

MASTER'S DEGREE

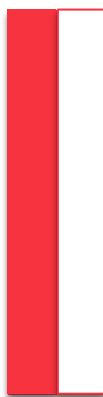
FINANCE

THE EFFECTS OF HOSTILITY ON RETURNS AND PREMIA

Paula Alexandra Teixeira Leite

M

2022



The Effects of Hostility on Returns and Premia

Paula Alexandra Teixeira Leite

Master Dissertation

Master in Finance

Supervised by

Jorge Bento Ribeiro Barbosa Farinha, PhD

2022

Acknowledgements

Firstly, I would like to express my utmost gratefulness to my parents for all the support, encouragement and understanding throughout all my academic life, with special attention to the difficult times where I felt less optimistic, productive, and capable. For always believing in me and providing me the opportunity to grow as a person, personally and academically, I thank you from the bottom of my heart.

I thank my friends for always making me laugh, never giving up on me and put up with all my mood swings. Because of you, this road was more enjoyable, and my mental health appreciates it, so thank you!

To Bruno, I thank you from the bottom of my heart for always encouraging me and teasing me to finish this dissertation, for always being by my side and never cease to make me happy.

To my supervisor, Professor Jorge Farinha, I would like to express my thankfulness for his support, guidance, recommendations and for enriching my work with his experience.

I would also like to thank all the other professors that taught me so much during these two years, and to the Faculty of Economics of the University of Porto.

I thank everyone that was a part of my journey!

Abstract

The goal of this dissertation is to examine what kind of effects the existence of hostility on M&A deals has on the returns of the target companies, and on the premium offered by the bidder company, by using a sample of 260 deals in the European M&A market, comprising 60 hostile deals and 200 friendly ones.

It was found evidence, with statistical significance, that hostility has a negative impact on both cumulative abnormal returns of the target and the premia offered.

Regarding the univariate analysis, it was concluded that targets for the total sample earn on average positive excess returns of around 16%, significant at the 1% level, starting from one month prior to the announced date. Furthermore, observing two weeks prior to the announced date, targets earn on average positive excess returns of around 13%. Thus, it was perceived a runup effect starting one month before the announced date, for both friendly and hostile deals, though the latter showed a less steady path, which could mean that there is a leakage of information that allows investors to trade on private information and earn higher abnormal returns. Focusing on hostile deals, the positive excess abnormal returns were lower than friendly ones, also showing statistical significance.

Considering the cross-sectional analysis, for both cumulative abnormal returns and premia offered, there is evidence of European hostile deals having lower returns and lower premia associated, when compared to friendly transactions. This is inconsistent with the few studies that were made in this field. Looking only at hostile transactions, those that were paid only in cash showed to have a statistically significant positive impact on the target's returns and premia, and it was also found evidence, with statistical significance at the 10% level, that hostile targets with lower Tobin-Qs receive higher premia.

Key words: Mergers and Acquisitions, Hostile Takeovers, Cumulative Abnormal Returns, Premia

Resumo

O objetivo desta dissertação é examinar que tipo de efeitos a existência de hostilidade nos negócios de M&A tem nos retornos das empresas-alvo e no prêmio oferecido pela empresa proponente, utilizando uma amostra de 260 transações europeias, compreendendo 60 operações de natureza hostil e 200 amigáveis.

Foram encontradas evidências, com significância estatística, de que a hostilidade tem impacto negativo tanto nos retornos anormais acumulados do alvo tanto como nos prêmios oferecidos.

Relativamente à análise univariada, concluiu-se que os alvos para a amostra total obtêm, em média, retornos excedentes positivos de cerca de 16%, significativos ao nível de 1%, começando um mês antes da data que anuncia a transação. Além disso, observando duas semanas antes da mesma data anunciada, as empresas-alvo obtêm, em média, retornos excedentes positivos de cerca de 13%. Deste modo, percebeu-se a existência do efeito *runup*, começando um mês antes da data do anúncio, tanto para negócios amigáveis quanto para os hostis, embora este último tenha apresentado um caminho menos estável, o que pode significar que há uma fuga de informações que permitiu aos investidores de forma privada e obter retornos anormais mais altos. Focando em negócios hostis, os retornos anormais excedentes positivos foram inferiores aos amigáveis, também apresentando significância estatística

Considerando a análise transversal, tanto para retornos anormais acumulados como para prêmios oferecidos, há evidências de que transações hostis europeias sejam associadas com retornos e prêmios mais baixos, comparando com transações amigáveis. Estes resultados são inconsistentes com os poucos estudos que foram feitos neste campo. Observando apenas as transações hostis, aquelas que foram pagas apenas com dinheiro mostraram ter um impacto positivo, estatisticamente significativo, nos retornos e prêmios do alvo. Também foram encontradas evidências, com significância estatística ao nível de 10%, que alvos hostis com menores Tobin-Qs recebem prêmios mais altos.

Palavras-chave: Fusões e Aquisições (M&A), Aquisições Hostis, Retornos Anormais Acumulados, Prêmios.

Content Index

1.	Introduction	1
2.	Literature Review.....	3
2.1	Overview of mergers and acquisitions deals	3
2.1.1	Types of M&A deals	3
2.1.2	Motives and main theories of source of value creation	4
2.1.3	Do M&A deals create or destroy value?.....	6
2.2	Hostile Takeovers	7
2.2.1	What drives hostile takeovers?.....	8
2.2.2	Characteristics of Hostile Takeovers	10
2.3	Premia and Returns	12
2.3.1	Factors that influence the premium and returns in M&A deals	12
3.	Research Questions and Hypothesis	17
4.	Data and Methodology	19
4.1	Definition of the event and event window	19
4.2	Measuring abnormal returns	20
4.2.1	Definition of the estimation window.....	21
4.2.2	Aggregating abnormal returns.....	21
4.2.3	Model.....	21
4.3	Measuring and assessing premia	24
4.4	Sample Description	26
5.	Results	34
5.1	Cumulative Average Abnormal Returns.....	34
5.1.1	Univariate Analysis	34
5.1.2	Multivariate Analysis	38

5.2	Premia.....	43
6.	Conclusions and Limitations	48
6.1	Conclusions.....	48
6.2	Limitations	50
	Appendix.....	51
	References.....	73
	Annexes.....	83

Index of Figures

Figure 1:	Number of friendly and hostile transactions by announcement year (Sample 260 deals)	28
Figure 2:	Bidder's and target's country of origin (full sample)	29
Figure 3:	Bidder's and target's country of origin in hostile deals	29
Figure 4:	Target CAARs around the deal announcement.....	36
Figure 5:	Hostile target CAARs around the deal announcement	37
Figure 6:	Friendly target CAARs around the deal announcement.....	38

Index of Tables

Table 1:	Target's main sectors of activity.....	30
Table 2:	Sample Composition	31
Table 3:	Firm-specific characteristics	33
Table 4:	CARs of all bids	35
Table 5:	CARs by attitude to the bid.....	36
Table 6:	Regression of target's CARs	38
Table 7:	Regression of target's CARs	41
Table 8:	Regression of hostile target's CARs	42

