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The Impact of the 2008 Financial Crisis on the Performance of M&As in Continental Europe.

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Dissertation Declaration

This dissertation is the result of my own work. Material from the published or unpublished work of others, which is referred to in the dissertation, is credited to the author in question in the text. The dissertation is approximately 12, 000 words in length.

EXECUTIVE SUMMARY

This paper investigates the impact of the recent financial crisis on the short-term performance of Continental European acquisitions involving two listed firms. Using a sample of 652 acquisitions that occurred between 2000 and 2020 across 25 European Countries, our results both from the univariate analysis and whilst controlling for other determinants of value in the multivariate analysis document a post-crisis significant amelioration in the value generated for the acquiring firm's shareholders in line with the neo-classical theory of mergers. In assessing the impact of deal-characteristics on the returns generated by an acquisition, this study will also aim to contribute to an ongoing academic debate regarding the nature of the impact of a deal's industrial and geographical scope. We find the former to have an insignificant impact on the value generated and the latter to be negatively correlated to it. Finally, this study aims to bridge the corporate governance literature with the M&A one by deciphering whether the pre-to-post crisis variation in acquisitions performance can be attributed to a post-crisis reinforcement of corporate mechanisms aiming to further hinder managerial discretion. Using a two-stage least square regression to account for endogeneity concerns, we observe that the evolution in corporate governance has, at least partly, driven the observed accretion in returns associated with acquisitions albeit with less impact than in the United-States due to the structural institutional differences existing between the two financial systems.

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1. INTRODUCTION

1.1. Inconclusive evidence on the impact of mergers

One of the most stylized facts in corporate financial literature is the absence of consensus of empirical researches in assessing whether merger and acquisitions (hereafter M&A)[1] create or destroy value for the acquiring firms. Indeed, whereas academics unanimously report an increase in the targeted firm's value once a takeover bid has been announced (Fuller, et al., 2002), the evidence is much more contrasted when one focuses on acquiring firms as findings range from studies concluding that such activity is value enhancing (Jarrel & Poulsen, 1989), value destroying (Moeller, et al., 2005) or even arguing that its impact is insignificant for the acquiring firm (Raad & Wu, 1994). Given the important financial stakes and the extensive analysis that they are subject to, it is quite surprising that M&As still fail to deliver optimal performance on average for acquirers. This paper shall aim to investigate how in light of recent evolutions in corporate governance practices the quality of M&As has evolved in the Europe.

As takeover activity worldwide culminated to a staggering $3.9 trillions in 2019, it appears that one can comfortably assess that takeover markets have now regained the level of activity that used to be theirs prior to the 2008 financial crisis (see Figure 1). However, the said financial crisis – the worst in recent history – resulted in a profound mutation of the *modus operandi* of most financial actors in order to prevent a future repetition of such a wavering of the global financial system. One of the domains most exposed by this global crisis was that of corporate governance where severe deficiencies highlighted the inefficiency of existing practices and hence the need for reform (Conyon, et al., 2011). Accordingly, a post-crisis evolution in corporate governance mechanisms was prompted simultaneously by a surge in shareholder activism, increased public pressure and an unprecedented regulatory overhaul, exemplified in Europe by the implementation of the EMIR[2] (Gupta & Leech, 2015). The implicit aim behind this pervasive shift in practices was to promote a shareholder centric environment in an attempt to hinder managerial excesses through a reconfiguration of corporate boards and a renewed emphasis on internal risk management (Ittner and Keusch, 2015).

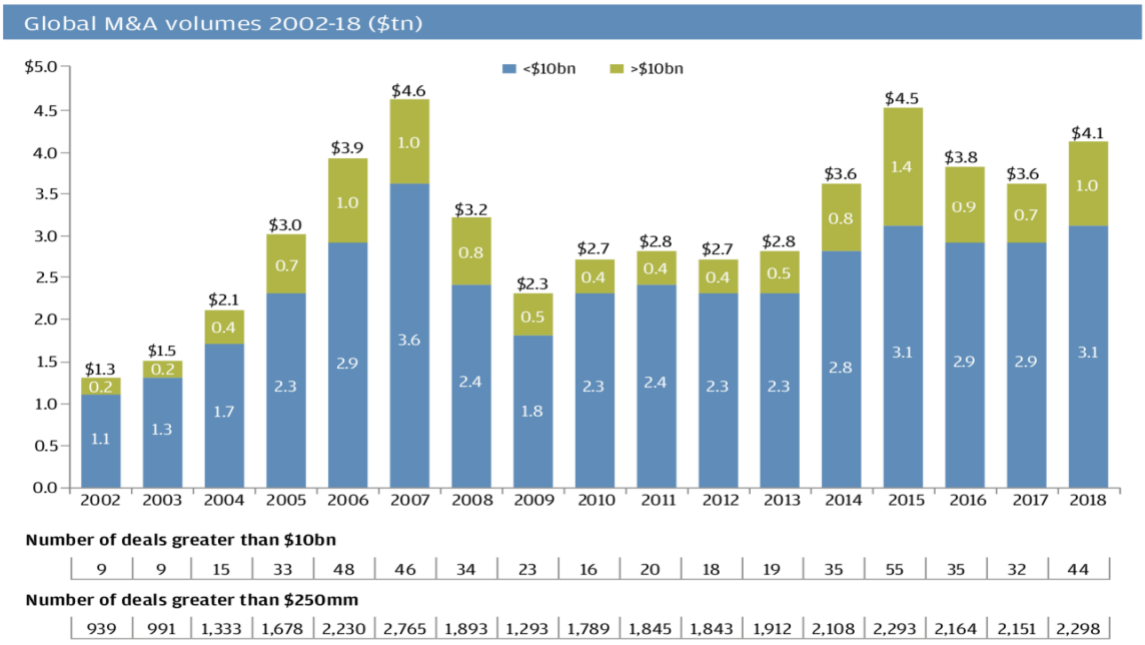
Given that scholars have put forth agency problems as an explanation of the observed failure of managers to consistently engage in strategic value-enhancing acquisitions (Masulis, et al., 2007), a growing body of research has focused on establishing the quality of corporate governance as a determinant of the wealth effects associated with an acquisition (Alexandridis *et al* 2010 ; Bebchuk & Cohen, 2005 ; Cremers & Nairs, 2005 ; Gompers, et al., 2003). One may thus ponder - especially in light of the importance of corporate boards in the decision-making process surrounding mergers (Deutsch, et al., 2007) – whether the aforementioned evolutions in terms of corporate governance could have had as significant of an impact on acquirer returns as it did, for instance, on the quality of financial auditing as reported in Dobre *et al* (2015). A first element of evidence is

[1] We shall define M&A deals as encompassing all processes which lead two distinct entities to merge into one and use the terms acquisition, merger and takeover interchangeably.
[2] European Market Infrastructure Regulation.

provided in Alexandridis *et al* (2017) that indeed documents a post-crisis amelioration in the performance of acquirers suggesting that the said improvement is driven by changes in the quality of corporate governance.

Yet, the aforementioned study's scope is limited to the US takeover market – which undeniably constitutes the bulk of M&A literature as a whole - and whose structural differences with the Continental European market in terms of concentration of ownership (Faccio & Lang, 2002) or of investor protection (La Porta, et al., 1997) are well-documented. As the institutional context conditions the degree of the impact of corporate governance mechanisms on corporate performance (Karpoff & Wittry, 2018), it would be interesting to decipher whether similar findings can be reported in respect of the under-researched Continental European takeover market.

Figure 1: Evolution of Global M&A Activity during the period 2002-2018



Source: 2019 Global M&A Outlook by J.P. Morgan (https://www.jpmorgan.com/jpmpdf/1320746694177.pdf)

1.2. Aims of this study

This paper engages in a comprehensive investigation of the impact of the 2008 financial crisis on the quality of European M&As by assessing the evolution in short-term abnormal returns to acquirer from prior to after the crisis on a sample of 652 public firms. Our aim is thus to expand on the work of Alexandridis *et al* (2017), which documents a post-crisis improvement in the quality of M&A deals on the US takeover market, by providing evidence on the relatively scarcely studied European market. This study documents a 0.75% overall increase in acquirer returns in the post-crisis period relatively to the prior one.

Furthermore, this dissertation will aim to contribute to the ongoing academic debate regarding the impact of certain identified determinants of value for the acquiring firm. In analysing the wealth effect of acquisitions for the acquirers, this study will aim to contribute to the ongoing academic debate regarding the nature of the impact on acquirer returns of both the geographical and industrial scope of a deal whilst controlling for other identified determinants of value. This paper finds the industrial scope of acquisitions to have an insignificant impact on acquirer returns whereas cross-border acquisitions are associated with negative returns even if the target is European.

Finally, this paper will seek to support the reconsideration of the relationship between corporate governance and acquirer returns. Whereas this strand of literature hitherto offered inconclusive evidence (Byrd and Hickman, 1992; Bauguess & Stegemoller, 2008), the findings reported in Dahya *et al* (2019), which explain such ambiguousness in light of methodological failures to account for endogeneity concerns, offer a new avenue. In line with Tampakoudis *et al* (2018), this study reports a positive relationship between acquirer returns and certain proxies of the quality of corporate governance that are found to drive the post-crisis amelioration in acquirer returns.

1.3. Outline of this dissertation's structure

The rest of this paper is divided between five chapters. Chapter two will offer a review of the existing literature that has explored the relationship between acquisitions and acquirer returns before presenting a series of hypotheses. Chapter three will then proceed to clarify the source of the data used in this study along with the criteria of selection chosen in constituting our sample before presenting the methodology followed throughout this inquiry. Chapter four presents the results of this study and engages in a critical discussion about their limitations. Chapter five presents its concluding remarks.

