steps: 1) estimate abnormal returns in the period around the event's announcement, and 2) analyse its statistical significance.

Step one is conducted by using the market model to estimate expected returns as follows:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (3.2)$$

where $E(R_{it})$ is the expected return of the shares of firm i on day t , α_i is the intercept, which measures the average return of the shares of firm i that are not explained by the market return during the moment t , β_i is the slope, that measures the sensibility of the volatility of shares of firm i in relation to the market volatility, and R_{mt} is the return on market index⁶ at day t .

After estimating the parameters in equation (3.1) by Ordinary Least Squares (OLS) regression methodology for each i -th firm, the abnormal returns were estimated by subtracting the expected return from the observed return as follows:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt} \quad (3.3)$$

where AR_{it} is the abnormal return of the share of firm i for day t , R_{it} is the observed return of the share of firm i for day t , $\hat{\alpha}_i$ and $\hat{\beta}_i$ are estimations for α_i and β_i from equation (3.2).

⁵ For a more detailed explanation of the reasoning behind the methodology, please see Serra (2004).

⁶ The market index used is proxied by the MSCI World Market Index collected from DataStream, as our sample includes acquiring firms listed in different indexes around the world (Mateev & Andonov, 2018).

Theoretically, the fluctuation between the daily abnormal returns and cumulative abnormal return should be around zero since the daily abnormal return is the mean of the difference between the actual returns and the expected returns. Otherwise, it is possible to conclude that the announcement is influencing the market's stock price valuations (MacKinlay, 1997; Peterson, 1989).

By using equation (3.3) to introduce the cumulative abnormal return (CAR) and to accommodate multiple sampling intervals within the event period, the abnormal return for each event day was summed to calculate CAR_i of each firm in the sample, for a certain event window since the day $t = 1$ until the last day of the time window:

$$CAR_i = \sum_{t=1}^n AR_{it} \quad (3.4)$$

Then, the cumulative average abnormal return (CAAR) of all firms can be obtained by summing the CAR over the window period and divided by the number of firms in the sample (N), which is the impact of the bid announcement in the shareholders' wealth:

$$CAAR = \frac{1}{N} \sum_{i=1}^N CAR_i \quad (3.5)$$

Forward, an important decision when using this method is to choose the event window period, as it captures the effects of the stock prices (Martynova & Renneboog, 2011). The literature on event studies varies in terms of the choices of the estimation period and event period (Mateev & Andonov, 2018). Nevertheless, some aspects should be considered, as it is necessary to analyse the possibility of abnormal returns after the announcement day, but also if they exist before the announcement day, since private information and rumours can be present (Martynova & Renneboog, 2011). Besides that, if we consider a small event window, it can ignore published information before the announcement in media, on the other hand, an extended window might inaccurately include former movements in the firm's stock price (Goergen & Renneboog, 2004). With all that in mind, in this study several event windows are calculated ([-10; +10], [-5; +5], [-

5;0], [-1; +1], [-1;0], [0; +1], and [0; +5]) besides the announcement date (t=0) to reduce biases and improve the analysis of the impact of M&A.

In terms of the market model parameters, as mentioned beforehand, the OLS method was used to estimate the parameters for each firm. The parameters α_i and β_i are estimated using market returns and realized share returns collected from DataStream. The estimation window has 252 trading days (from day -282 and ending at day -31). The relevance of an extensive estimation window is associated with the assumption that the market model parameters are constant in the event window and in the estimation period. The OLS regression uses the estimators \hat{R}_{it} and \hat{R}_{mt} during the estimation window that were obtained using a logarithm transformation to approximate the returns to normality (Henderson, 1990):

$$\hat{R}_{it} = \ln\left(\frac{P_t}{P_{t-1}}\right) \quad (3.6)$$

$$\hat{R}_{mt} = \ln\left(\frac{I_t}{I_{t-1}}\right) \quad (3.7)$$

where, P_t is the market price of the share of firm i on day t , P_{t-1} is the market price of the share of firm i on the day before day t , I_t is the index value on day t , I_{t-1} is the index value on the day before day t .

The significance of the abnormal returns obtained were assessed with a parametric test. Assuming that the CAARs have a normal distribution and are identically and independently distributed over time, the test statistics for the null hypothesis has a t-Student distribution (Brown & Warner, 1985). Therefore, if the null hypothesis ($H_0: CAAR = 0$) is rejected, it confirms that the event had impact for bidders' shareholders.

$$CAAR \sim N(0, \sigma) \quad (3.8)$$

$$t_{stat} = \frac{CAAR}{\hat{S}(CAAR)} \quad (3.9)$$

$$\hat{S}(CAR) = \sqrt{\frac{1}{N-1} \sum_{i=1}^N (CAR_i - CAAR)^2} \quad (3.10)$$

where, t_{stat} is t-student test statistic with $n-2$ degrees of freedom for the market model, $CAAR$ is the cumulative average abnormal returns, CAR_i is the cumulative abnormal return of firm i , N is the total number of firms with available abnormal returns, and $\hat{S}(CAR)$ is the standard deviation of CAR , an unbiased estimator of standard deviation of population (σ).