Table 9: Regression of premia offered (announced date)	44
Table 10: Regression of premia offered (30 days prior to the announced date).....	46
Table 11: Regression of premia offered to hostile targets (announced date).....	47

Index of Appendixes

Appendix 1: Value Creation in M&A deals: Resume and compilation of empirical evidence	51
Appendix 2: Resume and compilation of empirical evidence of deals with different attitude towards the bid.....	53
Appendix 3: Number of friendly and hostile transactions by announcement year (Sample:841 deals)	54
Appendix 4: Other services – Subsectors.....	54
Appendix 5: Regression of target's CARs	55
Appendix 6: Comparison of variable's sign between expected and final outcome.....	59
Appendix 7: Regression of hostile target's CARs.....	60
Appendix 8: Regression of premia offered	65
Appendix 9: Regression of premia offered to hostile targets	69

Index of Annexes

Annex 1: Corporate Restructuring Process (DePamphilis, 2011).....	83
Annex 2: Summary Statistic for Takeover Characteristics and Measures of Hostility, 1975-1996 (Schwert, 2000).....	84
Annex 3: Huang & Walkling (1987) study results.....	84

1. Introduction

M&A deals have been increasing throughout the years, and as a way used to grow their operations, companies must be well aware of their characteristics and use them as a way to implement a good strategy. Among M&A deals, hostile transactions have also been increasing, with Martynova & Renneboog (2008) stating that the European takeover market is becoming more hostile. Additionally, the literature shows that hostile takeovers are often associated with higher premia offered and better returns than non-hostile deals, but hostile takeovers are very debatable and bring mixed reactions from academics and the general public (Bhagat et al., 1990).

Therefore, this dissertation focuses on the study of the influence of hostility, from 2010 to 2021 for the European market, on cumulative abnormal returns of the target companies and the premium offered, thus trying to answer the following research questions:

Does the existence of hostility have a positive influence on the target's cumulative abnormal returns?

Does the existence of hostility increase the premium offered in takeovers?

To achieve these goals, an event study of cumulative abnormal returns, using a market model, for several event windows around the announcement date, has been conducted, and consequently, several OLS regressions were estimated to determine the impact of hostility, controlling for other determinants, on the wealth creation of European deals. To study the second research question OLS regressions were estimated for different premia computed using the share price of different dates before the completed date of the deal. Furthermore, through the model it also has been studied if there are significant determinants that impact the differences in the premium and returns in hostile takeovers, thus contributing to expanding the literature present in this field.

This topic is relevant, as knowing what impacts the premia offered in a takeover is very important because it may give some guidance to managers who are targeting a company or managers that are being targeted, so that they could increase their awareness of the aspects that can make them save or receive more money, respectively. Especially because according to Madura & Ngo (2008) the market tends to penalize bidders who pay too much when compared to recent premia paid for similar targets. Similar studies were conducted, more

specifically related to the returns associated, however, their results were different from the ones found in this dissertation.

The greatest contribution of this study is that it will add different results to the limited extant literature regarding hostile deals, such as the ones from Franks et al. (1991), Franks & Harris (1989), Goergen & Renneboog (2004), Huang & Walkling (1987), Lang et al. (1989), Martynova & Renneboog (2011), Schwert (2000) and Servaes (1991). Furthermore, to our best knowledge, this study is the first one of this kind to analyse a sample of European hostile and friendly transactions occurring after 2010, which constitutes a relevant contribution to the literature.

The remaining of the dissertation is organized as follows: Section 2 provides an extensive literature review that starts with an abroad perspective about the M&A world, which incorporates its definition, the most common types of deals that exist, the motives and main theories of sources of value creation, and the extant literature regarding the existence of wealth creation or not when acquisitive strategies are used to expand a company's business. Next, a more detailed literature review about hostile takeovers takes place, comprising its definition, the main motives for the existence of hostility, and the main characteristics of hostile takeovers. Finally, this section ends with a mention of the papers that studied the factors that influence the premia and returns in M&A deals, that also impact hostile takeovers, and their conclusions. Section 3 presents the research questions analysed and their respective hypothesis. In section 4, the methodology used in this study is explained in detail, which also includes the source of the data and the sample description. In Section 5 the results of the univariate and the cross-sectional analysis are reported. Finally, in Section 6 the main conclusions and limitations are presented.

2. Literature Review

2.1 Overview of mergers and acquisitions deals

Mergers and Acquisitions (hereafter M&A) transactions have been increasing through the years (Statista, 2022), as a way for companies to grow and expand their businesses in a non-organic way, in both developed and emerging economies. Not understanding its importance in the modern economy may result in the failure of using such transactions advantageously to implement an effective business strategy (DePamphilis, 2011).

M&A, in the general sense, is characterized as the business of acquiring and selling companies, entirely or only partially, and its main reason is that a combination of two companies is more valuable than the sum of the two (Ross et al., 2010). Furthermore, this method is applied as companies attempt to improve their growth, size, and access to assets that under ordinary circumstances are too expensive to imitate or to lessen the competition (Brueller et al., 2018).

2.1.1 Types of M&A deals

Even though, most of the time, the terms mergers and acquisitions are used identically there are some differences. A *merger* happens when the management of a company comes to an agreement to join another company, seeking the approval of every stockholder, and then one of the two firms disappears and becomes a part of the other one. An *acquisition* is a process by which the stock or assets of a company (target) are bought by another (acquirer or bidder), thus transferring the ownership from one company to another, and both companies still exist. A merger can happen after an acquisition or not (Reed et al., 2007). Annex 1, shows a division made by DePamphilis (2011) regarding the corporate restructuring process, showing a separation of different types of M&A deals that can exist, but it is still important to make a brief description of the most common M&A deals, being them: Consolidation, buyouts, tender offers, friendly and hostile takeovers deals. In this sense, consolidation is basically the same as mergers, except that instead of one firm disappearing, both companies cease to exist and a new one is created. Buyouts are acquisitions of a controlling interest in a target, sometimes used as a synonym for takeovers. For example, if a company buys the stake using debt then it is called a leveraged buyout (LBO) and if the stake is bought by its management team then it is a management buyout (MBO) and so on (DePamphilis, 2011; Ross et al.,

2010). A tender offer is when a company makes a public offer to buy shares of the target company, but this offer is made directly to the shareholders publicly and not to the company's managers.

Through M&A deals, firms use several actions aiming to create value through the execution of processes that change the organizational and corporate structure of the company forever (Gaughan, 2010). Companies decide to engage in these types of transactions because they believe that there is a creation of value.

2.1.2 Motives and main theories of source of value creation

Tamosiuniene & Duksaite (2009) state that the principal reason to participate in M&A deals is to grow, and according to them there are two growth paths, organically (or internal), accomplished by developing new products, expanding to new countries and markets, hiring more salespeople and so on; and the option to grow inorganically (or externally), which is accomplished through a merger or the acquisition of another company.