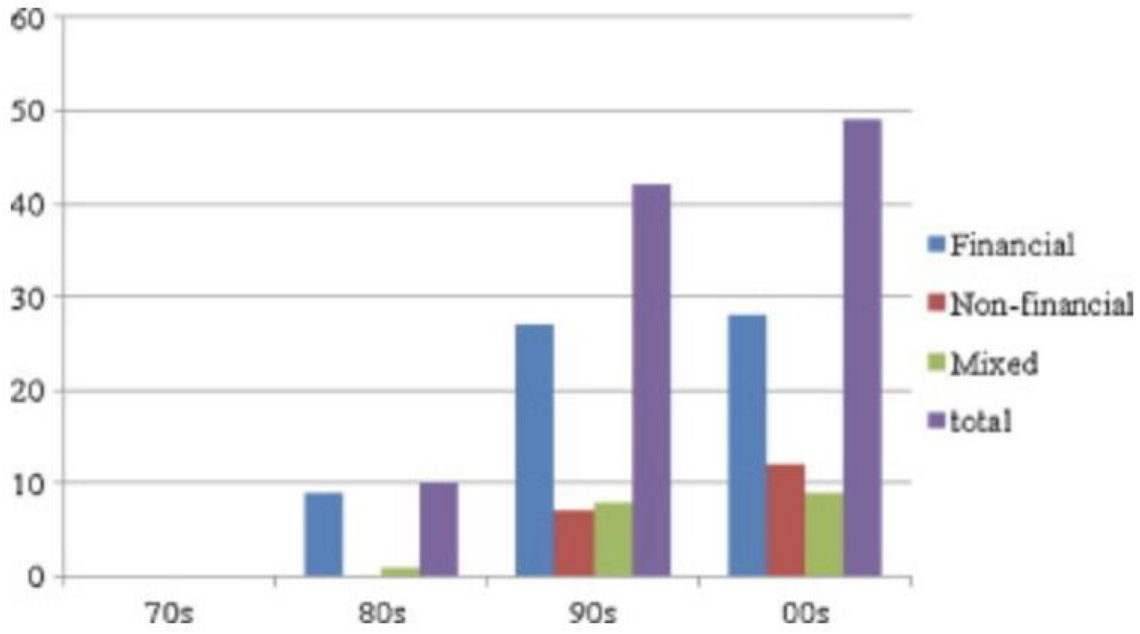
2. Literature Review

This chapter will aim to provide a comprehensive understanding of what hitherto academic contributions have established regarding the wealth effect of M&A deals for acquirers. After firstly presenting the different ways in which the literature has attempted to gauge an acquisition's impact, this section will proceed to outline the contrasted existing empirical evidence regarding the impact of acquisitions on acquirer returns which fails to endorse a leading theoretical account of the drivers behind M&A activity. Thereafter, it shall outlay various firm-specific or deal-related features that prior literature has identified as determinants of value before finally reviewing the once again mixed evidence put forth by scholars regarding the impact of the quality of corporate governance on acquirer returns.

2.1. How does one measure value?

As Meglio and Risberg (2011) point out, a fundamental distinction can be made between M&A scholars that conceive M&A performance as being of financial nature and those that oppose such a view. Although non-financial measures of M&A have become more common throughout literature since their generalisation in the 1990s - possibly because of their capacity to best capture performance in deals involving high-tech firms where the benefits are to be understood in terms of innovation (Chaudhuri & Tabrizi, 1999) - the literature is still vastly dominated by researches using financial metrics in order to measure performance as illustrated in Figure 2.

Figure 2: The repartition of the selected metric of performance in a sample of 70 academic studies.



Source: Meglio & Risberg, 2011

However, within this strand of literature that conceives M&A performance as of financial nature, as illustrated in Figure 3, further divisions exist between academics gauging the value generated by an acquisition in light of accounting metrics (Sohini & Sraboni, 2016) and those that use market measures to do so. The latter approach is the most widespread in the dedicated literature (Holler, 2014) and consists in assessing the impact of an acquisition by measuring the variations it caused in the acquirer's market valuation. In an attempt to isolate the variation induced by the said acquisition, scholars often resort to event study methodology which evaluates an event's impact on a firm by estimating the expected returns to its publicly traded shares in 'normal' conditions, that is to say in the absence of an event (Fama, et al., 1969). Thereafter, one can measure the event-induced unexpected returns, often referred to as the abnormal returns, that consist in the difference between the observed returns and the estimated normal returns. Obviously, such a methodology doesn't measure performance *per se* but rather the capital market's appreciation of the consequences of a given event on future performance. Yet, if one assumes capital market efficiency (Fama, 1970), then the investors' appreciation of an acquisition measured though the abnormal returns it generates should accurately reflect the value or lack thereof produced by the said operation (Brown & Warner, 1985).

As the existing literature has found market measures of performance to be "the most statistically reliable evidence on whether mergers create value" (Andrade *et al*, 2001, p.109), this study shall endorse such a conception of the performance of acquisitions.

Figure 3: The different means of accounting for M&A performance.

Source: Meglio & Risberg, 2011

2.2. Contrasted evidence

2.2.1. Diverging theoretical accounts of what drives mergers

Generally, offered by scholars fall into two broad categories. The first strand of literature aiming to account for the occurrence of takeovers is the so-called neoclassical welfare theory which argues that mergers are welfare-maximising activities (Ahern & Weston, 2007). According to this school of thought, acquisitions are a rational response by managers to unexpected shifts in the economical, technological, or regulatory environment of their firms that, in line with Gort's (1969) economic disturbance theory, causes a rapid and efficient reallocation of assets within the market (Harford, 2005). A comparative advantage of this theoretical account put forth by its proponents is its ability to explain the observed temporal and industrial clustering of takeover activity (Mitchell & Mulherin, 1996). In sum, according to this strand of literature, the motive behind an acquisition is to be found in the managers' rational will to exploit synergistic gains in response to a reallocation of resources following a shock and hence acquisitions are expected to generate wealth for all parties involved (Andrade, et al., 2001).

In contrast, the behavioural theory rather argues that in order to apprehend the motives behind takeover activity one must question the belief according to which managers act in their shareholders' best interest at all times (Jensen, 1986). Some scholars have indeed stressed that temporary inefficiencies in the stock market can lead rational managers - aware of the overvaluation of their firm - to pursue their own interests by acquiring less overvalued firms at the expense of their shareholders wealth (Shleifer & Vishny, 2003). Academics have put forward an array of personal incentives that could push managers to do so ranging from increasing their firm's dependency on their particular set of skills in order to strengthen their position (Shleifer & Vishny, 1989) to using M&As as a mean to diversify their own portfolio's risk (Ahimud & Lev, 1991) or even attempting to increase the firm's overall size as their considerations are often indexed upon it (Jensen, 1986). In contrast with the aforementioned neoclassical theory, this view that managers interests could motivate acquisitions would entail a negative wealth effect for the acquirer's shareholders.

An alternative theoretical account of the drivers behind an acquisition is provided in Roll's (1986) hubris hypothesis. The latter is often perceived as being diametrically opposed to the aforementioned behavioural theory as it questions the rationality of managers and assumes market to be perfectly efficient at all times in their valuation of assets. According to this strand of literature, the motive behind mergers is thus to be found in the irrational overconfident behaviour of managers which leads them to over-estimate eventual synergistic gains. These hubris-induced misconceptions lead them to display an excessive willingness to engage in takeover activity and hence an excessive involvement in low-quality deals that tend to be value-destroying for acquirers (Malmendier & Tate, 2008). Hence, the prior literature has provided various diverging theoretical accounts of M&As that have different implications on the nature of the impact of an acquisition for the acquirer.

2.2.2. Contrasted empirical evidence fails to establish a leading theory:

Hitherto empirical studies have been unable to consensually distinguish amongst the different aforementioned motives put forward. In finding that 49% of the acquiring firms experienced negative returns out of their 330 tender offers sample, Bradley, Desai and Kim could only conclude that synergy motives weren't the prominent reason behind takeovers and advanced that the behavioural theory or the hubris hypothesis might be more suitable explanations. Some authors go even further by asserting that their documentation of negative abnormal returns for the acquiring firm can only be rationalised in light of the behavioural theory and its associated agency problems (Malatesta, 1983; Moeller *et al*, 2004). Other papers corroborate in the view that the emphasis is to be put on managers' interest in order to best understand takeovers as Lewellen *et al* (1985)observe that the bidding firm's returns are positively correlated to the level of management ownership in the acquiring firm. Albeit similarly reporting a negative impact on acquirer returns, Malmendier and Tate (2008), in line with Raj and Forsyth (2003), rather attribute this negative relationship to the hubristic behaviour exhibited by managers. However, in contrast with these findings, several studies have instead documented a positive impact on acquirer returns and consequently argued that acquisitions are value-fostering strategic decisions (Asquith *et al*, 1983; Jarrell and Poulsen, 1989; Loderer and Martin, 1990). Likewise, Alexandridis *et al* (2017) reports significant positive abnormal returns for acquirers albeit exclusively since the 2008 financial crisis.

Although the evidence is much scarcer regarding Europe, possibly because M&A activity only truly emerged in the 1990s in Continental Europe, it seems to nevertheless display the same ambiguity (Craninckx & Huyghebaert, 2011). Indeed, for instance, whereas, Campa and Hernando (2004), in line with Mateev and Andonov (2016), fail to document a significant relationship between acquirer returns and acquisition announcements, other studies document a significant relationship that they find to be positive but quasi-null (Martynova and Renneboog, 2011). In a more recent paper, which studies acquisitions occurring between 2003 and 2017, Tampakoudis *et al* (2018) go even further by establishing a substantial positive relationship that contrasts greatly with the significant negative returns observed by Campa and Hernando (2006) in their sample of 244 European deals. In sum, despite the relative paucity of research on the matter in Europe, the existing literature appears as divided as the one treating of the US market and similarly fails to establish a leading theory of the drivers behind acquisitions. The contrast in findings of the M&A literature has been attributed by some authors to the disparity of the results provided by existing studies to such diversity (Park, 2004). Alternatively, as argued in Berkovitch and Narayanan (1993), one might also believe that such contrasting evidence supports the idea that the aforementioned distinctive motives are simultaneously present in all samples studied.

2.3. Determinants of value

Albeit conflicted on their overall opinion regarding whether mergers create value for acquiring shareholders, both the theoretical and empirical M&A literature concede that the merger-induced wealth effect is conditioned by certain deal-related or firm specific characteristics.

2.3.1. Firm characteristics

An example of firm-related characteristic that acts as a determinant of value according to the existing M&A literature is the target's listing status. Indeed, several studies provide evidence that the acquisition of a private target tends to yield higher returns relatively to the takeover of listed ones (Alexandridis *et al*, 2017; Chang, 1998; Fuller *et al*, 2002; Moeller *et al*, 2004). This gap in returns has been attributed to the illiquidity of private firms which imply that acquiring firms benefit from a liquidity discount vis-à-vis of the premium paid in order to acquire the target (Fuller *et al*, 2002). As demonstrated in Faccio *et al* (2006), the so-called 'listing effect' isn't a specific institutional feature of the US market but a phenomenon that can also be observed in the European context as corroborated by other subsequent studies (Craninckx and Huyghebaert, 2011).