4. RESULTS

4.1 Cumulative Average Abnormal Returns

In this section the effects of the cumulative average abnormal returns (CAAR) on the bid announcement for bidder's shares are presented for the following event windows: [-10; +10], [-5; +5], [-5;0], [-1; +1], [-1;0], [0,0], [0; +1], and [0; +5]. The results are presented for the full sample, domestic, foreign, US, UK, and EU subsamples.

As shown in Table 3, the null hypotheses ($H_0: CAAR = 0$) cannot be rejected so, on average, the event does not have a significant impact for the bidders' shareholders. Our findings are consistent with the empirical evidence that Danbolt and Maciver (2012) and Mateev and Andonov (2018) discovered.

Table 3 – Cumulative Average Abnormal Returns

Event window (days)	Total Sample			Domestic Deals			Foreign Deals		
	CAAR (%)	T-stat	Positive CAR (%)	CAAR (%)	T-stat	Positive CAR (%)	CAAR (%)	T-stat	Positive CAR (%)
[-10; +10]	-0.47	-0.035	49.13	-1.93	-0.109	37.84	0.22	0.020	54.19
[-5; +5]	-0.16	-0.016	49.78	-1.32	-0.115	44.59	0.39	0.042	52.26
[-5;0]	-0.21	-0.039	51.09	-0.97	-0.162	41.90	0.15	0.030	55.48
[-1; +1]	0.64	0.099	59.17	0.73	0.100	52.70	0.59	0.099	62.26
[-1; 0]	0.38	0.090	55.24	0.18	0.035	50.68	0.48	0.124	57.42
[0,0]	0.36	0.093	53.49	0.57	0.105	40.32	0.26	0.090	55.48
[0; +1]	0.61	0.098	60.26	1.12	0.144	56.76	0.37	0.068	61.94
[0; +5]	0.41	0.047	55.02	0.21	0.020	51.35	0.50	0.066	56.77
Observations	458			147			311		

Source: own calculations.

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

The clear evidence is that the null hypothesis cannot be rejected, as found in the literature, bidders have returns close to zero around announcement date. Even amongst the foreign bidders, there is no statistically significant difference. For all the subsamples, the evidence

indicates that acquires experience zero returns when engaged in M&A of Iberian target firms. Although insignificant, inter-country differences will be tested in the multivariate analysis as well.

Table 4 – Cumulative Average Abnormal Returns (foreign subsample)

Event window (days)	American Bidders			UK Bidders			European Bidders		
	CAAR (%)	T-stat	Positive CAR (%)	CAAR (%)	T-stat	Positive CAR (%)	CAAR (%)	T-stat	Positive CAR (%)
[-10; +10]	1.67	0.152	55.07	-3.58	-0.192	52.63	-0.61	-0.045	46.46
[-5; +5]	1.92	0.242	52.17	-1.64	-0.092	50.00	-0.21	-0.022	48.82
[-5; 0]	0.45	0.095	53.62	1.09	0.225	57.89	-0.32	-0.061	50.17
[-1; +1]	1.14	0.218	57.97	-0.87	-0.073	68.42	0.78	0.136	56.90
[-1; 0]	0.86	0.214	57.97	0.98	0.427	71.05	0.21	0.053	52.53
[0, 0]	0.54	0.232	50.72	0.67	0.323	55.26	0.44	0.106	52.19
[0; +1]	0.83	0.202	60.87	-1.19	-0.109	55.26	1.00	0.169	59.93
[0; +5]	2.01	0.309	60.87	-2.06	-0.139	50.00	0.54	0.067	53.54
Observations	69			38			297		

Source: own calculations.

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

Prior research indicates that bid characteristics may have a significant impact on bidder returns. Therefore, in the next section we investigate the impact that those characteristics have in cross-border and domestic acquisitions.

4.2 Multivariate Analysis

After a comprehensive analysis of the firms' CAAR in several subsamples to understand the impact cross-border M&A have in the transactions, now a multivariate analysis will be presented. A multivariate analysis helps to identify the role that deal and firm specific variables have in explaining the abnormal returns on the most significant event window. A test of which variables may have an impact in the cumulative abnormal return (CAR) of the bidder's shares resorting to a multivariate analysis. The estimations were performed using OLS technique, besides the test for significance and the variables' correlation.