Their second reason is related to synergies, that can come in the form of operational and financial ones (Tamosiuniene & Duksaite, 2009). This is also a theory of many authors that believe that companies generate more benefits if they join forces rather than being alone (Bradley et al., 1988; Hubbard & Palia, 1999; Seth, 1990). According to Ross et al. (2010), the possible sources of synergy are in one of four categories: revenue enhancement, cost reduction (being these two operational synergies), lower taxes, and lower cost of capital (being these related to financial synergies). Furthermore, Devos et al. (2009) found that synergy gains are more or less 10% of the combined company value and that most are attributable to operating synergies rather than tax savings, and authors Houston et al. (2001) claimed evidence that most positive synergies gains come from cost savings and not revenues enhancement.

Additionally, the third reason to engage in these transactions is to access intangible assets, which include human capital, customer capital, and structural capital which create knowledge value capital (Tamosiuniene & Duksaite, 2009).

Another motive for M&A and consequently the creation of value is diversification, which is characterized by acquiring companies that are beyond the acquirer's current lines of business. According to Salter & Weinhold (1978), a company can only create value using diversification when the combination of the skills and resources of both businesses satisfies at least one of

two conditions: “an income stream greater than what could be realized from a portfolio investment in the two companies” and “a reduction in the variability of the income stream greater than what could be realized from a portfolio investment in the two businesses—that is, reduced systematic risk”. Additionally, diversification permits companies to move their core product lines into others that have higher growth expectations, even if those are unrelated to the company’s current product lines (DePamphilis, 2011).

Moreover, mismanagement (or agency problems) may emerge if there is a discrepancy between the interests of who manages the firm and who owns it, thus sometimes engagements in M&A deals are made to correct situations in which these differences are present (DePamphilis, 2011). Additionally, the managerialism theory states that managers decide to engage in M&A deals for selfish reasons, such as gaining prestige, building their bubble of influence, increasing their compensation, or ensuring the preservation of their positions, status, and power in the company (Gaughan, 2010). Some authors found evidence of managerialism in a subsample of takeovers that experienced negative gains (Berkovitch & Narayanan, 1993). Yim (2013) suggests that younger CEOs can lead to more agency problems in a company, as acquisitions may bring higher permanent compensations, making them engage in these activities when they are younger and still new to the field. Also, bidders in not so successful acquisitions are highly likely to be taken over themselves, thus turning into targets (Mitchell & Lehn, 1990). Aligned with all this is the Hubris theory, also responsible for agency problems (DePamphilis, 2011), which explains that companies tend to overpay in acquisitions due to overoptimism or excessive self-confidence in their management skills, leading to the winner’s curse, even if there are significant synergies present (Roll, 1986). Some authors found evidence that CEOs that experience successful acquisition track records are mainly due to overpayment that comes from overconfidence (Billett & Qian, 2008; Malmendier & Tate, 2008). Berkovitch & Narayanan (1993) found evidence for this theory in a subsample of takeovers that reflected positive gains.

In regards to the market power theory, this suggests that by acquiring its competitors, consequently reducing their competition, companies can exert price pressure on the market (Ross et al., 2010). In accordance with this, there is evidence that horizontal mergers exercise price pressure on dependent suppliers and unfavourably affect their performance and that a higher industry concentration can make suppliers lower their selling price (Bhattacharyya & Nain, 2011).

Finally, the misvaluation theory explains that companies sometimes engage in M&A transactions as managers believe that firms are over or undervalued, which can result due to a lack of important information (DePamphilis, 2011; Shleifer & Vishny, 2003). Evidence shows that misvaluations are related to takeover activity (Dong et al., 2006), furthermore, Ang & Cheng, (2006) showed direct evidence that share overvaluation in bidders is an important reason for making M&A deals paid in stock instead of any other payment method, and Edmans et al. (2012) identified that an “interquartile decrease in valuation leads to a seven percentage point increase in acquisition likelihood, relative to a 6% unconditional takeover probability”.

2.1.3 Do M&A deals create or destroy value?

M&A deals take place, as most believe that it is a source of value creation and one of the most important strategies for company growth, however some authors still believe that M&A deals destroy value, reducing wealth for shareholders. Martynova & Renneboog (2006) stated that evidence is undisputed in concluding that M&A deals create value when the impact on targets and bidders is measured together, and Andrade & Stafford (2004) claim that M&As usually lead to improved profitability and wealth creation of the combined entity. However, Cartwright & Schoenberg (2006) stated that the benefits to bidding companies’ investors are more questionable, while the benefits to investors of the target company are straightforward.

Regarding the gains for target shareholders, Dodd & Ruback (1977) presented evidence that targets have abnormal returns of +20.58% in the month of announcement. Furthermore, Keown & Pinkerton (1981) in their study concluded that targets experienced significant abnormal returns of +27.04%, which shows similar results to the study of Huang & Walkling (1987) where target companies showed abnormal returns of 30.09% on a similar time period studied. Additionally, Jensen & Ruback, (1983) mentioned studies that presented evidence stating that target company’s shareholders benefit from corporate takeovers as they generate abnormal returns immediately around the announcement ranging from 6.2% to 13.4%, and in the month or two around the announcement the abnormal returns ranged from 16.9% to 34.1%. Franks & Harris (1989) in their UK study also found evidence of abnormal returns of +23.30% and also for the United Kingdom (UK) market, the authors Higson & Elliott (1998) found at a significance level of 1%, positive abnormal returns of 31.50%. Lang et al. (1989) found that for US tender offers, the abnormal returns estimated were of 40.30%

around the studied period of five days before and after the announcement date, and Franks et al. (1991) around the same time period found abnormal returns of 28.04%.

In contrast, previous studies are not so clear regarding the returns for the bidder's shareholders. Bradley et al. (1988) found evidence for their US sample, significant at the 1% level, of a +0.97% excess return. Franks & Harris (1989) in the same study previously mentioned gathered evidence of the bidder's abnormal returns of +1% and Higson & Elliott (1998) also found +0.20% abnormal returns in the UK market. Furthermore, Dodd & Ruback (1977) reported abnormal returns of +2.83% for the bidder company on the announcement month; J. Ma et al. (2009) in their study on the Asian stock market found evidence of abnormal returns of +1.28% for the time event between one day before and one day after the announcement period and a similar study conducted by Shah & Arora (2014) found abnormal returns of +1.20%. On another hand, other studies achieved the opposite results: Dodd (1980) found that the average cumulative abnormal returns for the bidder's shareholders were -7.22% from the period between the ten days before and after the; Servaes (1991), at a significance level of 5%, and from the announcement date until the close date of the deal, found evidence of negative abnormal returns of -1.07%; Kaplan & Weishbach (1992) found similar results of negative abnormal returns of -1.49%, and Andrade et al. (2001) also found negative abnormal returns of -0.70%.