Further, in Shleifer and Vishny (1986), we read that the detention of shares in the target firm pre-bid by the acquiring firm could provide a solution to the well-documented free-rider problem which emphasises the lack of incentive of target shareholders to sell their shares when a bid occurs as they are aware that the value of these will appreciate (Grossman and Hart, 1980; Hirshleifer and Titman, 1990). Empirical researches on the US takeover market confirmed both a negative relationship between the presence of a pre-bid toehold and the premia paid (Betton & Eckbo, 2000) and a positive correlation between toehold and the returns to acquirer (Franks, 1978). In respect of Continental Europe, as opposed to early studies on individual countries which failed to document such relationships (Dumontier and Petitt, 2002), more recent studies with broader samples provided evidence supporting the existence of a strong positive relationship between the detention of a pre-bid toehold and acquirer returns (Martynova and Renneboog, 2011; Hamza, 2011).

Moreover, the existing M&A literature has also documented the existence of a size effect that conditions the wealth effect associated with an acquisition. Indeed, as reported in Moeller *et al* (2004), small firms – as measured by their market valuation – tend to systematically fare batter in terms of acquirer returns than their larger counterparts; a relationship that the authors attribute to the greater likelihood of managers of larger firms to exhibit hubristic behaviour and hence engage in value-destroying acquisitions. In a complementary study, Alexandridis *et al* (2013) offer evidence suggesting that the aforementioned findings are partly driven by the target's size and that in order to fully capture the size effect's impact on the value generated one should consider both the acquirer's size and its relative size to the target. Likewise, the relative size of target-to-acquirer is negatively correlated with returns to acquirer as the inherent complexity of larger deals hinders the exploitation of eventual economic benefits.

2.3.2. Deal characteristics

In their work, Myers and Majluf (1984) are the first authors to offer a theoretical insight on the eventual impact of the choice of payment method in a takeover on the acquiring firm's returns. Their findings explain the underlying dynamics of the aforementioned behavioural theory as they account for the negative impact of issuing equity to finance a merger by arguing

that it conveys to investors – well aware of the information asymmetry that exists between managers and themselves – negative information about the standalone value of the bidding firm. Indeed, the argument goes that a rational manager would only choose to finance an operation in this manner if he was aware of the overvaluation of his firm's equity. The negative impact of using stock as a consideration was rapidly observed on the US market by Travlos (1987) and latter corroborated by numerous empirical studies (Huang and Walkling, 1997; Franks et al, 1991; Asquith and Mullins, 1986; Mikkelson and Partch, 1986; Andrade *et al*, 2001). Albeit European studies appeared to offer diverging results at first[3], Martynova and Renneboog (2011) argues that the high numbers of takeovers which didn't disclose the considerations offered introduced a bias in the samples that explains such results. When accounting for the said undisclosed deals, their findings support Myers and Majluf's (1984) signalling theory.

A further deal-specific attribute identified as affecting the acquirer returns is the attitude towards the bid displayed by the targeted firm's managerial team. Indeed, if the latter is opposed to the bid, that is if the takeover is hostile, then one can conceive that the bidding firm is more likely to pay a heftier premium which implies that the target firm will capture more of the value created by the merger at the acquiring firm's expense (Loughran and Vrij, 1997). Evidence to support this idea can be found in Schwert (2000) that reports a better repartition of overall benefits between target and acquirer shareholders in the case of a friendly deal and such findings are corroborated in a European context by Goergen and Renneboog (2004).

2.4. Controversial parameters

Albeit a quasi-consensus has been reached amongst scholars on the impact of the aforementioned determinants of value on acquirer returns, an academic debate still exists regarding other impactful parameters to which this study aims to contribute.

2.4.1. Geographical scope

As the fraction of deals involving foreign targets surged in the past twenty years – to the extent where it now represents 29% of the total activity – it rapidly became a prominent focal point in M&A literature (Barbaglia & Roumeliotis, 2019). On one hand, such cross-border deals could appear to be value-enhancing as it allows acquiring firms to benefit from eventual favourable exchange rate movements or from advantageous discrepancies in regulatory and tax regimes (Goergen and Renneboog, 2004; Moeller *et al*, 2005). Moreover, international deals could also offer acquiring firms an opportunity to expand their intangible assets on new markets (Harris and Ravencraft, 1991). On the other hand, such deals might be perceived as value-destroying since acquiring firms involved in cross-border deals endorse substantially higher risk due to inherent information asymmetries between different markets but also numerous fundamental differences in areas ranging from customer preferences to business culture or corporate governance mechanisms (Erel, et al., 2012).

Yet, the evidence provided by hitherto empirical studies is contrasted and fails to offer a definite assessment of the nature of a cross-border deal's impact on acquirer returns. Indeed,

[3] See Georgen and Renneboog (2004) for a presentation of the conflicting evidence offered by European studies.

whereas Martynova & Renneboog (2006) and Mateev & Andonov (2016) in their study of European acquisitions, which in line with Seth *et al* (2000) and Moeller & Schlingemann (2005) in the United-States, suggest that acquirers involved in international deals fare worse than those involved in domestic ones, several studies offer diverging findings that outline the value-enhancing aspect of such deals (Jensen-Vistrup, et al., 2018). Moreover, further ambiguousness arises in the European context as Mateev (2017) fails to document a negative relationship for a cross-border deal if both parties involved in the merger are European; findings that are to be interpreted in light of the harmonisation of financial systems in Continental Europe which should drive down the cost of conducing transactions outside of its borders (Rao-Nicholson and Salaber, 2014).

2.4.2. Industrial Relatedness

Another deal-feature whose impact on the wealth effect for acquirer shareholders is a contentious issue is the industrial relatedness or lack thereof between the targeted and acquiring firms. Indeed, there is sufficient theoretical grounding to believe that diversifying deals[4] are value enhancing as they can generate economies of scope if the acquiring firm possesses capabilities transferable across industries (Martin and Sayrak, 2003) and they result in a decrease of the volatility of the firm's earning which in turn reduces the cost of capital (Lewellen, 1971). However, the existing literature has also put forth an array of disadvantages associated with diversifying acquisitions which could potentially outweigh the aforementioned benefits. Indeed, these mergers pose great organizational challenges that by exacerbating managerial problems might negate eventual economic benefits as diversified firms tend to exhibit enhanced bureaucratic rigidity (Shin and Stultz, 1998), strong internal divisions due to bargaining problems within the firm (Rajan *et al*, 2000) and noxious rent-seeking behaviour from its branch managers (Schfarstein and Stein, 2000).

Hitherto empirical researches have failed to establish a dominant account of the impact of industrial relatedness on the wealth of the acquirer's shareholders. Indeed, whereas several studies have provided evidence supporting the conception of diversifying deals as value-destroying by reporting that *ceteris paribus* diversifying acquisitions tend to yield lower returns than mergers involving two firms from a single industry (Morck *et al*, 1990; Maquiera *et al*, 1998; Martynova and Renneboog, 2006), other empirical researches have failed to document a systematic relationship between the industrial scope of an acquisition and the acquirer returns (Fuller *et al*, 2002; Mateev, 2017). Such contrasted evidence has led Erdorf *et al* (2013) to conclude in their literature review that the effect of diversification is heterogenous and is itself conditioned by a variety of factors such as industry settings or governance structures.

2.5. Corporate Governance

Given that the aforementioned behavioural theory attributes the observed failure of acquisitions to generate value for the acquirers to the diverging interests of the said shareholders and the firm's managers, it follows that a growing body of research focuses on the impact of corporate mechanisms which align managers' interest with that of its shareholders (Denis and McConnell, 2003). However, there are numerous internal corporate governance mechanisms identified by the existing literature and the latter fails to reach a consensus on determining the most appropriate.

2.5.1. Board size

A case has been made by existing literature regarding the impact of board size on board effectiveness and hence on its ability to monitor managerial decisions. Academics have argued that smaller boards display enhanced coordination and improved communication which renders them altogether more efficient (Al-Bassam *et al*, 2005; Nerantzidis and Tsamis, 2017; Samaha *et al*, 2012). In their investigation of the relationship between board size and acquirer returns, Khorana *et al* (2007) provide evidence of a positive relationship between both variables. Despite the different institutional setting, such findings were corroborated in Tampakoudis *et al* (2018) in a European context as firms with boards of less than 8 members were shown to fare significantly better when acquiring a firm.

2.5.2. Board composition

Alternatively, a strand of literature has explored the impact of board composition on acquirer returns as a higher proportion of independent directors on a firm's board has been shown to result in enhanced corporate decision-making (Dahya and McConnel, 2007; Duchin *et al*, 2010). Early empirical studies on the matter offer ambiguous evidence. Indeed, whereas Byrd and Hyckman (1992) report a positive correlation between the proportion of independent directors and the acquiring firm's returns, Masulis *et al* (2007) fail to account for any relationship between the said factors in their research. Even more surprisingly, Bauguess and Stegemoller (2008) fuel the uncertainty by providing evidence for a positive relationship between *insider* directors and acquirer returns. However, as argued in Dahya *et al* (2019), such contrasting evidence can be accounted for by the fact that the aforementioned studies failed to alleviate the endogeneity concerns that are inherent to any studies on board composition as agreed upon by most studies on corporate performance (Hermalin and Weisbach, 1998; Gillette *et al*, 2003; Harris and Raviv, 2008; Coles *et al*, 2012; Wintoki *et al*, 2012). By resorting to a two-stage least square regression, Dahya *et al* (2019) circumvent such endogeneity concerns and find that, in the UK, an increase in outside director representation results in higher acquirer's returns if the target is public[5].