The impact of all variables on bidders' CAR was tested, by running the following regression⁷:

$$\begin{aligned}
 CAR_{i(-5;+5)} = & \alpha_i + \beta_1 CROSS_i + \beta_2 PAY_i + \beta_3 STAKE_i + \beta_4 INDUST_i \\
 & + \beta_5 LN(SIZE_i) + \beta_6 GOV_i + \beta_7 CRISIS_i + \beta_8 COVID_i \\
 & + \beta_9 EURO_i + \beta_{10} UK_i + \beta_{11} US_i + \beta_{12} ES_i + \beta_{13} INVPRO_i \\
 & + \beta_{14} LAW_i + \beta_{15} HDI_i + \beta_{16} DIR_i + \beta_{17} CULTD_i + \beta_{18} SP_i \\
 & + \beta_{19} ACC_i + \varepsilon_i
 \end{aligned} \tag{4.1}$$

The dependent variable used in the regression is the cumulative abnormal return (CAR) of bidders' shares within the event window that shows the most statistical significance⁸ around announcement day and the exogenous variables are presented in Table 5.

The explanatory variables can be split in two groups, the bid characteristics variables (method of payment, initial stake, industry relatedness, relative size, time period, bidder's country) and the cross-border variables (bidder's country level of anti-self-dealing, investor protection, rule of law, human development index and anti-director rights, cultural differences between the target and the bidder, bidder's country level of shareholder protection and accounting standards).

In terms of the explanatory (exogenous) variables, firstly, a dummy controlling for cross-border or domestic deal will be included. Based on the previous literature, if the dummy variable CROSS has a negative sign, cross-border deals should generate higher value than domestic ones. The dummy variable PAY is used to evaluate the impact of the method of payment, if all-cash have better impact than equity or mixed methods of payment, this variable should have a positive sign.

The variable STAKE is used to understand the impact of the presence of an initial stake by the bidder in the target prior to the acquisition announcement, if the presence of a toehold generates higher returns (Farinha & Miranda, 2003), the variable should have a positive coefficient. The dummy variable INDUST is used to capture the effect of focused or diversified M&A deals, if

⁷ The regression has been run using White (1980) procedure for the purposes of controlling for heteroskedasticity.

⁸ The regression has also been conducted for [-10, +10] window, nonetheless the results obtained presented less statistical significance and were similar to the results of the CAR regression over [-5, +5] so, the results are not purposely reported, but can be found on the Annexes. Additionally, the regression has also been conducted for the [-5, 0] and [0, +5] windows, to better understand the interval presented: [-5, +5], found on the Annexes, as well.

acquisitions within the same major sector are better for shareholders than deals between firms in different industries (Goergen & Renneboog, 2004), this variable should have a positive coefficient.

The explanatory variable SIZE is used to test if the relative size of the target compared to the bidder has an impact on the bidder's shares CAR around the announcement date (Mateev & Andonov, 2018). This variable is used in the regression as a linear logarithm of the target's total assets in relation to the bidder's total assets, so if M&A deals of relatively large targets provide a better CAR for the bidders, the variable should have a positive sign. The variable GOV is based on the anti-self-dealing index, a measure of legal protection of minority shareholders against expropriation by corporate insiders, if the higher the protection for the bidder's shareholders, the higher the return, this variable should have a positive coefficient.

In order to control for the impact of specific time periods inside the sample horizon, the dummy variables CRISIS and COVID, for the period during the financial crisis (2008-2012) and the global pandemic (2020-2021), respectively, were included. If these major international phenomena's have a negative impact in the return for the bidders, the variables should have a negative sign. To test the hypothesis, that when countries from a competitive takeover market (e.g., United States and United Kingdom) are involved on the transaction, higher returns are generated, the dummy variables UK and US were included, taking the value one when bidders are from the United Kingdom or United States, respectively. If their presence has a positive impact on the bidder's shareholders share price around the announcement date, the variables should have a positive sign. In line with that and given the specific characteristics of the data, two additional variables related to the bidder's country were included, EURO and ES, taking the value one when the acquirer is from the European Union or Spain, respectively. If their presence has a positive impact in the bidder's returns, the variables should have positive coefficients.

The variables INVPRO, LAW, DIR, and ACC are included to test if corporate governance proxies help to explain bidder's abnormal returns (Kuipers et al., 2009). They represent the

bidder's country level of the investor protection, rule of law, anti-director rights or accounting standards⁹, respectively, if that impact is positive, they should have positive coefficients.

The variable SP is obtained by dividing by ten the multiplication of the indexes Rule of Law and Anti-Director Rights, in order to account for the level of the bidder's country level of shareholder protection⁹. The variable should take a positive sign if the higher the level of shareholder protection, the higher the bidder shareholders' return.

In order to test the impact of the level of the bidder country's development, the variable HDI was included, taking the value of the bidder's country Human Development Index. If a higher level of development in the bidder's country generates a higher return for the bidder's shareholders, the variable should take a positive sign.