Although there is no consensus on this matter it can be suggested that target companies appear to be the real winners in these transactions, while acquirer companies seem to have difficulties to break even. Also, tender offers have a tendency to show better results than M&A transactions in general. A table that summarizes all this empirical evidence and includes further studies with similar results is presented in Appendix 1.

2.2 Hostile Takeovers

After a general literature review of merger and acquisition deals to better contextualize this work, the focus will now turn to hostile takeovers.

The overall concept of hostile takeovers is that these take place when a bidder company makes a proposal to the shareholders of a target company and the management team of the target does not recommend shareholders to accept the deal, as they were not looking for a M&A deal, but the bidder still seeks shareholders' approval (Tuch & O'Sullivan, 2007). It can be said that hostile takeovers represent a battle for corporate control (Pearce &

Robinson, 2004), being that corporate control is viewed as the arena where managers compete for the rights to manage corporate resources (Jensen & Ruback, 1983). This is the opposite of what happens in friendly takeovers since in that case the managers recommend shareholders to accept the bid. While hostile takeovers are seen as unwelcome and controversial, friendly takeovers are seen as means to create synergies that make both companies better (Tuch & O'Sullivan, 2007). Tender offers, as mentioned previously, appear similar to hostile takeovers, and so are treated accordingly in literature (Tuch & O'Sullivan, 2007). This is in the sense that when the management resists the acquisition, then the bidder may start acquiring some of the target's stock in secret (this process is called a toehold), and since it is a little difficult to effectuate an acquisition this way, the bidders make a tender offer to the target's shareholders (Ross et al., 2010). However, a tender offer is not the only method to gain control of a hostile target, thus other ways such as a proxy fight (a procedure involving corporate voting) may also occur (Gaughan, 2010; Ross et al., 2010).

These types of transactions tend to happen in the finance world, not very often but with large public companies involved and in many industries (Fortier, 1989).

2.2.1 What drives hostile takeovers?

The motives for these transactions to occur are the same as described for other M&A deals, and as aforementioned what makes them hostile is the fact that the management of the target company is against these deals. There are two views on why they decide to reject the offer: the first one is that according to DeAngelo & Rice (1983), as cited in Pearce & Robinson (2004), target managers reject the offer using defences that help the interests of its shareholders by means of improving management, protecting the company's long term strategy or increasing the premium offered, thus called bargaining strategy. With this in mind, Schwert (2000) found that the hostile takeover's negotiations are strongly related to strategic bargaining and are the motivation for hostility. Pearce & Robinson (2004) also claim that managers tend to refuse just to maintain their power positions and compensation levels in the company, scared that they would be fired when the takeover takes place, thus not acting in the best interest of its shareholders and creating agency problems (and costs), being this called the managerial entrenchment strategy. In fact, it was proposed by some studies that the managers most likely to be replaced following a successful bid were the ones that had underperformed and were the ones refusing the takeover (Tuch & O'Sullivan, 2007).

Accordingly, some studies showed that these transactions are a “court of last resort” that appear when there is a failure in internal corporate governance mechanisms, thus, hostile takeovers are often viewed as having a governance mechanism role (Jensen, 1988; Jensen & Ruback, 1983; Shleifer & Vishny, 1997). Fortier (1989) explains in her study that, usually, internal controls are enough to hold down agency costs (that emerge from the separation of ownership from control) however when they become too high, the company is likely to become a target of a hostile takeover. The study of Shivdasani (1993) shows findings that are consistent with the hypothesis that ineffective boards that contribute to a weak internal governance structure, thus raising the possibility of hostile takeovers attempts.

The inefficient target management hypothesis states that hostile takeovers occur as the bidder managers expect that higher profits will follow if better management takes place since the bidder management perceives a poor performance of the target company (Chen & Cornu, 2002), which is consistent with the study of Morck et al. (1988) that stated that disciplinary takeovers are most likely to be hostile while friendly ones are more synergistic. Lang et al. (1989) studied a sample of successful tender offers examining bidder and target’s abnormal returns and their conclusions were coherent with the point of view that takeovers might create value by improving the application of poorly managed targets resources. Chen & Cornu (2002) in their paper stated that “targets involved in hostile takeovers are found to significantly outperform the market but also significantly underperform their peers involved in friendly takeovers prior to the takeover announcement”, thus rejecting this hypothesis in the market performance sense but supported with respect to the performance of comparable friendly targets. However, other studies show that they did not find any indications of poor performance before the hostile takeover bid (Sinha, 2004), therefore contributing to the hostile takeovers debate and bringing mixed reactions from academics and the general public (Bhagat et al., 1990).

There is also the explanation of the pre-bid runup premium hypothesis. Runup is a phenomenon that occurs as the stock prices and trading volumes of target companies experience a dramatic increase (runup) through the weeks instantly previous to the public takeover offers. Studies examined the stock-price activity before mergers and takeover bids and showed that stock prices start to move upwards of bids as early as two weeks before the formal announcement (Jarrell & Poulsen, 1989). So, this theory states that if the pre-bid runup premium of the target is lower for hostile takeovers than for friendly ones, then hostile

bidders have the possibility to have a higher bid premium to reach the same level of total premium when compared to a similar friendly offer. This makes sense because hostile bidders are normally less expected and also disclose less information previously to the offer than friendly ones (Chen & Cornu, 2002), though, these authors did not find any evidence to support or not support this theory.

2.2.2 Characteristics of Hostile Takeovers

Morck et al. (1988) indicated that hostile takeovers observed in their study, were addressed to companies that were smaller, older, had slower growth, had lower Tobin's Q's, had more debt, and invested less; further claiming that hostile targets were less likely to be managed by the founding family and have lower officer ownership than the average company. Chen & Cornu (2002) found in their study that hostile bidders are expected to be attracted to targets that have lower debt ratios, as it allows the bidders to issue debt to finance the offer and achieve a lower ratio for the combined entity at the same time than the ratio for the bidder alone, and also be interested in targets that have higher liquidity ratio, as its cash amount lets the bidder offer a higher bid without needing additional financial resources. Additionally, the industry more prone to hostile deals is the retail one, and the overall proportion of hostile takeovers follows the M&A market trends, being that it increases if it is in an expansion period and decreases during a recession period.

In his research paper with the goal of distinguishing between hostile and friendly takeovers, Schwert (2000) stated that there are different perceptions of 'hostility' for different people, making the assessment and comparison of research findings difficult, and that "hostility is usually perceived when an offer is made public that is aggressively rejected by the target firm" but "because public announcements of takeover attempts are part of negotiating strategies, the problem of distinguishing between hostile and friendly transactions is complex". For this purpose, he analysed 2346 takeover contests for exchange-listed target firms from 1975 to 1996, and measured hostility in four different ways, as it can be seen in Annex 2, retrieved from this same paper, the summary statistics for the different measures of hostility and bivariate tests of whether the measures of hostility are similar. Taking all of the evidence together, the paper showed that there is support for both target management entrenchment and bargaining strategy as the reasons for the perception of hostility in takeover contests. And most of the characteristics of takeover offers that are related to hostility seem to reflect strategic choices made by the bidder or the target firm to maximize their respective gains

from a potential transaction. He also identified that hostile takeovers are associated with higher premia, especially when the target management team tries to negotiate the terms to increase them. This is consistent with other studies that investigated the consequences of managerial hostility and found that shareholders in target companies subject to hostile bids received higher takeover premia, consequently suggesting that hostility increases shareholder wealth (Cotter et al., 1997; Healy et al., 1997 as cited by Tuch & O'Sullivan, 2007). Chen & Cornu (2002) also found that hostile offers are more associated with higher premia and cash offers and that the probability of a hostile bid being successful is much lower than friendly ones.