2.5.3. Anti-takeover provisions

Finally, anti-takeover provisions (hereafter ATPs) are also put forth by academics as an impactful corporate mechanism. However, the literature is divided regarding the nature of the ATPs impact as some argue that by entrenching managers – and hence by hindering the impact

[5] Albeit this might appear surprising or even undermining, it in fact is consistent with the idea that financial actors tend to act more carefully when exposure is enhanced and their reputation engaged (Golubov, 2012).

of the disciplinary market for corporate control – such provisions exacerbate agency problems (Gompers *et al*, 2003; Bebchuk *et al*, 2009), whereas alternatively other academics emphasise that managerial entrenchment may provide a solution to managerial short-termism driven by asymmetric information (Stein, 1988). Empirical researches are likewise divided in their assessment of the impact of ATPs on acquirer returns albeit such division is often attributed to varying institutional setting (Karpoff and Wittry, 2018). Indeed, a dichotomy is apparent between studies focusing on the United-States that consensually observe a negative impact of ATPs on acquirer returns (Masulis *et al*, 2007; Hartford *et al*, 2012) and studies focusing on Europe that provide evidence suggesting rather a positive relationship between the two variables (Tampakoudis *et al*, 2018; Momtaz & Drobetz, 2020).

2.6. Hypotheses to be tested

Following the call for increased academic attention on the European takeover market (Shimizu, et al., 2004), we aim to expand on Alexandridis *et al* (2017) and assess on whether the 2008 financial crisis had an impact on the quality of subsequent M&A deals in Europe. Consequently, we formulate the following hypothesis H_1:

H_1: A similar amelioration in average returns to acquirer will be observed to the one recently accounted for on the US takeover market as a result of the financial crisis.

Moreover, this study aims to contribute to the ongoing academic debate regarding the impact of an acquisition's geographical scope on its returns. Following Mateev and Andonov (2016), we formulate the following hypothesis H_2:

H_2: A negative relationship between the international scope of a deal and its associated acquirer returns is to be observed.

Further, regarding the impact of an acquisitions industrial scope, we shall follow Martynova and Renneboog (2011) in hypothesizing that H_3:

H_3: A negative relationship between the lack of industrial relatedness between target and acquirer is to be observed.

Finally, by studying specific quantifiable corporate mechanisms such as the number of ATPs or the board's size, this study will seek to demonstrate that a post-crisis change in the quality of corporate governance was what fuelled the post-crisis amelioration in acquirer returns. Therefore, we formulate the hypothesis H_4:

H_4: The post-crisis positive shift in acquirer returns is partly driven by an amelioration in the quality of corporate governance.

3. Data & Methodology

This chapter shall outline the sources and criterions of selection of the data processed thereafter before presenting the specific market measure of acquisition-induced value used throughout this study. It shall then proceed to layout the methodology carried out throughout the rest of this paper which draws upon previous inquires on the matter by Alexandridis *et al* (2017) that itself expanded on the work of Dahya *et al* (2019) in order to assess the impact of corporate governance mechanisms whilst accounting for endogeneity concerns.

3.1. Data Collection

Our original sample is retrieved from Thomson ONE's database and encompasses all M&A deals undertaken between the 1st of January 2000 and the 1st of January 2020 involving acquiring firms listed on the stock exchange of a country of the European Union or in Switzerland. The said sample was filtered down the in order to exclude repurchases, recapitalisations, self-tenders and intra-corporate restructurings. We also restricted our focus to deals that involved a change in control, hence excluding minority stake purchases and acquisitions of remaining interests. Further requirements that had be met by the M&A deal in order to be included in our sample were: i) both parties involved in the transaction were independent; ii) the deal value had to be superior to one million euros; iii) the transaction was eventually completed; iv) the targeted firm is publicly traded; v) share price data for the acquiring firm was available on DataStream for 155 days before the announcement date and 5 days after; vi) the acquirer is included in the ESG database provided by Thomson Reuters; vii) the acquirer's financial statement from the year-end prior to the announcement is available on Worldscope. Finally, in order to limit cofounding events we exclude all acquisitions whose announcement date is within 5 days of another announcement made from the same acquirer (Fuller *et al*, 2002). Our sample is constituted of the 652 acquisitions that fulfil these criteria whose abnormal returns are calculated using *Excel*.

3.2. Sample characteristics

3.2.1. Sample description

This section will provide a brief outline of our sample and of its characteristics through a series of table. In Table 1 we report the distribution of deals in terms of industries for both the pre-crisis and the post-crisis periods. Firstly, the said table highlights the substantial decrease in terms of the number of deals realized in the post-crisis period as, despite both periods being of identical length, the latter only accounts for 34% of all deals that occurred in our sample. The said decrease in the number of transactions is observed across every industry in similar proportions with the exception of the healthcare industry whose decrease was less significant. This can be attributed to a structural characteristic of the healthcare industry, and more specifically of the pharmaceutical industry, which consistently needs to resort to external investments in order to compensate for the loss in revenue engendered by the "patent cliff" (Wieczner, 2015). Unsurprisingly, our sample is dominated

by the financial industry as over 19% of the acquisitions included in our sample involved financial acquiring firms.

Table 1: Distribution of deals in terms of industries.

	2000-2009	2010-2020	2000-2020
Geographical scope			
Domestic target	169	102	271
Cross-border target	247	134	381
Cross-border target within EU	137	49	186
Method of payment			
All-stock	116	68	184
All-cash	240	129	369
Mixed	64	35	99
Industry Focus			
Industry related deals	558	285	468
Diversifying deals	120	64	184
Attitude towards the bid			
Hostile deals	5	2	7
Friendly	396	210	606
Neutral	33	6	39
Alternative deal characteristics			
Ownership of a toehold prior to the bid	103	37	140
Presence of a competing bid	21	10	31

Notes: The industry classification followed here is the one offered by Thomson One.

Moreover, Table 2 thereunder reports the repartition of deals per country in our sample. Without surprise, France and Germany account for a substantial part of the acquisitions included in our sample as almost a third of all acquiring firms are either French or German. Further, another important and potentially less anticipated hub of acquiring firms comprise the Scandinavian states which account for over 19% of all deals included in our sample. Again, it appears that the decrease in takeover activity isn't country-specific but rather an overarching trend which affected most countries within our sample.

Table 2: Distribution of deals included in our sample per country.

	2000-2009		2010-2020		TOTAL	
	N° of deals	% by country	N° of deals	% by country	N° of deals	% by country
Austria	9	2.093	3	1.351	12	1.840
Belgium	15	3.488	4	1.802	19	2.914
Bulgaria	1	0.233	0	0.000	1	0.153
Croatia	2	0.465	1	0.450	3	0.460
Cyprus	3	0.698	1	0.450	4	0.613
Denmark	16	3.721	11	4.955	27	4.141
Estonia	1	0.233	0	0.000	1	0.153
Finland	17	3.953	4	1.802	21	3.221
France	82	19.070	47	21.171	129	19.785
Germany	55	12.791	19	8.559	74	11.350
Greece	14	3.256	5	2.252	19	2.914
Hungary	0	0.000	1	0.450	1	0.153
Italy	34	7.907	12	5.405	46	7.055
Luxembourg	5	1.163	2	0.901	7	1.074
Malta	0	0.000	1	0.450	1	0.153
Netherlands	31	7.209	13	5.856	44	6.748
Poland	16	3.721	26	11.712	42	6.442
Portugal	3	0.698	1	0.450	4	0.613
Republic of Ireland	7	1.628	12	5.405	19	2.914
Romania	0	0.000	1	0.450	1	0.153
Slovenia	2	0.465	0	0.000	2	0.307
Spain	28	6.512	9	4.054	37	5.675
Sweden	56	13.023	25	11.261	81	12.423
Switzerland	33	7.674	24	10.811	57	8.742

Notes: Latvia, Lithuania and Slovakia didn't present any acquisition fulfilling the criteria of selection aforementioned.

3.2.2. Evolution of deal characteristics

The evolution of deal-related features from one period of time to another is another stylised fact in M&A literature as, for instance, Alexandridis *et al* (2012) document the increased proportion of acquisitions financed in cash and the tendency of lower premiums in the 6th merger wave compared to the 5th one. Hence, the evolution of the characteristics in our sample over the two period of times considered is displayed in Table 3 thereinunder. The most striking feature highlighted by the said table is the marginality of hostile bids in our sample as solely 11 deals are characterised as such in our entire sample. This quasi-absence

of hostile attitude displayed by the managerial teams of the targeted firms in reaction to bids is in fact a well-documented characteristic of the takeover market in Continental Europe (Hamza, 2011), that is often attributed to the concentrated ownership structures specific to Continental European firms (Faccio and Lang, 2002). In terms of the evolution of deal characteristics, it appears that both sub-period are quite similar. Indeed, albeit one could note a slight increase in the proportion of domestic deals in the post-crisis period that can certainly be attributed to a decrease appetite for the enhanced risk implied by internationals deals in the aftermath of the crisis, both periods present quasi-identical proportions of diversifying deals and of deals financed in cash.

Table 3: Evolution of deal characteristics over time.

	2000-2009	2010-2020	2000-2020
Geographical scope			
Domestic target	169	102	271
Cross-border target	247	134	381
Cross-border target within EU	137	49	186
Method of payment			
All-stock	116	68	184
All-cash	240	129	369
Mixed	64	35	99
Industry Focus			
Industry related deals	310	158	468
Diversifying deals	120	64	184
Attitude towards the bid			
Hostile deals	5	2	7
Friendly	396	210	606
Neutral	33	6	39
Alternative deal characteristics			
Ownership of a toehold prior to the bid	103	37	140
Presence of a competing bid	21	10	31
TOTAL	430	222	652

Finally, in Table 4 below, an overview of the evolution of the characteristics of acquiring over the time-periods studied is provided. One may observe that albeit deals have been less frequent in the post-crisis period, their average – and median – value has

substantially increased. This is coherent with the fact that the acquiring firms' size has likewise increased in the post-crisis period relatively to the pre-crisis one as it rose from an average market valuation of €17,666 millions to €19,590 millions. Yet, as the valuation of targeted firms seemingly stagnated, a decrease in the relative target-to-acquirer size can be observed. Interestingly, it appears that acquiring firms were less over-valued in the post-crisis period and hence offered more of a value profile rather than a growth profile. Consequently, it appears that our data documents a general trend of less frequent acquisitions that albeit of more worth are in fact relatively smaller for acquiring firms.

Table 4: Evolution of the characteristics of the acquiring firm.