In line with the work conducted by Díez-Esteban et al. (2019), who found evidence that national culture influences corporate risk-taking, with the use of Hofstede's proxies of cultural dimensions, we try to understand if national culture also impacts returns on cross-border deals. For that matter, the variable CULTD was included, calculated as the square root of the sum of the squares of the differential between the target and the bidder for each of the 6 Hofstede dimensions. If the higher the cultural proximity between the target and the bidder, the higher the return, the variable should take a negative sign.

The summary statistics for these variables are presented for the full sample, the domestic and foreign subsamples in Table 6. The most noteworthy difference found is that, foreign acquirers have a smaller relative size of target, evidence that is in line with Gregory and O'Donohoe (2014).

Table 7 presents the regression estimates where the dependent variable is the 11-day CAR to all acquiring firms, the cross-border and domestic¹⁰ subsamples. A combination of firm and transaction characteristics are shown to determine acquirers' returns and it can be found higher explanatory power from domestic acquiring firm returns in contrast to cross-border ones.

⁹ For a more detailed description of the composition of these indexes, please see Porta et al. (1998).

¹⁰ Given the nature of the cross-border variables, they were excluded when the regression with the domestic subsample was run, in order to avoid near singular matrix errors.

Table 5 – Variable Definitions

Variable	Definition
CROSS	Dummy is equal to one for domestic deals, and 0 for cross-border ones.
PAY	Dummy is equal to one for cash-only deals, and zero otherwise.
STAKE	The percentage of any toehold that the bidder has in the target prior to the acquisition announcement.
INDUST	Dummy is equal to one if the target and the bidder have equal first two-digits primary US sic codes or major sector, and 0 otherwise.
SIZE	Relative size between the target and the bidder (in percentage), with size measured by Total Assets.
GOV	Anti-self-dealing index of the bidder country calculated by Djankov et al. (2008).
CRISIS	Dummy is equal to one when the deal was announced during the financial crisis of 2008 until 2012, and 0 otherwise.
COVID	Dummy is equal to one when the deal was announced during the pandemic (2020 and 2021), and 0 otherwise.
EURO	Dummy is equal to one if the deal was between European companies, and 0 otherwise.
UK	Dummy variable taking value 1 if the bidder is from UK, and 0 otherwise.
US	Dummy variable taking value 1 if the bidder is from US, and 0 otherwise.
ES	Dummy variable taking value 1 if the bidder is from ES, and 0 otherwise.
INVPRO	Investor Protection – bidders are scored by their country’s score on a scale from 0 to 10 based on the strength of investor protection index, compiled by the World Bank.
LAW	Rule of Law – bidders are scored by their country’s score on a scale from 0 to 10 based on an assessment of their law-and-order tradition, assessment undertaken by the International Country Risk (ICR) risk-rating agency (Porta et al., 1998).
HDI	Human Development Index – variable taking the value of the bidder’s country value in the 2020 Report for the HDI (UNDP).
DIR	Anti-Director Rights – bidders are scored by their country’s score on a scale from 0 to 6, with points awarded for various proxies of shareholder rights. In the analysis, we consider the level of the bidder’s country anti-directors rights (Porta et al., 1998).
CULTD	Cultural differences – calculated by the square root of the sum of the squares of the differential between the target and the bidder for each of the 6 Hofstede dimensions (Hofstede et al., 2005).

Table 5 (continued)

Variable	Definition
SP	Shareholder Protection – bidders are scored by their country’s score on a scale from 0 to 5 on the effective rights of minority shareholders, calculated as (Rule of Law * Anti-Director Rights)/10 (Porta et al., 1998).
ACC	Accounting Standards – bidders are scored by their country’s score based on an index (out of 90) of accounting quality created by the Centre for International Financial Analysis and Research, that assesses country’s average quality of annual reports (Porta et al., 1998).

The results show that the method of payment, industry relatedness, deal happening during the financial crisis, bidder being from the United States or Spain, the level of investor protection of the bidders’ shareholders and the bidder’s country level of Human Development Index has statistically significant power to explain bidders’ CAR.

The variable PAY, representing the method of payment, showed evidence that all-cash acquisitions are significantly positively associated with acquirers’ returns overall, although this fails to be significant in either the domestic or cross-border subsample. A positive impact from the use of cash can be attributed to the lower costs, simplicity and ability to avoid paying higher premiums associated with this mean of payment. The same results were obtained by Gregory and O'Donohoe (2014). Also, Starks and Wei (2013) findings for the US market, suggest that stock deals earn marginally lower returns for both targets and bidders than in cash acquisitions. Our conclusions are in line with the empirical evidence found by Andrade et al. (2001), Danbolt and Maciver (2012), Goergen and Renneboog (2004), Martynova and Renneboog (2011), and Moeller et al. (2004), who also had statistically significant positive results. Additionally, in the regression for the [-5, 0] window, significance was not only found for the full sample, but also for the cross-border subsample. A possible explanation for this matter is that, in cross-border transactions, foreign targets are more difficult to evaluate, so bidders would prefer an equity payment (Gaughan, 2010). Therefore, when an acquirer uses cash, the market sees it as a positive signal of the target firm’s quality, and that the bidding firm is not willing to share future value increases with them (Martynova & Renneboog, 2011), hence the positive impact on the bidders’ shareholders CAR.