Nevertheless, with this in mind, if the premium for hostile takeovers is higher than friendly ones, then a great proportion of the bidder's wealth is possibly being spent on the acquisition which consequently could harm the post-transaction performance of the acquirer.

In fact, evidence reveals that acquirers have a worse performance when they pay excessive premia (Varaiya & Ferris, 1987), suffering from the winner's curse (Thaler, 1988). Further evidence shows that acquirers' returns in hostile bids are more positive than non-hostile ones. Short-term studies from Bradley et al. (1983) and Jarrell & Bradley (1980) reveal positive abnormal returns from non-friendly bids, while Walker (2000) found negative short-run returns for friendly deals and returns from tender offers insignificantly different from zero. However, and as mentioned previously, there are several different results from different studies and so Goergen & Renneboog (2004) obtained results that showed positive abnormal returns from mergers and negative abnormal returns from hostile bids. Sudarsanam & Mahate (2006) showed insignificant returns for single hostile bidders but significantly negative returns to multiple hostile bids and friendly bidders. Regarding the returns for the target company, possibly due to high premia received and the expected gains of the combined company its shareholders earn on average positive abnormal returns (Mohamad & Nassir, 1991). Franks & Harris (1989) conducted a study between 1955 and 1985 and showed that hostile targets had cumulative abnormal returns of 29.58% while friendly targets received 20.60%, on the other hand, bidders had a negative 0.40% returns while friendly had 0.00%. Servaes (1991) study on hostile and friendly deals concluded that the target cumulative abnormal returns (CARs) were 31.77% while the friendly ones were around 22%, and hostile bidders had better results, despite being both negative CARs. Huang & Walkling

(1987) showed evidence that target CARs were around 28.30% for hostile deals and 22.60% for friendly ones.

Looking from a long-run perspective, some studies did not report any evidence that tender offers' acquirer's abnormal returns were statistically different from zero in a period of five years after the transaction (Agrawal et al., 1992), but the study from Rau & Vermaelen (1998) found higher returns for tender offer's acquirers. Sudarsanam & Mahate (2006), now, in the long run, reported abnormal returns to single hostile bidders are less negative when compared to any other type of deal. This study showed that single hostile takeovers report better results than multiple ones, however, it did not report any positive abnormal returns for hostile takeovers.

2.3 Premia and Returns

The premium is the difference between the bid offered to the target's shareholders and what the company being targeted is currently worth. This difference depends on several factors which could make the premium offered to be higher or lower. Furthermore, these same factors also influence the returns experienced by the bidder's shareholders and target's shareholders. Hence, several authors attempted to study how the existence of some factors affects both premia and returns.

2.3.1 Factors that influence the premium and returns in M&A deals

The form of payment appears to be a factor that affects both premium offered and the returns after the transaction. A deal can be paid in several forms, such as cash, equity, or a mix of both, among others. The cash payment method is typically used when the acquirers believe that their shares are undervalued and equity is used when they believe that their shares are overvalued (Tuch & O'Sullivan, 2007). Martynova & Renneboog (2011a) claim that when cash offers are made it can mean that acquirers do not want to share any future gains attained with the deal, thus can be interpreted as a positive signal of the target's quality. Furthermore, hostile bids are more likely to be financed with cash and friendly takeovers with equity (Agrawal et al., 1992). Evidence shows that cash is the most predominant choice in US domestic M&A deals and that cash payment transactions gather higher abnormal returns than other forms of payment (Travlos, 1987). A study conducted by Loughran & Vijh (1997) gathered the conclusions that on average companies that use equity in the method of payment in mergers earn significantly negative excess returns of -25%, while on the other

hand, companies that complete cash tender offers gain significantly positive excess returns of 61.7%. Wansley et al. (1983) in their research also found that seller shareholders in cash acquisitions earn, on average, 33.54% abnormal returns when compared to the 17.47% of mergers that use equity as payment. Regarding premia, de La Bruslerie (2013) concluded that the relationship between the offer premium and the choice of cash payment is positive and so “higher premiums will go along with mixed payment with more cash or full payment in cash”.

Another factor is the relative size of the target compared to the bidder as well as the difference in sizes between the acquiring companies. Relating to the first point, evidence shows that the relative size of the target compared to the acquiring firm has a big and positive impact on its gains during the announcement period and it is statistically significant (Asquith et al., 1983), thus explaining that on average the bid for a target one-tenth of the acquirer’s size produces a cumulative excess return lower 1.8% than a bid for a target half the bidding company’s size, meaning that the bigger the difference between the two companies, the cumulative excess returns will be lower, nevertheless positive, for the acquiring shareholders, although the authors did not account for the method of payment. Relating to the target returns, there is evidence of a positive impact on the relative size of the two companies (Sudarsanam et al., 1996). Additional authors also claim the same premise, as, the larger the target relative to the bidder, the greater the likely benefits (Bruner, 1988; Levy & Sarnat, 1970; Song & Walkling, 1993). On another hand, Fuller et al. (2002) stated that when they divided the returns to acquirers on the relative size of the acquirer company compared to the target company, evidence showed that for public targets, as the relative size of the target increases, returns are more positive for cash offers and more negative for stock offers. The authors Franks & Harris (1989) stated that the large size of the bidder compared to the target may generate doubts about the gains and losses from the merger. Bids for targets between 50% and 100% of the acquirer’s size showed positive abnormal returns over the –4 to +1 month announcement period. Concerning the second point, Moeller et al. (2004) pointed out that large companies offer larger premia than smaller ones and then get negative synergy gains and as a result small companies overperform large ones, regardless of how the acquisition is financed, which is consistent with the managerial and hubris theory.