	2000-2009		***2010-2020***		***TOTAL***	
	Mean	***Median***	***Mean***	***Median***	***Mean***	***Median***
Financial characteristics						
Deal Value (€ mil.)	1611,30	201.58	2,276.89	274.54	1837.93	217.28
Acquirer Market Value (€ mil.)	17,666.15	3,606.56	19,590.50	3,392.60	18,321.37	3,585.60
Target Market Value (€ mil.)	2,168.22	232.16	2,119.00	323.97	2151.46	263.36
M / B	5.312	4.537	3.408	2.158	4.67	2.06
Accounting characteristics						
Leverage	25.891	23.14	28.09	26.69	26.64	26.25
Tobin's Q	1.237	0.988	1.592	1.203	1.358	1.116

Notes: M / B designates the price-to-book ratio of the acquiring firm 21 days prior to the announcement.

3.3. Choice of the market model

3.3.1. Measure of performance

In their analysis of metrics of performance for M&As, Lubatkin and Shrieves (1986) argue that market-based models offer enhanced reliability over alternative methods as the stock prices are considered to be fully specified (which means that they include all the relevant aspects of performance instead of focusing on given aspects) and focusing on share prices allows academics to circumvent the problematic of the manipulation of accounting measures by managers (Caskey & Laux, 2017). Therefore, our main metric of performance will be abnormal returns, which, as we've seen, consists in the difference between observed returns and estimated 'normal' returns in the absence of any event. In order to estimate expected returns, we shall follow the so-called market model, that is predominant in the existing

literature[6], which uses the firm's past stock returns correlation with a reference market index (Brown and Warner, 1985). Our choice to use this model instead of the alternative constant-mean return model (where the expected returns are simply the mean of the returns of the asset) is grounded in the findings of the sensitivity analysis displayed in Campbell *et al* (2010) where the market model is found to be more accurate. Formally, the expected returns are expressed as follow:

$$E(R_{i,t}) = \alpha_i + \beta_i . r_{m,t} \tag{1.1}$$

Hence, this expected return model relies upon two inputs which are the past relationship between the firm's stock and its benchmark index (captured by the α and β parameters) and the observed returns of the reference index ($r_{m,t}$). Once these expected returns are estimated, it follows that the abnormal returns can be expressed as follow:

$$AR_{i,t} = r_{i,t} - (\alpha_i + \beta_i . r_{M,t}) \tag{1.2}$$

In order to assess the total impact of the acquisition announcement during the entire event window studied, one must aggregate the daily abnormal returns. For an event window $(t_1; t_2)$, the cumulative abnormal returns thus correspond to:

$$CAR_{i,t} = \sum_{t_1}^{t_2} AR_{i,t} \tag{1.3}$$

The averaged cumulative abnormal returns over a sample of N firms can thus be computed as follow:

$$CAAR_{i,t} = \frac{1}{N} \times \sum_{t_1}^{t_2} AR_{i,t} \tag{1.4}$$

[6] In a meta-research reviewing over 400 event studies, Holler (2014) notably reports that 79.1% of the studies reviewed use the market model.

3.3.2. Specification of the market model

In this paper, the event date will correspond to the announcement date instead of the closing date since Dodd (1980) reported that the former was the most appropriate for event studies on acquisitions. Following Martynova and Renneboog (2011), the benchmark index selected is the MSCI-Europe Index.

In the absence of clear rule put forward by the existing literature, the choice of the length of the estimation period is left at the discretion of the researchers. However, when deciding one must be aware of the underlying trade-off between enhanced statistical precision, due to a larger sample of date from which estimates are issued, and an increased risk of including structural breaks by incorporating cofounding events in the estimation (Müller, 2015). As previous inquiries find that the results aren't sensitive to variations in the estimation period's length insofar as the latter exceeds 100 days (Park, 2004), we shall select an estimation period length of 145 days that ends ten days before the announcement date (-155; -10).

Finally, the selection of an appropriate event window that best captures the impact of the takeover is an ongoing debate amongst academics. Whereas proponents of long-term abnormal studies argue that mergers are complex processes which require time to blossom to their full potential (Loughran and Vhij, 1997), academics pursuing short-term event studies are wary of the numerous methodological concerns raised by such a methodology (Barber and Lyon, 1997; Kothari and Warner, 1997; Fama, 1998; Mitchell and Stafford, 2000). Besides the implied increase noisiness in the event window, the core problem of tests of long-term abnormal performance is that in effect they happen to test jointly capital market efficiency and a model of market equilibrium (Fama, 1970). In light of such methodological concerns, this study shall assess performance on a short-term window of 5 days centred around the event date (-2; 2).

3.4. The models investigating whether the quality of takeover activity was impacted by the crisis

3.4.1. A univariate analysis

As a starting point in our analysis, we conduct a univariate analysis where the dependent variable is the CAR of the bidding firms in the event window (-2;2) on our sample. We partition the latter in two sub-samples around the year 2010[7] in order to identify an eventual evolution in measured performance for acquiring firms. In order to test the robustness of our results, we shall also display the results of similar univariate analyses for alternative event windows of respective length of 10 days (-5; 5) and 3 days (-1; 1).

3.4.2. The specification of variables to be controlled for

In order to determine whether our univariate analysis' findings are truly due to the impact of the financial crisis, we must proceed to run a regression analysis in order to control

[7] All deals that occurred in 2010 are included in the second sub-sample that hence encompasses all acquisitions undertaken between the 1st of January 2010 and the 1st of January 2020.

for other explanatory variables. In doing so, we follow the model presented in Alexandridis *et al* (2017) which is:

$$\begin{aligned} CAR_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.PUBLIC_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.SERIAL_{i,t} + \beta_{12}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} \\ + \sum_{i=14}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (2)$$

In this formula, the dependent variable $CAR_{i,t}$ corresponds to the cumulative abnormal returns for a firm i during an interval t. A description of the explanatory variables is given in Table 5 thereinunder. We shall slightly amend this list of explanatory variables to be included in our OLS regression. Firstly, as our study is limited to listed targets, we shall exclude the $PUBLIC$ variable from our analysis. Further, because of the paucity of hostile acquisitions in this study's sample, we also exclude the $HOSTILE$ variable from our regression. However, following both Martynova and Renneboog (2011) and Hamza (2011) that demonstrate its significance as a determinant of value in a European context, we choose to integrate an additional explanatory variable to our regression which is $THOLD$. The latter is an indicator which takes the value of 1 if the acquiring firm detains a significant level of shares in the acquired firm pre-announcement and 0 otherwise. Our regression analysis is thus expressed as follow:

$$\begin{aligned} CAR_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{12}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (3a)$$

In the Model 2 of our OLS regression, we limit our focus to acquisitions occurring within the European Union in order to assess the wealth effect of cross-border acquisitions occurring with Europe that are controlled for through the CBORDER-EU variable in the following equation:

$$\begin{aligned} CAR_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER\_EU_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{12}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (3b)$$

Table 5: Specification of the explanatory variables.

VARIABLES	***Description***	***Source***	***Existing literature providing evidence of this variable's impact***
PERIOD	Indicator that takes the value of 1 if the deal occurred between 2010 and 2020 and 0 otherwise.	DataStream	Alexandridis *et al* (2017)
PUBLIC	Indicator that takes the value of 1 if the target is listed and 0 otherwise.	DataStream – Code; WC00000	Faccio *et al* (2006)
ALLSTOCK	Indicator that takes the value of 1 if the operation is financed entirely through stock and 0 otherwise.	Thomson ONE	Travlos (1987)
SIZE	Acquiring's firm market valuation 7 days prior to the announcement date	DataStream – code: MV	Moeller *et al* (2004)
RELSIZE	Acquiring firm's relative size to its target 7 days prior to the announcement date	Own calculations	Alexandridis *et al* (2013)
M/B	Acquiring firm's price-to-book ratio 7days prior to the announcement date.	DataStream - code: PTBV	Faccio and Masulis (2005)
HOSTILE	Indicator that takes the value of 1 if the takeover is characterised as hostile and 0 otherwise	Thomson ONE	Schwert (2000)
DIVERS	Indicator that takes the value of 1 if the acquiring firm's two first number of its SIC code is different from those of its target and 0 otherwise	Worldscope – code: WC07021	Martynova and Renneboog (2011)
CBORDER	Indicator that takes the value of 1 if the target is foreign and 0 otherwise	Thomson One	Moeller and Schlingemann, (2005)
SERIAL	Indicator that takes the value of 1 if an acquirer realizes more than 5 acquisitions within the span of 4 years and 0 otherwise	Thomson One	Billet and Qian (2008)
LVRGE	Ratio of total debt to total assets of the firm at the year-end prior to acquisition.	Worldscope – code: WC08236	Maloney et al (1993)
FCF	Acquiring firm's level of free cash-flows per share at the year-end prior to acquisition.	Worldscope – code: WC0557	Lang et al (1991)
INDFE	Indicator variable that accounts for fixed industry effects.	DataStream	Short et al (2009)
COMPET	Indicator that takes the value of 1 if the acquirer's bid is challenged by a third party and 0 otherwise.	Thomson ONE	Bradley et al (1988)

3.4.3. Assessing the impact of corporate governance

In order to examine whether our findings can be explained by the latent evolution in corporate governance practices observed since the 2008 financial crisis, we must incorporate a variable accounting for corporate governance in our OLS regression like the acquiring firm's board size ($BSIZE$) which can be retrieved on DataStream using the code CGBSDP0060. The latter is a binary indicator that takes the value of one if the acquirer's board size at the year-end prior to the announcement is greater than 7 and 0 otherwise. However, in order to avoid endogeneity concerns inherent to the study of the relationship between corporate mechanisms and corporate activity (Coles *et al*, 2012), we shall resort to the two-stage instrumental variable approach put forth in Dahya *et al* (2019). Therefore, a first regression analysis is run which controls for the same explanatory variables that the one in equation X but where the dependent variable is instead $BSIZE$ and that can thus be expressed as follow:

$$\begin{aligned} BSIZE_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} \\ + \beta_4.SIZE_{i,t} + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (4a)$$

Thereafter, in the second stage of this regression where the dependent variable is once again the acquiring firm's CAR, we omit the $PERIOD$ variable and incorporate the predicted value of the $BSIZE$ variable in the first-stage regression as an explanatory variable. Doing so implies that the omitted variable $PERIOD$ can only impact the acquirer's returns through the estimated $BSIZE$ variable, enabling one to assess whether the latter's variation over time can partly explain the former's impact on the dependent variable or not.