Table 6 - Summary statistics, partitioned by subsample

	Mean (%) (All)	Std Err	Median	Mean (%) (Cross)	Std Err	Median	Mean (%) (Domestic)	Std Err	Median
CROSS	0.323	0.468	0.000	0.000	0.000	0.000	1.000	0.000	1.000
PAY	0.343	0.475	0.000	0.322	0.468	0.000	0.388	0.489	0.000
STAKE	1.078	6.239	0.000	0.847	5.775	0.000	1.567	7.119	0.000
INDUST	0.576	0.495	1.000	0.598	0.491	1.000	0.531	0.501	1.000
SIZE	0.686	10.677	0.006	0.155	1.222	0.005	1.810	18.756	0.009
GOV	0.483	0.193	0.379	0.529	0.219	0.457	0.385	0.026	0.374
CRISIS	0.238	0.426	0.000	0.257	0.438	0.000	0.197	0.399	0.000
COVID	0.081	0.273	0.000	0.077	0.267	0.000	0.088	0.285	0.000
EURO	0.648	0.478	1.000	0.482	0.500	0.000	1.000	0.000	1.000
UK	0.083	0.276	0.000	0.122	0.328	0.000	0.000	0.000	0.000
US	0.151	0.358	0.000	0.222	0.416	0.000	0.000	0.000	0.000
ES	0.293	0.455	0.000	0.035	0.185	0.000	0.837	0.371	1.000
INVPRO	6.500	0.619	6.500	6.562	0.716	6.500	6.369	0.297	6.500
LAW	8.742	1.066	8.683	9.119	1.086	8.983	7.944	0.328	7.800
HDI	0.911	0.036	0.904	0.918	0.041	0.926	0.897	0.015	0.904
DIR	3.773	1.037	3.500	3.386	0.845	3.000	4.592	0.927	5.000
CULTD	41.151	32.863	44.430	60.602	20.237	66.955	0.000	0.000	0.000
SP	3.234	0.720	3.120	3.053	0.684	3.000	3.618	0.641	3.900
ACC	64.906	13.320	65.000	67.495	13.777	69.000	59.429	10.384	64.000
N	458	458	458	311	311	311	147	147	147

Source: own calculations.

Table 7 – OLS regressions of announcement period for bidders CAR [-5, +5]

	(1) All	(2) Cross-Border	(3) Domestic
C	0.085 (0.211)	0.038 (0.221)	0.096* (0.050)
CROSS	-0.023 (0.019)		
PAY	0.020* (0.012)	0.027 (0.016)	0.003 (0.016)
STAKE	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)
INDUST	-0.011 (0.009)	0.007 (0.009)	-0.032* (0.018)
LOG(SIZE)	0.001 (0.003)	-0.005 (0.004)	0.009 (0.006)
GOV	-0.050 (0.050)	-0.051 (0.051)	
CRISIS	-0.013 (0.012)	0.004 (0.012)	-0.067** (0.029)
COVID	-0.005 (0.011)	-0.014 (0.014)	0.005 (0.017)
EURO	0.031 (0.020)	0.029 (0.019)	
UK	0.042 (0.046)	0.035 (0.045)	
US	0.083*** (0.030)	0.078*** (0.028)	
ES	-0.071* (0.037)	-0.055 (0.039)	-0.050** (0.022)
INVPRO	-0.028* (0.015)	-0.026* (0.014)	
LAW	-0.028 (0.022)	-0.033 (0.023)	
HDI	0.367* (0.188)	0.400* (0.210)	
DIR	-0.003 (0.048)	-0.006 (0.050)	
CULTD	0.000 (0.000)	0.000 (0.000)	

Table 7 (continued)

	(1) All	(2) Cross-Border	(3) Domestic
SP	0.014 (0.057)	0.013 (0.059)	
ACC	0.000 (0.000)	0.000 (0.000)	
Observations	458	311	147
R-squared	0.066	0.097	0.139
Adj. R-squared	0.025	0.041	0.096
F-statistic	1.618	1.740	3.218
Prob(F-statistic)	0.048	0.032	0.003

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level, respectively. This table shows the regression estimates of the bidder's eleven-day cumulative abnormal return (-5, +5) surrounding the announcement, controlling for cross-border and bid characteristics, for three subsamples, all deals [regression (1)], cross-border deals [regression (2)] and domestic deals [regression (3)].

The results show that the variable *INDUST*, controlling for the industry relatedness of the target and the bidder, has a statistically significant negative impact only on the domestic bidders' returns, which is in line with the findings of Gregory and O'Donohoe (2014) that acquirers overall gain from industry diversification¹¹, and their evidence was also only significant in the domestic context. Evidence that is contrary to Morck et al. (1988), who found that focused M&A deals have a positive impact on domestic transaction, and to Santos et al. (2008) and Goergen and Renneboog (2004), for cross-border M&A deals.