Moreover, the industry relatedness and synergy potential also impact premium and returns, and so the evidence presented above suggested that both vertical and horizontal mergers

provide positive and higher wealth effects than diversifying deals (Fan & Goyal, 2006), which is consistent with the studies of Levy & Sarnat (1970). According to Weston (1986) cited by Scanlon et al. (1989), industrial relatedness is crucial to the success of mergers, and the authors found in their research that when there is an acquisition of industrial unrelated companies it results in significantly lower abnormal returns than the acquisition of companies that are industry related (Scanlon et al., 1989). Gregory (1997) exhibited that conglomerate acquisition showed significantly negative abnormal returns (-11.33%) over 24 months when contrasted with an insignificant 3.48% for non-conglomerate acquisitions, which is inconsistent with the premise that diversification is responsible for wealth creation. However, Chevalier (2004) showed a +2.76% wealth creation as a consequence of diversifying mergers, which is consistent with findings from Akbulut & Matsusaka (2010) that claimed that the combined returns from diversifying deals in their sample period were positive and not lower than the ones from related deals, implying that investors see diversification as a value-creating method for companies, although it seems inconsistent with the literature that perceives the existence of a diversification discount, where conglomerate companies tend to trade at a lower price than non-conglomerate ones (Lang & Stulz, 1994). However, the authors add that due to other studies the evidence suggests that diversification might not cause the discount, rather discounted companies might be more likely to diversify. Regarding premia, buyers tend to pay more for companies that belong to the same area of operation, when there are no competing bidders (Flanagan & O'Shaughnessy, 2003)

The existence of debt rating also affects premia. Jory et al. (2016) studied this phenomenon and argued that the presence of ratings (regardless of the quality) significantly impacts the premia offered in M&A deals, thus showing that these are lower when ratings are present. The authors explain that this happens because ratings lessen the problem of information asymmetry, thus making the bidders offer a fair price for the target company. Additionally, they also showed that there is a positive relationship between the presence of ratings and the post-M&A performance of the acquiring company, thus being superior for them than for acquirers that bought non-rated companies. Related to this topic, the level of financial leverage of the target also impacts the premia and returns, and so lower premia will be given if there is debt leverage as it limits private benefits. However, higher debt leverage can be used as a tool to enhance power for the controlling group, and appropriate private benefits, and, in fact, Hammoud & Tarabay (2018) found a positive relationship between the premium

offered and the debt/equity ratio, stating that leveraged targets were considered attractive only when the targets possessed the ability to grow without increasing their leverage or borrowing further funds. Stulz (1988) also mentioned that a bidder may be compelled to pay higher premia due to the target's controlling shareholder. Thus, there has been a debate whether leverage alone has a positive or negative effect on the premium paid. Regarding returns, Raad et al. (1999) noticed that around the announcement of a takeover, the returns for acquiring companies' shareholders are negatively affected by higher leverage in target companies and correspondingly, the debt ratios of target companies are connected with significant positive abnormal returns earned by its shareholders. On another hand, Maloney et al. (1993) stated that debt enhances managerial decision-making and that the returns for acquirers are higher the greater the increase in leverage.

The relative Q can be also used as a factor that influences premia and returns. The relative Q is the difference between Tobin's Q of the two companies involved in the transaction, thus assessing the managerial synergy and efficiency. The authors Lang et al. (1989) used a sample of targets and bidders and labelled them into high and low Q companies to then form a four-way classification of bidder-target pairs, and stated that high Q bidders when acquiring low Q targets can experience significant wealth gains. Additionally, Servaes (1991) concluded that bidder's abnormal returns are 6.36% higher when they have high Q ratios and that they increase further by 4.44% when the targets have low Q ratios and that the combined effect of both Q ratios can be higher than 10%. Sudarsanam et al. (1996) stated that the Relative Q of the bidders against the target one has a positive impact on target returns. On another hand, Goergen & Renneboog (2004) show that a target's high market-to-book ratio can lead to a higher bid premium offered, meaning that for targets with high Q compared to the bidder's Q could imply higher opportunities to grow, thus translated to higher premia paid and can even include hubris, as the authors showed that it triggers a negative price reaction for the bidder company.

The existence of a toehold, which is when a company buys a limited number of shares of a target company before initiating any M&A discussions with them, may also impact the premium offered, and several authors state that a toehold has a negative impact on the takeover premium, since the existence of a large amount of bought shares reduces target resistance and competition, thus being associated with lower bid premia and lower pre-bid target stock price runups (Betton & Eckbo, 2000; Shleifer & Vishny, 1986). Sudarsanam et

al. (1996) also showed that the existence of a bidder toehold decreases the target shareholder's returns. Regarding the bidder's returns, Martynova & Renneboog (2011a) and Sudarsanam & Mahate (2006) revealed that having a stake in the target before offering a deal has a positive impact on the bidder's returns.

The target location (cross-border or domestic) is also an important factor that impacts both premium and returns. Target companies tend to gain more from cross-border acquisitions than from domestic ones, as there is evidence from several authors from the US, UK, and Europe (Goergen & Renneboog, 2004; Martynova & Renneboog, 2008; Wansley et al., 1983). Mateev & Andonov (2018) found that target companies earn significantly positive bid premia from both types of acquisitions, but premia in cross-border deals tend to be larger than domestic ones. Additionally, Moeller & Schlingemann (2005) found evidence that US companies that acquire non-domestic targets significantly experience lower announcement stock returns of around 1% and lower changes in operating performance than companies that acquire domestic targets, thus suggesting that cross-border acquisitions bring a negative relation to bidder shareholders' returns. Other studies also imply that domestic deals lead to higher returns than acquisitions within international borders. Campa & Hernando (2004) showed evidence that acquirer's shareholders gain higher benefits in domestic transactions than in cross-border ones.

Also related to the target, being public or private also impacts the returns of the bidder shareholders. Fuller et al. (2002) studied this phenomenon and their results showed that bidder shareholders gain when purchasing a private target company but lose when buying a public target, and Faccio et al. (2006) stated that from 1996 to 2001, the acquirers of listed targets in Western Europe gained an insignificant average abnormal return of -0.38% but the acquirers of unlisted targets earned a significant average abnormal return of +1.48%.

Other factors such as the level of competition in the deals can impact returns and premia offered, as a large number of bidders for a single target creates a negative impact for the winning bidder but it creates a positive impact for the target involved as premia and returns will increase (Datta et al., 1992). Finally, as aforementioned, factors such as the nature of the acquisitions (hostile vs friendly) and the past performance also tend to have an effect on the premium and returns.

3. Research Questions and Hypothesis

Based on the literature, this study has the goal of contributing to the hostile takeovers research area, considering that there is a very small number of studies done in this field and the ones that exist are not recent. Furthermore, being the focus on Europe is also a novel contribution to this research area.

As aforementioned, on average, the gains in hostile takeovers decrease in hostile bids for the bidders' shareholders and the opposite seems to happen to the targets' shareholders, thus increasing in hostile deals when compared to friendly ones; nevertheless, some studies showed better results for bidders in hostile deals. Servaes' (1991) study showed that losses for hostile bidders were -4.71% when compared to the -0.16% for friendly bidders, while friendly targets earned +21.89% but targets in hostile deals gained +31.77%, which is consistent with the studies of Huang & Walkling (1987), Franks & Harris (1989), Lang et al. (1989), Franks et al. (1991), among others. On the opposite hand, Martynova & Renneboog (2011) showed better results for bidders in hostile deals (-1.61%), when compared with friendly deals (-4.35%), but only for the event window [-60;+60]. (See Appendix 2 for a compilation and a resume of the deals)

In this sense, the main goal is to observe what kind of results will a new study get, if it will contribute to the most accepted premise that hostile deals increase both premium offered and abnormal returns for target shareholders or if different results will contribute to a less expected outcome. Thus, this study will be used to expand knowledge in this scarce field of research.