$$\begin{aligned} CAR_{i,t} = \gamma + \beta_1.\widehat{BSIZE} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (4b)$$

Given the existing literature's failure to establish a single corporate mechanism as best capturing a firm's ability to mitigate its internal agency problems, this two-stage least square regression will be repeated for several variables accounting for various corporate mechanisms. Hence, following Dahya *et al* (2019), this study shall repeat the same process for another variable serving as a proxy for the quality of corporate governance retrievable on Thomson

One's ASSET 4 database. As Bhagat *et al* (2008) find the stock ownership of independent directors ($SOID$) to have more explanatory force than a mere account of the proportion of independent directors on a firm's board in determining the quality of its corporate governance, the process is repeated for the $SOID$ variable:

$$\begin{aligned} SOID_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (5a)$$

$$\begin{aligned} CAR_{i,t} = \gamma + \beta_1.\widehat{SOID}_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{12}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (5b)$$

The final measure of corporate governance incorporated in our study corresponds to the acquiring firm's number of identified anti-takeover devices. In order to facilitate comparison, our ATP variable will consist of the calculated percentile rank score of ATPs in excess of two used by the acquiring firm. Following Tampakoudis *et al* (2018), the said score is calculated as follow:

$$Score_i = \frac{N_w + \frac{Ns}{2}}{N} \quad (6)$$

Where $N_w$is the number of firms faring worse than the firm i, N is the total number of firms and Ns is the number of firms with the same value. Once this score is calculated using the data retrieved on the database ASSET 4 (code - CGSRO6S), the same process is undertaken for the ATP variable as formally expressed in the equations thereunder:

$$\begin{aligned} ATP_{i,t} = \gamma + \beta_1.PERIOD_{i,t} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} \\ + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} \\ + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} \\ + \beta_{11}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \end{aligned} \quad (7a)$$

$$CAR_{i,t} = \gamma + \beta_1.\widehat{ATP} + \beta_2.THOLD_{i,t} + \beta_3.ALLSTOCK_{i,t} + \beta_4.SIZE_{i,t} + \beta_5.RELSIZE_{i,t} + \beta_6.M/B_{i,t} + \beta_7.COMPET_{i,t} + \beta_8.HOSTILE_{i,t} + \beta_9.DIVERS_{i,t} + \beta_{10}.CBORDER_{i,t} + \beta_{11}.LVRGE_{i,t} + \beta_{13}.FCF_{i,t} + \sum_{i=13}^{25} \beta_i.INDFE + \epsilon_{i,t} \quad (7b)$$

3.5. Testing for significance

3.5.1. Parametric test

This study has resorted to the use of daily returns in order to best assess the impact of an acquisition announcement on the acquirer's firm value. Yet, such data tends to exhibit strong event-date clustering which poses two statistical challenges: the data might display cross-sectional correlation between abnormal returns, if an event impacts different firms on a same day, or a problematic level of event-induced variance (Müller, 2015). It follows that as these issues introduce a bias that downplays standard deviation, they mechanically exaggerate the classic t-statistic which consequently leads to an over-rejection of the null hypothesis and hence broad over-statement of insignificance (Kolari and Pynnonen, 2010). Thus, instead of using the classic t-tests to assess the significance of our results, we shall rather resort to the Patell Z test developed in Patell (1976) where all abnormal returns are standardised with its estimated standard deviation that can be expressed as follows:

$$T_{Patell} = \frac{1}{\sqrt{N}} \sum_{i=1}^{N} \frac{SCAR_{i,t}}{S(SCAR_i)} \quad (8a)$$

In the formula above, the variable $SCAR_{i,t}$ designates the standardized cumulative abnormal return of the firm i over the event window t whereas the variable $S(SCAR_i)$ corresponds to the associated standard deviation of the standardised CAR for a given firm i.

3.5.1. Non-parametric test

However, as daily returns tend to exhibit large kurtosis, their distribution seem to follow more of a fat-tail curve than a normal one (Fama, 1976). Consequently, it appears that a non-parametric test might be more appropriate in order to assess the significance of our results. Hence, we shall resort to a non-parametric significance test that accounts for the aforementioned statistical issues which is the so-called rank test as in Corrado (1989) which can be expressed as follows:

$$T_{Coraddo} = \sqrt{L_2}\left(\frac{\overline{K}_{T_1,T_2} - \frac{1}{2}}{S_{\overline{K}}}\right) \quad (8b)$$

Where $\overline{K}_{T_1,T_2}$ is the mean rank across firms and time in the given event-window length whose length is encompassed by L_2 and where $S_{\overline{K}}$ is the standard deviation defined as:

$$S_{\overline{K}} = \sqrt{\frac{1}{L_1 + L_2}\sum_{t=T_0}^{T_2}\frac{N_T}{N}\left(\overline{K} - \frac{1}{2}\right)} \quad (8c)$$

In the formula given above, L_1 corresponds to the chosen estimation window length which starts at T_0. T_2 corresponds to the last day of the event window and N_T to the number of matched returns across firms.

In an attempt to best evaluate the significance of our results we shall follow the recommendations formulated in Campbell *et al* (2010) and use both tests described above. The next section will now present our results and offer a critical discussion of them.

4. Results and Findings

4.1. Results of our analyses

4.1.1. An evolution in acquirer returns

The primary aim of the univariate analysis conducted on our sample of 652 acquisitions that occurred between 2000 and 2020 is to assess whether a post-crisis increase in acquirer returns can be observed. Our results are displayed in Table 6 and are partitioned in terms of deal-specific characteristics.

Table 6: Results of the univariate analysis.

	(-1; 1)			***(-2; 2)***			***(-5; 5)***			***N***
	CAAR (%)	*Patell test*	*RANK test*	CAAR (%)	*Patell test*	*RANK test*	CAAR (%)	*Patell test*	*RANK test*	
Time Period										
2000-2009 (1)	0.552	2.18***	4.13***	0.48	2.07***	3.71***	0.322	1.92***	2.96***	430
2010-2020 (2)	1.26	4.22***	5.12***	1.23	4.13***	4.42***	0.839	3.97**	4.04***	222
Diff. (2) - (1)	0.708	3.10***	3.86***	0.75	2.99***	3.56***	0.517	2.31***	3.04***	
Geographical scope										
Domestic (1)	1.01	3.58***	3.65***	0.81	3.08***	3.37***	0.630	2.86***	2.91***	271
Cross-border (2)	0.656	2.61***	4.89***	0.569	2.74***	4.91***	0.404	3.01***	3.73***	381
Cross-border within EU (3)	0.612	4.02***	5.01***	0.501	3.69***	4.26***	0.317	3.28***	3.60***	186
Diff (2) - (1)	-0.354	-2.21***	-4.48***	-0.242	-1.99***	-5.31***	-0.226	-1.72**	-3.97***	
Diff (3) - (1)	0.398	-3.16***	-5.14***	0.309	-2.76***	-4.57***	-0.313	-2.22**	-2.69**	
Industry Scope										
Related (1)	0.853	1.73**	2.63**	0.68	1.25**	2.47**	0.519	1.33**	2.05**	468
Unrelated (2)	0.676	3.21**	2.79**	0.50	2.01**	2.58**	0.445	1.89**	2.36**	184
Diff (2) - (1)	-0.177	-2.76**	-3.21**	-0.18	-2.59**	-2.88**	-0.074	-1.95*	-2.47**	
Competing bid										
Challenged bid (1)	-0.273	-1.58*	-1.75*	-0.11	-1.37*	-1.04	0.04	0.35	0.62	31
Unchallenged bid (2)	0.854	4.47***	4.28***	0.66	3.93***	2.72**	0.520	2.41***	2.37**	621
Diff (2) - (1)	1.127	3.58**	3.01**	0.77	2.91**	1.28	0.48	1.13	0.86	
Method of payment										
All cash (1)	1.78	2.60***	5.64***	1.32	2.82***	4.32***	0.987	2.26***	3.94***	184
All stock (2)	-0.805	-3.62***	-5.02***	-0.31	-3.80***	-4.44***	-0.11	-2.98***	-4.01***	369
Mixed (3)	0.911	2.39***	2.83***	0.81	2.56***	2.61***	0.581	1.79**	2.29***	99
Diff (2) - (1)	-2.585	-4.17***	-6.02***	-1.63	-3.77***	-5.58***	-1.097	-3.20***	-4.32***	

Notes: The *,**,*** signs here represent the significance level of the results respectively at the 1%,5% and 10% level.

Our primary concern lies in the difference between the CAAR of all deals that occurred before 2010 and the CAAR of all those announced afterwards. In line with Alexandridis *et al* (2017), we find that difference to be positive in the even window (-2; 2) as it amounts to 0.75%. Moreover, this positive difference is found to be statistically significant at the 1% level according to both the parametric and non-parametric tests. In other words, our univariate analysis provides evidence of an overall improvement in acquirer returns in the post-crisis period. Importantly, our results are robust to the choice of alternative event windows as Table 6 suggest an amelioration of CAR in all short-term event windows considered. Hence, we are now in measure to confirm our hypothesis H_1 thereinunder re-stated:

H_1: A similar amelioration in average returns to acquirer will be observed to the one recently accounted for on the US takeover market as a result of the financial crisis.

In another area of particular interest to this study, namely the impact of the geographical scope of acquisitions on the value they generate, Table 6 suggests that acquisitions involving foreign targets tend to fare worse than mergers involving domestic ones and hence offers findings coherent with those reported in Mateev and Andonov (2016). Indeed, domestic acquisitions are found to offer averaged cumulative abnormal returns that are 0.242% higher than cross-border ones. Moreover, even cross-border firms occurring within the highly integrated European financial markets appear to be less value-enhancing than domestic deals. Therefore, albeit a definite assessment will only be possible once having controlled for other determinants of values, such findings appear to suggest that our hypothesis H_2 re-stated thereinunder cannot be rejected:

H_2: A negative relationship between the international scope of a deal and its associated acquirer returns is to be observed.

Further, in respect of the industrial scope of acquisitions, the findings reported in Table 6 suggest that deals categorised as diversifying, tend to offer lower returns in comparison with industrially related acquisitions. Indeed, the difference in acquirer returns between intra-industry acquisitions and cross-industry ones is significant and robust throughout the different event-windows considered. As such, our findings appear to cohere with the evidence provided in Martynova and Renneboog (2011) in documenting a tendency for diversifying deals to generate less value for acquiring shareholders. Therefore, it seems that our findings should endorse our previously formulated hypothesis H_3.