When testing for the impact of specific time periods inserted on the sample time horizon, for instance, the financial crisis (2008-2012) and the global pandemic (2020-2021), on our results¹² statistical significance was found for the variable controlling for the impact of the financial crisis, although only for the domestic subsample. These findings show that the financial crisis had a negative impact on the bidders' returns, a possible reasoning behind this can be associated with the strong effect the financial crisis had on the Iberian firms, given the vulnerability of their economies. Additionally, the financial restrictions implemented, could have entailed less

¹¹ Corhay and Rad (2000) and Doukas and Travlos (1988) also found evidence that diversification can generate higher gains for the acquiring firms.

¹² Evidence of a negative impact of the global pandemic – COVID 19 – was only statistically significant for the [-10, +10] window, in the full sample and cross-border subsample.

advantages and benefits for the domestic bidders, who also were feeling the negative impacts of the crisis.

Furthermore, evidence was found that when a bidder is from the United States, their returns are higher, the results were significant for both the full sample and the cross-border subsample¹³. Our conclusions are in line with the literature, that when countries from a competitive takeover market are involved on the transaction, higher returns are generated (Conn & Connell, 1990). Additionally, Doukas and Travlos (1988) and Francis et al. (2008) found evidence that US bidders gain in cross-border deals.

Considering the nature of the sample, the impact of a bidder being Spanish was assessed with the dummy variable ES. Surprisingly, given the dominance that Spanish deals have in our domestic subsample, our results showed that, the Portuguese bidders earn higher returns when they acquire domestic companies, compared to the Spanish bidding firms in similar domestic deals. The significance of those finds even hold for the full sample, comparing Spanish bidders to all the other acquirer's nationalities, showing that, even in general, they have lower returns than their peers.

When including several of the indexes developed by Porta et al. (1998) to control for the impact of the corporate governance characteristics of the bidder's country, only the variable INVPRO showed statistical significance. The higher the score a bidders' country has on the index for the strength of investor protection, the lower their shareholders' returns, statistical significance is present in both the full sample and the cross-border subsample. The level of investor protection in a country is related to the set of mechanisms the country has to protect outside investors, when they finance a firm, against expropriation by the managers and the controlling shareholders of a firm (La Porta et al., 2000). A stronger investor protection is associated with greater security of property rights, a more effective corporate governance and an implementation of mechanisms to ensure the protection of outside investors. The presence of such mechanisms can lead the bidders of those countries to have lower returns. Consistent with our findings, Martynova and

¹³ Evidence is consistent for several event windows: [-5, 0] and [0, +5]. Additionally, in the [-5, 0] window, the variables EURO and UK also showed to have a positive impact on the bidders' returns, for all the samples, suggesting that prior to the announcement, a bidder being from the European Union or the United Kingdom has a positive impact on returns.

Renneboog (2008) and Mateev and Andonov (2018) also found that the quality of corporate governances in the bidder's home country has a negative impact on returns for cross-border deals. Although, most studies find that the abnormal return for bidders is positively related to their level of corporate governance standards (Bris & Cabolis, 2008; Danbolt & Maciver, 2012; Kuipers et al., 2009).

Controlling for the impact of culture, the variable CULTD was included and for experimentation purposes also the variable HDI. Surprisingly, the variable HDI showed explanatory power across several event windows. While the cultural differences (CULTD) were only statistically significant in the [-10, +10] and [0, +5] event windows, with a negative sign showing that the higher the cultural differences between the target and the bidder, the lower the returns for the bidders' shareholders, for all the samples. Still, the higher the level of the bidder's country Human Development Index showed to have a positive impact on the bidders' CAR. This can be explained as a positive externality on the bidder's return, considering the level of the human development of its country. The market expects higher returns for the bidders that come from more developed countries.

5. CONCLUSIONS

In this study, we examined the impact the announcement of the acquisition of Iberian firms has for the bidder firm shareholders' using a sample of 458 acquisitions from 2005 until 2022. We hypothesize that returns differ for domestic and foreign acquirers due to not only geographical diversification and distance, but also because of corporate governance regimes and bid characteristics.

We find evidence, consistent with the literature, that overall acquirers experience zero announcement period returns, for all the subsamples. However, with our multivariate analysis we identified the determinants of the bidders' returns.

Overall, the level of protection of the bidder's home country, and being a Spanish acquirer has a negative impact on returns. While the use of cash as a method of payment, being a bidder from the United States and the level of human development of the bidder's country have a positive impact. For domestic focused acquisitions, the financial crisis and Spanish bidders have a negative influence. In the cross-border subsample, evidence was found that bidders from the United States and the level of human development of the bidder's country have a positive impact, even though the level of protection of the bidder's home country decreases returns.