The first research question is directed to the cumulative abnormal return of the target companies, as it would be interesting to study the runup effect that tends to exist in takeovers.

Research Question 1 (RQ1): Does the existence of hostility have a positive influence on the target's cumulative abnormal returns?

Leading to the following hypothesis:

Hypothesis 1 (H1): The existence of hostility positively affects the target's cumulative abnormal returns.

Furthermore, the study will be implemented on the analysis of the premium offered, to understand the effect of hostility on them, thus reaching the second research question:

Research Question 2 (RQ2): Does the existence of hostility increase the premium offered in acquisitions?

This will lead to the following hypothesis:

Hypothesis 2 (H2): The existence of hostility increases the premium offered in acquisitions.

Moreover, by interacting variables it will be possible to understand if there are significant determinants that together with the hostility of the bid impact the differences in the premium and returns in the acquisitions. Furthermore, by looking only at the hostile deals, and applying the same method used for the whole study, it may be possible to understand, what are the determinants that influence the existence of higher returns and lower ones, thus contributing to expanding the literature in this field.

4. Data and Methodology

Due to the nature of the goal of this study, it can be said that this study can be characterized as an event study, considering that by the application of financial market data, “an event study measures the impact of a specific event on the value of a firm”, and the “effects of an event will be reflected immediately in security prices” (MacKinlay, 1997). However, the assessment of the event’s impact entails a measure of the abnormal returns and so it is not necessarily used in the study of premia. For this reason, the following explanation will be focused on event studies and abnormal returns. After that, there will be an explanation on the methodology used to observe the impact of hostility on the premia offered.

MacKinlay (1997), in his paper, shows a possible process for the completion of an event study, which will be adapted in this dissertation.

4.1 Definition of the event and event window

Firstly, the author explains that it is necessary to define the event of interest and identify the period over which the security prices of the companies involved will be examined, called the event window. Fama et al. (1969) indicated that the event date can be uncertain, therefore, considering that the event studied is hostility in M&A deals, the event period must focus on the announcement of the bid. However, it makes sense to focus slightly before and after the announcement so that it is possible to observe the runup effect and the cumulative abnormal returns can be better calculated.

Additionally, a study conducted by Martynova & Renneboog (2011) on European mergers showed that for different event windows there can be different results. For the acquiring companies, a broader window showed negative abnormal returns of around -2.83% while on shorter windows such as [-5; +5] and [-1; +1] bidder's shareholders earned around +0.79% and +0.72% respectively. On the other hand, for target companies the abnormal returns for broader windows were +26.70% while for shorter windows such as [-5; +5] and [-1; +1] target shareholders earned around +15.83% and 12.47% respectively. As a result, multiple alternate windows must be considered as well.

There is no defined standard to choose the event window to be used, as several horizons have been used in other studies of M&A deals (See Appendix 1 and 2). As a result, the event

windows to be used in this study are: [-30, +15], [-30, +1], [-15, +5], [-15, +1], [-1, +1] and T=0.

4.2 Measuring abnormal returns

Secondly, it is essential to determine the selection criteria for the inclusion of a given firm in the study, which will be explained below in detail in the Sample Description section. Furthermore, the evaluation of the event impact, implies a measure of the abnormal return, being the “actual ex-post return of the security over the event window minus the normal return of the firm over the event window” (MacKinlay, 1997). Additionally, the normal returns are the ones defined as the expected returns if the event does not occur.

Thus, the abnormal returns can be estimated according to the following formula:

$$AR_{i,t} = R_{i,t} - E(R_{i,t}) \quad (4.2.1)$$

where for the company i and event date t , $AR_{i,t}$, $R_{i,t}$ and $E(R_{i,t})$ are the abnormal return, the actual daily return, and the expected return estimated by the market model respectively. According to the author, there are two common ways to estimate normal returns – the constant mean returns model and the market model; but since the market model undertakes a stable linear relation between the market returns and the security returns instead of assuming that the average return of the security is constant through time, using a market model appeared to be more reasonable (MacKinlay, 1997). The author also named other statistical models, particularly factor models, being the market model a one-factor model, however, those are conditioned to the data available, are more complex, the gains of using them are limited and in the end, they show similar results to estimate abnormal returns.

To better understand, “a market model is a statistical model which relates the return of any given security to the return of the market portfolio” (MacKinlay, 1997), and for any security i the market model is defined as:

$$R_{i,t} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (4.2.2)$$

$$E(\varepsilon_{it}) = 0 \quad \text{var}(\varepsilon_{it}) = \sigma_{\varepsilon_t}^2$$

where $R_{i,t}$ and R_{mt} are the period- t daily returns on security i and the market portfolio, respectively, and these returns will be computed using the natural logarithm formula. ε_{it} is the zero mean disturbance term, and α_i , β_i and $\sigma_{\varepsilon_t}^2$ are the parameters of the market model,

to be estimated. When applying this method, usually a broad-based stock index is used as a proxy of the market portfolio and it is used to estimate the market model parameters, usually using the Ordinary Least Squares (OLS) method as the estimation procedure, since it is considered a consistent and reliable method by many authors in previous financial studies.

4.2.1 Definition of the estimation window

After deciding to use the market model to estimate the normal returns, the next step is to define the estimation window. Considering that the event period should not be included in the estimation window to not influence the parameter estimates of the normal performance of the model, hence a period before the event window will be used for the estimation window. As a result, the market model estimator for each security will be used for an estimation window that goes from day -300 to day -36 (from 35 to 300 days prior to the event window), therefore covering 265 trading days.

4.2.2 Aggregating abnormal returns

Considering that to portray overall inferences for the event of interest abnormal return observations must be aggregated, thus it will be necessary to compute the cumulative abnormal returns (CAR) for each company i , for a certain event window. As a result, the CAR of each company in a time period is equal to the sum of all the abnormal returns during that same period of time, being so:

$$CAR_i = \sum_{t=1}^T AR_{i,t} \quad (4.2.2.1)$$

Taking into account that the purpose of the study is to analyse all companies as a whole, then the cumulative average abnormal returns (CAAR) can be expressed as:

$$CAAR_i = \frac{1}{N} \sum_{t=1}^N CAR_i \quad (4.2.2.2)$$

where N represents the number of total companies.

4.2.3 Model

Since the value of the cumulative average abnormal returns is supposed to be correlated with the type of M&A event that happened (Campa & Hernando, 2004) and considering the factors that impact the returns of the targets, an equation must be computed to try to test the research questions presented in Section 3 and explain the returns earned by the

shareholders. A few factors that were aforementioned and impact CARs were not able to be added to the model since that information was not publicly available.