Finally, it is worth noting that the results of the univariate analyses reported in Table 6 corroborate the existing literature on the impact of various other deal characteristics. Indeed, by documenting for instance a negative impact on the value generated for deals paid for in equity, our findings corroborate with those of Travlos (1987). Likewise, by highlighting the relatively lower returns associated with acquisitions that were either challenged or undertaken by serial acquirers, the evidence displayed in Table 6 echoes the findings reported respectively in Bradley *et al* (1988) and Billet & Qian (2008).

4.1.2. Diagnostic test

In order to assess whether the findings reported in the previous section truly demonstrate a post-financial crisis amelioration in the quality of M&A deals, we ran an OLS regression (Equation 3a) following the model presented in Alexandridis *et al* (2017). Yet, to interpret our regression results, we must first ensure that our OLS regression model is valid. Indeed, all OLS models implicitly assume homoscedasticity in the disturbance terms and the violation of such an assumption results in a downward bias in the computation of standard errors. Hence, should our OLS estimator fail to present homoscedasticity in disturbance terms, albeit still unbiased, it wouldn't be efficient anymore and consequently wouldn't be the best linear unbiased estimator for our variables' coefficients. There are two common tests for heteroskedasticity that can be performed: the Breusch-Pagan test and the White test. Whereas the former is more adapted to test where the structure of the heteroskedasticity is known, the latter is more adapted to more general structures (Murray, 2006). In our case, we shall thus resort to the White test whose null hypothesis (H_0) is that there are homoscedastic residuals. The results of our White test, calculated on *Strata*, are displayed in Table 7 below[8]. In light of these, we fail to reject the null hypothesis as our p-values are all inferior to 0.05 and can pursue our inquiry.

Table 7: White Test Results.

Equation	N	White test	
		Test Statistic	P-Value
3a	652	19.687	0.001
3b	457	18.421	0.002
4a	652	24.256	0.000
4b	652	25.891	0.000
5a	652	31.030	0.009
5b	652	22.625	0.101
7a	652	27.054	0.000
7b	652	21.712	0.208

[8] The results of the said test for all other regressions undertaken in this study are also reported in Table 8.

4.1.3. Regression results

The results of our OLS multiple regression for our event window (-2; 2) with CAR as a dependent variable are to be found in the Table 8 thereafter. The latter reports that the findings of our univariate analysis are robust, despite controlling for other known acquirer return determinant, since the indicator $PERIOD$ is positive and found to be statistically significant at the 1% level both by parametric and non-parametric significance tests. Such a result comforts us in our failure to reject the hypothesis H_1 and confirms that our result offer supporting evidence to the neo-classical theory of mergers which perceives the latter as value-fostering strategic corporate decisions driven by exogenous shocks (Ahern and Weston, 2007).

Table 8: Results of the multivariate regressions.

	Model 1	**Model 2**
	Coefficients	**Coefficients**
Intercept	-0.368***	-0.402***
PERIOD	0.828***	0.821***
THOLD	0.299***	0.306***
ALLSTOCK	-1.113***	-1.12***
ASIZE	-0.126***	-0.126***
RELSIZE	-0.350***	-0.351***
M/B	0.01	0.01
COMPET	-0.220	-0.212
SERIAL	-0.073	-0.062
DIVERS	0.005	0.005
CBORDER	- 0.107*	-
CBORDER-EU	-	-0.188*
LEVERAGE	0.253***	0.261**
FCF	0.129**	0.111*
INDFE	Yes	Yes
Adj. R2 (%)	10.237	10.155
N	652	457

Notes: The *, **, *** signs here represent the significance level of the results respectively at the 1%,5% and 10% level. The parametric and non-parametric test offered identical results.

Moreover, the multivariate analysis also confirmed the results of the univariate analysis with respect to the geographical scope of acquisitions. Indeed, in both models the impact of cross-border acquisitions is found to be negative and significant according to both significance tests used. Consequently, the findings documented in Table 8 also support our failure to reject our hypothesis H_2.

However, in respect of the industrial scope of the acquisition, the results of the OLS regression fail to document a significant impact of the industrial relatedness on the abnormal

returns associated with merger announcements regardless of the model chosen. Consequently, it appears that once we control for alternative acquirer returns determinants, the negative effect of diversifying deals on acquirer returns suggested by the univariate analysis isn't systematic. Therefore, the hypothesis H_3 re-stated thereunder must be rejected:

H_3: A negative relationship between the lack of industrial relatedness between target and acquirer is to be observed.

Hence, the findings reported in Table 8 contrast with those reported in Martynova and Renneboog (2011) and Moeller *et al* (2004) which document a significant negative impact of diversifying deals on the wealth effect of an acquisition for the acquiring firm's shareholders respectively in Europe and the United-States. Instead, by contributing to a growing body of research that fails to document the supposed systematic negative relationship existing between diversifying deals and acquirer returns (Fuller *et al*, 2002; Mateev, 2017), this study provides evidence towards the argument put forth in Erdorf *et al* (2013) that diversifying deals have an inherently heterogenous impact on acquirer returns that is itself conditioned by a variety of industrial and economic factors.

4.1.4. Results of our two-least square regression

Albeit our multivariate regression documents a robust impact of the financial crisis on acquirer returns, it doesn't determine the cause of the latter. In an attempt to explain, at least partly, the observed changed this study ran various two-stage least square regressions following the model presented in Dahya *et al* (2019). The results of our regressions are displayed in Table 9 thereunder. The nature of the coefficient of the $PERIOD$ variable in the first-stage regressions of the models reflects the nature of the post-crisis evolution in the corporate mechanisms studied. Consequently, a net increase in the stock ownership of independent directors and in the number of ATPs can be observed in the 2010-2020 period relatively to the previous one. Inversely, the negative coefficient of the $PERIOD$ variable in the first-stage regression of Model 2 indicates a relative decrease in the acquiring firm's average board size. As a post-crisis increase in corporate mechanisms identified by prior literature as positively correlated to the quality of a firm's corporate governance (Models 1 & 3) can be observed, and as a decrease is apparent in the corporate mechanism inversely related to the latter (Model 2), it appears that the findings displayed in Table 9 corroborate the idea of a surge in the quality of corporate governance subsequently to the financial crisis in line with Dobre *et al* (2015).

Table 9: Two-stage least square regressions.

	Model 1		Model 2		Model 3	
	1st stage regression (SOID)	**2nd stage regression** (CAAR)	**1st stage regression** (BSIZE)	**2nd stage regression** (CAAR)	**1st stage regression (ATPS)**	**2nd stage regression** (CAAR)
Intercept	-2.21***	0.476**	3.564**	0.401***	3.215***	0.552***
PERIOD	0.187*		-0.288***		0.206***	
SOID		0.128**				
BSIZE				0.562***		
ATPS						0.683***
THOLD	0.071	0.315***	-0.052	0.204***	0.181	0.401**
ALLSTOCK	-0.049	-0.957***	0.141	-0.948***	0.162*	-0.875***
ASIZE	-0.216***	-0.177***	0.739***	-0.193***	-0.114***	-0.197**
RELSIZE	-0.105	-0.369	0.002	-0.401**	0.044	-0.234*
M/B	0.104*	0.094*	-0.189*	0.071	0.028	-0.010
COMPET	0.008	-0.002	-0.001	-0.026	0.03	0.048
HOSTILE	0.032	-0.083	0.086	-0.105	-0.143	-0.098
DIVERS	-0.053	0.005	0.057	-0.033	0.068	-0.02
CBORDER	0.201	-0.182*	-0.029	-0.210	0.15*	-0.306*
LEVERAGE	0.329***	0.261***	-0.201***	0.247***	0.139**	0.432***
FCF	-0.163*	0.203*	0.092	0.328***	-0.023	0.108***
INDFE	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R2 (%)	3.428	10.129	5.631	10.536	3.222	11.038

In the second-stage regressions, the $PERIOD$ variable is purposefully omitted and the variables proxying for the quality of corporate governance are reincorporated as explanatory variables whose value corresponds to their respective estimated value from the first-stage regressions. The nature of the coefficients of these estimated variables in their respective models will indicate the nature of their respective post-crisis variations' impact on acquirer returns. Therefore, the coefficient associated with the $SOID$ variable in the second-stage regressions of Model 1 suggests that the post-crisis accretion in acquirer returns previously observed is partly driven by the post-crisis increase in the acquiring firms' level of stock ownership for independent directors. By documenting a positive relationship between the degree of stock ownership by independent directors with the wealth effect of an acquisition on the acquiring firm's shareholders, these findings cohere with those reported in Dahya *et al* (2019).

Moreover, the negative variation in board size previously observed appears to positively and significantly impact acquirer returns as highlighted by the coefficient of the BSIZE variable in the second-stage regression of Model 2. In observing an inverse relationship between an acquiring firm's board size and its returns associated to the acquisition, this study corroborates the work of Khorana *et al* (2007) and Tampakoudis *et al* (2018).

Finally, the positive pre-to-post crisis variation in the number of ATPs for acquiring firm observed in the first stage regression of Model 4 also appears to be linked with the amelioration

of acquirer returns as in the second-stage regression of the said model the variable exhibits a positive coefficient of 0.683 significant at the 1% level. By documenting a positive relationship between acquirer returns and the number of ATPs our findings contrast with the evidence provided in Masulis *et al* (2007) and Hartford *et al* (2012) which supports the rhetoric that by entrenching managers anti-takeover provisions oppose the positive disciplinary effect of the market for corporate control. Instead, our results provide evidence supporting a growing body of research challenging conventional wisdom on ATPs which argues that in a certain context the myopia-eliminating effect of entrenching managers can outweigh eventual agency-increasing effects (Stein, 1988). This study hence corroborates the evidence provided in Momtaz and Drobetz (2020) which similarly finds the number of ATPs to be a positive determinant of value generated by acquisitions in a European context albeit their focus is restricted to Germany. One may attribute this divergence in the impact of ATPs on acquirer returns by the European institutional setting – and *a fortiori* the German one - where concentrated ownership in the hands of fewer stakeholders has historically ensured strong internal corporate monitoring of managerial decisions and mechanically resulted in a relatively lower reliance compared to the American market on external corporate mechanisms such as the market for corporate control to mitigate agency problems (Acharya *et al*, 2011).