Future research could focus on providing a more thorough rationale for the poorer performance of Spanish bidders. An extension of the analysis could be done on the impact of acquisitions for the Iberian targets and the premium paid, as that was a limitation for our study, since there is limited information about the premiums paid for acquisitions of Iberian firms and also, an inadequate number of listed Iberian targets with available information to conduct a meaningful analysis.

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ANNEXES

Annexes 1 – Correlation Matrix between Exogenous Variables

Correlation	COVID	ACC	CRISIS	CROSS	CULTD	DIR	ES	EURO	GOV	HDI	INDUST	INVPRO	LAW	PAY	SIZE	SP	STAKE	UK	US
COVID	1																		
ACC	0.072	1																	
CRISIS	-0.166	0.031	1																
CROSS	0.019	-0.283	-0.066	1															
CULTD	-0.004	0.306	0.090	-0.862	1														
DIR	0.053	0.144	-0.080	0.543	-0.367	1													
ES	0.056	-0.044	-0.111	0.822	-0.746	0.761	1												
EURO	0.034	-0.355	-0.040	0.506	-0.707	0.101	0.473	1											
GOV	-0.028	0.112	0.043	-0.348	0.553	0.146	-0.364	-0.689	1										
HDI	0.042	0.251	0.037	-0.263	0.360	-0.015	-0.130	-0.137	0.154	1									
INDUST	0.011	0.024	0.033	-0.064	0.057	-0.049	-0.051	-0.048	0.057	-0.014	1								
INVPRO	0.062	0.270	-0.031	-0.145	0.276	0.501	0.000	-0.256	0.613	0.149	0.035	1							
LAW	0.002	0.326	0.145	-0.515	0.535	-0.579	-0.569	-0.316	0.137	0.629	0.059	-0.183	1						
PAY	0.039	-0.021	-0.134	0.065	-0.043	0.014	0.041	-0.027	0.064	-0.130	0.042	0.063	-0.127	1					
SIZE	-0.018	-0.003	-0.033	0.072	-0.060	0.068	0.079	0.031	-0.021	-0.035	0.035	0.008	-0.072	-0.028	1				
SP	0.066	0.352	-0.023	0.366	-0.147	0.888	0.595	-0.049	0.264	0.346	-0.029	0.528	-0.15	-0.037	0.04	1			
STAKE	-0.051	-0.081	-0.016	0.054	-0.048	0.019	0.028	0.024	-0.009	0.004	0.012	-0.022	-0.035	-0.064	-0.01	0.005	1		
UK	0.027	0.296	0.018	-0.207	0.341	0.356	-0.193	-0.409	0.728	0.174	0.002	0.632	-0.049	0.066	-0.017	0.439	-0.022	1	
US	-0.013	0.193	0.051	-0.290	0.437	-0.314	-0.271	-0.572	0.374	0.173	0.065	0	0.498	-0.008	-0.027	-0.137	-0.031	-0.127	1

Source: own calculations.

Annexes 2 – OLS regressions of announcement period for bidders CAR [-5, 0]

	(1) All	(2) Cross-Border	(3) Domestic
C	0.077 (0.136)	0.055 (0.139)	0.026 (0.027)
CROSS	-0.011 (0.013)		
PAY	0.010* (0.006)	0.013* (0.007)	0.005 (0.010)
STAKE	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
INDUST	-0.001 (0.005)	0.008 (0.005)	-0.012 (0.010)
LOG(SIZE)	0.001 (0.001)	-0.002 (0.001)	0.004 (0.003)
GOV	-0.011 (0.032)	-0.014 (0.032)	
CRISIS	-0.002 (0.006)	0.001 (0.007)	-0.014 (0.012)
COVID	-0.004 (0.009)	-0.014 (0.011)	0.011 (0.014)
EURO	0.028* (0.015)	0.028* (0.014)	
UK	0.056** (0.025)	0.055** (0.024)	
US	0.040** (0.019)	0.038** (0.018)	
ES	-0.015 (0.026)	-0.009 (0.027)	-0.015 (0.012)
INVPRO	-0.0022** (0.011)	-0.021* (0.011)	
LAW	-0.010 (0.015)	-0.012 (0.015)	
HDI	0.142 (0.120)	0.148 (0.122)	
DIR	0.008 (0.030)	0.008 (0.030)	
CULTD	0.000 (0.000)	0.000 (0.000)	

Annexes 2 (continued)

	(1) All	(2) Cross-Border	(3) Domestic
SP	-0.009 (0.036)	-0.011 (0.036)	
ACC	0.000 (0.000)	0.000 (0.000)	
Observations	458	311	147
R-squared	0.074	0.113	0.069
Adj. R-squared	0.034	0.059	0.022
F-statistic	1.854	2.074	1.474
Prob(F-statistic)	0.016	0.007	0.181

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level, respectively. This table shows the regression estimates of the bidder's six-day cumulative abnormal return (-5, +0) surrounding the announcement, controlling for cross-border and bid characteristics, for three subsamples, all deals [regression (1)], cross-border deals [regression (2)] and domestic deals [regression (3)].

Annexes 3 – OLS regressions of announcement period for bidders CAR [0, +5]

	(1) All	(2) Cross-Border	(3) Domestic
C	-0.035 (0.147)	-0.086 (0.161)	0.095* (0.051)
CROSS	-0.019 (0.014)		
PAY	0.007 (0.010)	0.018 (0.013)	-0.012 (0.015)
STAKE	0.000 (0.000)	0.000 (0.000)	-0.001 (0.001)
INDUST	-0.014* (0.008)	-0.001 (0.007)	-0.030* (0.017)
LOG(SIZE)	0.001 (0.003)	-0.003 (0.003)	0.008 (0.006)
GOV	-0.058* (0.034)	-0.061* (0.036)	
CRISIS	-0.011 (0.010)	0.003 (0.009)	-0.056** (0.022)
COVID	-0.005 (0.008)	-0.008 (0.010)	-0.003 (0.015)

Annexes 3 (continued)

	(1) All	(2) Cross-Border	(3) Domestic
EURO	0.016 (0.015)	0.014 (0.014)	
UK	0.025 (0.037)	0.019 (0.036)	
US	0.070*** (0.023)	0.067*** (0.022)	
ES	-0.059** (0.025)	-0.049* (0.027)	-0.031** (0.015)
INVPRO	0.020* (0.011)	-0.018* (0.011)	
LAW	-0.015 (0.014)	-0.017 (0.015)	
HDI	0.350** (0.139)	0.372** (0.150)	
DIR	0.018 (0.028)	0.021 (0.031)	
CULTD	-0.001** (0.000)	-0.004** (0.000)	
SP	-0.010 (0.037)	-0.015 (0.040)	
ACC	0.000 (0.000)	0.000 (0.000)	
Observations	458	311	147
R-squared	0.057	0.101	0.115
Adj. R-squared	0.016	0.046	0.070
F-statistic	1.391	1.822	2.577
Prob(F-statistic)	0.126	0.023	0.016

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level, respectively. This table shows the regression estimates of the bidder's six-day cumulative abnormal return (0, +5) surrounding the announcement, controlling for cross-border and bid characteristics, for three subsamples, all deals [regression (1)], cross-border deals [regression (2)] and domestic deals [regression (3)].

Annexes 4 – OLS regressions of announcement period for bidders CAR [-10, +10]

	(1) All	(2) Cross-Border	(3) Domestic
C	-0.296 (0.288)	-0.368 (0.299)	0.096 (0.086)
CROSS	-0.034 (0.023)		
PAY	0.017 (0.016)	0.023 (0.018)	0.001 (0.027)
STAKE	0.000 (0.001)	0.000 (0.001)	-0.001 (0.001)
INDUST	-0.008 (0.014)	0.013 (0.011)	-0.033 (0.030)
LOG(SIZE)	0.001 (0.005)	-0.005 (0.004)	0.010 (0.010)
GOV	-0.069 (0.064)	-0.066 (0.066)	
CRISIS	-0.017 (0.015)	0.005 (0.015)	-0.084** (0.035)
COVID	-0.028* (0.015)	-0.033* (0.017)	-0.028 (0.028)
EURO	-0.005 (0.019)	-0.007 (0.019)	
UK	0.006 (0.050)	-0.007 (0.051)	
US	0.043 (0.033)	0.039 (0.032)	
ES	-0.042 (0.034)	-0.016 (0.037)	-0.040 (0.024)
INVPRO	-0.005 (0.014)	-0.002 (0.014)	
LAW	0.000 (0.028)	-0.010 (0.028)	
HDI	0.460** (0.215)	0.536** (0.239)	
DIR	0.023 (0.057)	0.019 (0.057)	
CULTD	-0.001** (0.000)	-0.001* (0.000)	

Annexes 4 (continued)

	(1) All	(2) Cross-Border	(3) Domestic
SP	-0.031 (0.070)	-0.030 (0.071)	
ACC_STAND	0.000 (0.001)	0.001 (0.001)	
Observations	458	311	147
R-squared	0.039	0.075	0.074
Adj. R-squared	-0.003	0.018	0.028
F-statistic	0.928	1.320	1.596
Prob(F-statistic)	0.548	0.174	0.141

Source: own calculations. Standard deviation is presented in parenthesis. ***, **, * denotes for 1%, 5% and 10% significance level, respectively. This table shows the regression estimates of the bidder's twenty-one days cumulative abnormal return (-10, +10) surrounding the announcement, controlling for cross-border and bid characteristics, for three subsamples, all deals [regression (1)], cross-border deals [regression (2)] and domestic deals [regression (3)].