In sum, the results of the instrumental variable regression conducted in this study indicated that a pre-to-post crisis variation in the presence of corporate mechanisms can be observed and that the post-crisis amelioration in acquirer returns can be partly attributed to such variations. As the said corporate mechanisms serve as proxies for the quality of corporate governance as a whole, the thereinunder re-stated hypothesis H_4 can thus be confirmed:

H_4: The post-crisis positive shift in acquirer returns is partly driven by an amelioration in the quality of corporate governance.

4.2. Comparison with the findings in the US takeover market

The findings of this study can be compared with those reported in Alexandridis *et al* (2017) which similarly aims to decipher the nature of the post-crisis variation in M&A performance albeit in the United-Sates. Whereas both studies document similar improvements in acquirer returns in the post-financial crisis period, it appears that this effect was most strongly felt in the United-States. Indeed, whereas the univariate analysis conducted in this paper reports an 0.71 % increase in the CAAR of Continental European firms for an event window of 3 days, Alexandridis *et al* (2017) document an increase in performance of 2.13% on the US takeover market. Albeit this difference might appear surprising at first, it can be attributed to the diverging institutional settings that characterise these two markets as both post-crisis accretion in acquirer returns are found to be driven by a pre-to-post crisis enhancement in the quality of corporate governance.

Indeed, the contrast between the prominence of concentrated ownership structures in Continental Europe and the widely held equity structures found in the United-Kingdom or the United-States is a well-documented trait (Faccio and Lang, 2002). In other words, one must distinguish the stakeholder-oriented system that exists in Europe from the shareholder-oriented financial system existing in the United-States (Allen & Gale, 2001). The latter implies a certain reliance on market-driven governance as managerial inefficiencies are controlled via the risk of a takeover threat (Giroud and Mueller, 2011), whereas the former puts greater emphasis on

internal governance mechanisms (Rapp and Strenger, 2015). As explained in the model presented in Acharya *et al* (2011), in a system of concentrated ownership managerial self-motivated decisions are mitigated by the reaction of powerful stakeholders that can threaten to withdraw their contributions at any time and that are incentivised to exert effective control in light of their interests (Stiglitz, 1985; Tirole, 2001). Thus, as the financial crisis prompted a global call for a reinforcement of internal oversight procedures (Keizer and McCarthy, 2009), it mustn't be surprising that its impact was greater in the United-States than in Europe where internal governance mechanisms are inherently favoured.

4.3. Limitations of our work

This section will outline the limitations inherent to this study's methodology in attempting to quantify both the value generated by acquisitions and the extent to which the latter was impacted by variations in the quality of corporate governance.

4.3.1. Limitations to the event study methodology

The task of quantifying the impact on value of acquisitions is a complex one and albeit the event study methodology used in this study presents some advantages in doing so it also faces a number of limitations. Firstly, one of the most salient limitation of resorting to abnormal returns as a metric of performance is that such a method fails in many regards to capture the full value of the operation. Indeed, takeovers are extremely long processes that often take between three and six months to materialise. Ideally, in order to capture the full impact on value, the event window should thus extend from well before the announcement date until the closure of the deal as recognized by Bradley *et al* (1988). However, lengthening the event window in such a way increases exponentially the occurrence of confounding events which, combined with random price variations, will render the isolation of the acquisition's impact on value virtually impossible. As aforementioned, the long-term abnormal returns models, that precisely seek to overcome this shortcoming, are plagued with methodological issues (Andrade *et al*, 2001). Such an inability to grasp the full value of an acquisition is exacerbated by the so-called truncation dilemma identified in Bhagat *et al* (2005). Indeed, short-term abnormal returns studies have an *ex post* perspective of announcements which assume that investors, when reacting to the latter, offer an assessment of the realised merger. Yet, such an assumption fails to incorporate the probability of failure associated with bid announcements which introduces a downward bias in the market's reaction to the announcement. Therefore, in light of the short-term event-study methodology's tendency to truncate the value generated by an operation, future studies could benefit from combining the latter to the alternative method established in Bhagat *et al* (2005) which aims to account for this downward bias.

Furthermore, besides its inability to fully apprehend the value of an acquisition, the short-term event study methodology used in this study faces another limitation. Indeed, several authors have highlighted that empirical researches using abnormal returns as a metric of performance fail to provide a pure measure of the value generated by acquisitions since bid announcements also reveal information about the standalone value of the bidding firm (Jensen and Ruback, 1983). In fact, akin to the signalling effect of using equity as a consideration in an acquisition identified in Myers and Majluf (1984), a range of revealing information can be conveyed through a bid announcement ranging from the bidding firm's lack of internal

investment opportunities to its eventual abundance of cash-flows. This problem is exacerbated by the purposeful coordination of bid announcements with the mandatory release of financial information exerted by some firms in order to mitigate the impact on the firm's value of the latter (Wall Street Journal, 1998). As in the case of the means of payment, certain firm-related or deal-specific characteristics are more likely to be associated with signalling effects (Travlos, 1987). Consequently, future research should aim to include a more comprehensive set of control variables in order to best assess the impact on value of acquisitions and to offer additional insight in the mechanisms influencing M&A performance.

4.3.2. Limitations of the two-stage least square regression

Additional caveats are present in this study notably in its aim to decipher whether a correlation can be established between the pre-to-post crisis variation in the quality of corporate mechanisms and the post-crisis accretion in acquirer returns. As mentioned previously, the absence of consensus regarding the most appropriate manner to quantify the quality of corporate governance is a stylised trait of the existing financial literature (Bhagat *et al*, 2008). Hence, the selection of the corporate mechanisms serving as proxies in this study was necessarily to an extent arbitrary and in order to ensure the robustness of the findings further research should seek to assess whether similar results can be obtained with different quantifiable measures of corporate governance.

Further, one must advise for caution when interpreting the results of the two-least square regressions presented in Table 10. In the second stage of the said regressions, the omitting of the $PERIOD$ variable ensures that the latter can only affect acquirer returns indirectly through its impact on the corporate mechanisms in such a way that enables one to assess the impact of the pre-to-post crisis *variation* in the quality of corporate governance on the post-crisis accretion in M&A performance. However, it must be recognised that this time indicator could simultaneously account for the emergence of concurrent developments which might similarly impact acquirer returns such as an eventual crisis-induced behavioural change from managers due to newly gained experience. Albeit arguably related to the observed shift in corporate practices, the impact of these non-controlled for variables could violate the time indicator omission in the second stage of our regressions displayed in Table 10 and hence introduce a bias in the effect on acquirer returns attributed to the amelioration of corporate mechanisms.
In order to complement our findings, future research could benefit from using a greater sample which would enable them to undertake a diff-in-diff comparison of the quality of corporate governance on a sub-sample of firms having acquired a listed target both before and after the financial crisis.

5. Conclusion

5.1. Summary of key findings

This study has conducted a thorough investigation of the impact that the financial crisis had on the quality of M&A deals in Continental Europe. Such an inquiry in an area of research hitherto unexplored by academics reported some interesting results that might be of some use for future studies. The first finding documented by this investigation is the fact that the 2008 financial crisis appeared to have had a positive impact on all subsequent M&A deals. Indeed, in line with Alexandridis *et al* (2017), our study documents a statistically significant and positive evolution in the value generated for shareholders in post-crisis deals vis-à-vis of the pre-crisis ones that is robust across various event-windows and when we control for deal-related or firm-specific characteristics. Consequently, this study provides evidence supporting the neo-classical account of mergers which itself falls into a broader Schumpeterian understanding of crises that are seen as means of correcting market deficiencies. In this case, it appears that the crisis has permitted a shift in corporate governance practices to reinforce internal corporate governance means of mitigating managerial discretion and thus agency problems. Indeed, following the method established in Dahya *et al* (2019) to avoid endogeneity concerns, this study finds that the pre-to-post crisis variation in the quality of corporate governance has driven to an extent the observed accretion in the performance of M&As. This is consistent with the fact that the post-crisis acquisition performance was more strongly felt in the United-States rather than in Europe as the latter being a stakeholder-centric financial system already relied heavily upon internal corporate governance mechanisms to ensure optimal corporate activity. Finally, this paper also sought to assess the impact of a deal's industrial and geographical scope on the value that it generates. In line with Mateev (2017), our findings fail to document a systematic impact of the former on the value generated by a deal which leads us to support Acharya *et al* (2011) in calling for a more nuanced approached of the study of an acquisition's industrial scope. In terms of a merger's geographical scope's impact as a determinant of value, our findings cohere with the evidence put forth in Martynova and Renneboog (2011) as they suggest that deals involving foreign targets, even with the European Union, tend to be more value-destroying than their domestic counterparts. Hence, it seems that the increased risk associated with international acquisitions as a result of inherent enhanced information asymmetries identified by Erel *et al* (2012) outweigh eventual benefits.

5.2. Recommendations for policy and future studies

Beyond addressing the aforementioned limitations, the findings outlined in this study could raise new issues for further research. The scope of this study was limited to the case of mergers involving listed targets as the latter were identified as generating less value in prior literature yet it could be of interest to widen one's inquiry to the impact of the financial crisis on the acquisition of private targets as well and moreover to offer a comprehensive comparison of the crisis' impact on these different type of acquisitions. Likewise, further research could aim to inquire whether the evolution in the quality of the corporate governance of acquiring firms had an impact on M&A performance when the target is a privately held company. Further, as this study establishes a relationship between internal corporate mechanisms and acquirer returns in Europe which as exemplified by the case of anti-takeover provisions can differ in nature from

the one identified in the United-States, it might prompt further research to investigate the under-researched impact of corporate mechanisms in stakeholder-centric financial systems. Another interesting prolongation could be to assess whether differences in corporate governance practices can alter the impact on value of cross-border deals.
In fine, in terms of policy recommendations, this study supports the call formulated in Tampakoudis *et al* (2018) for further European harmonisation of the codification regarding firms' corporate governance in line with the Directive 2006/46/EC that imposes annual communication on the matter for publicly traded companies. Indeed, by reporting that the said mechanisms are determinants of value in the context of an acquisition, this study highlights their importance and thus suggests that supervisory agencies should ensure that information regarding corporate mechanisms should not only be available to all investors but easily interpretable at a European level.

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