Model for the CAR of target's shareholders:

$$\begin{aligned}
 CAR_i &= \alpha + \beta_1 * Hostile_i + \beta_2 * Cash_i + \beta_3 * Mixed_i + \beta_4 * RIndustry_i + \beta_5 * Lev_i + \beta_6 \\
 &\quad * Toehold_i + \beta_7 * Low_{TQ_i} + \beta_8 * Domestic_i + \beta_9 * Hostile_iCash_i + \beta_{10} \\
 &\quad * Hostile_iRIndustry_i + \beta_{11} * Hostile_iLev_i + \beta_{12} * Hostile_iToehold_i + \beta_{13} \\
 &\quad * Hostile_iLow_{TQ_i} + \beta_{14} * Hostile_iDomestic_i + \varepsilon_i
 \end{aligned}$$

Where:

- CAR_i refers to the cumulative average abnormal return of the target during the event window around the announcement day. In this study, as previously mentioned, several windows will be applied, thus analysing what kind of different results will appear for different event windows, being them: [-30, +15], [-30, +1], [-15, +5], [-15, +1], [-1, +1] and T=0.
- $Hostile_i$ is a dummy variable that takes the number 1 if the acquisition is classified as “Hostile Bid”, “Hostile initially became recommended”, and/or “Unsolicited Bid” in the Sub-Deal Type present in the Zephyr Database, and 0 if the acquisition is classified as “Recommended bid”. Considering the literature presented before, abnormal returns for the target shareholders of hostile deals are on average positive and higher than the ones for friendly deals, even with different event windows the results are positive, thus it is expected that this coefficient will have a **positive** impact explaining the CARs earned by the shareholders of the target company.
- $Cash_i$ is a dummy variable that takes the value of 1 if the transaction is totally paid in cash and 0 if any other method is used. The information regarding the method of payment is also present in the Zephyr Database. The expected impact that this coefficient will have on the CARs earned by the target's shareholders is positive, considering that evidence mentioned previously showed that deals that use cash offer positive abnormal returns for the target company (Wansley et al., 1983). Servaes (1991) also claimed that cash transactions impact positively the target returns.
- $Mixed_i$ is a dummy variable that takes the value of 1 if the transaction is paid in both cash and equity, and 0 if otherwise. There is no knowledge of studies that show the

impact of mixed payment on target's returns, however considering that it involves cash it could be possible that a **positive** impact is expected, although lower than only cash, considering that it also involved equity and previous literature expects higher returns with only cash on returns.

- *RIndustry_i* refers to 'Relatedness in Industry', thus being a dummy where 1 means that the two companies belong to the same industry and 0 otherwise. Considering that the database shows the industry of both the targets and the acquirers in every deal, as well as the NACE code they belong it becomes straightforward to understand if the two companies are related or not, considering 1 if they are equal or the three first digits are the same and 0 otherwise. The NACE code is the equivalent European to the SIC code. A study by Maquieira et al. (1998) stated that positive abnormal returns are always expected on non-conglomerate deals and the aforementioned studies showed that horizontal and vertical deals have more positive combined abnormal returns than diversifiable ones. However, literature is ambiguous regarding wealth creation in diversifiable deals, so the sign expected is **ambiguous**.
- *Lev_i* is the ratio between total debt and total assets of the target. Most of this information is available in the database as well, the missing data were retrieved from the annual reports of the respective targets, previous to the deal completion. Considering the aforementioned evidence, the expected impact of leverage on the returns of the target is **positive** (Raad et al., 1999).
- *Toehold_i* is a dummy variable and it takes the value 1 if the bidder previously held shares of the target before the announcement and 0 if it did not. Furthermore, as literature shows the impact expected for the target's returns, as the bidders have a stake in their shares before the offering, is negative, so a **negative** sign is anticipated on this coefficient.
- *Low_{TQ_i}* refers to the target's Tobin's Q. It is a dummy that comprises the number 1 if the target's Tobin's Q is lower than 1 and 0 if otherwise. The Tobin's retrieved for this coefficient refer to the financial and market data of the calendar year before the announcement of the deal, and the information is available on the database as well. According to Lang et al. (1989), a comparison of the target abnormal returns for low and high Q targets support the view that it is unlikely for the bidder to make any changes in the target's operations, thus their gains are reduced when the target has a

high Tobin-Q, adding that “the difference in the average target abnormal return between low and high q targets is 11% and is significant at the 0.05 level” and that “since a high Q firm is less likely to be a target than a low Q firm, it seems unlikely that the lower abnormal return associated with tender offers for high Q targets reflect a greater degree of anticipation of these offers”, thus it could be understood that low Tobin-Q targets may have better positive abnormal returns than high Q targets, thus it is expected a **positive** sign for this coefficient.

- *Domestic_i* refers to a dummy where 1 represents that the target belongs to the same country as the bidder, and 0 if both companies belong to different countries. This information is given by the Zephyr Database, which states the country that both companies belong to, thus inference on this subject is easy to obtain. Following the studies referred to above, usually, non-domestic deals result in target shareholders gaining more than domestic deals, thus it is expected that this coefficient will have a **negative** impact on the CARs earned by the targets.

To be able to add the further significance of this dissertation to the Hostile Takeover research area, a few more coefficients were added, and a few assumptions could be done, considering the previous literature:

- *Hostile_iCash_i* refers to a hostile deal paid in cash. Considering the study of Loughran & Vijh (1997), cash tender offers obtain significantly positive abnormal returns, when compared to mergers. Thus, it could be expected that the attitude of the bidder towards the target enhances the **positive** expected sign previously mentioned on cash deals.
- *Hostile_iRIndustry_i*, *Hostile_iLev_i*, *Hostile_iToehold_i*, *Hostile_iLow_{TQ_i}* and *Hostile_iDomestic_i* refers to a combination of the previous coefficients with the attitude towards the deal to understand if it enhances the sign or if it has a completely different one. Here, there is no suggestion of how the sign will turn out, since there are no previous studies found regarding this matter.

4.3 Measuring and assessing premia

Regarding the premia, a simple regression using the OLS method will be implemented. Thus, the model studied will be the following:

$Premium_i$

$$= \alpha + \beta_1 * Hostile_i + \beta_2 * Cash_i + \beta_3 * Mixed_i + \beta_4 * RIndustry_i + \beta_5 * Lev_i + \beta_6 * Toehold_i + \beta_7 * Low_{TQ_i} + \beta_8 * Domestic_i + \beta_9 * Hostile_i Cash_i + \beta_{10} * Hostile_i RIndustry_i + \beta_{11} * Hostile_i Lev_i + \beta_{12} * Hostile_i Toehold_i + \beta_{13} * Hostile_i Low_{TQ_i} + \beta_{14} * Hostile_i Domestic_i + \varepsilon_i$$

Where,

- $Premium_i$ refers to the premium offered in the deal between the two companies. Multiple premia will be computed. Considering that the database provides the ‘Rumour date’, the ‘Announced date’ and the ‘Completed date’, it will then be computed the premium considering the difference between the offer price and 1) the rumour date share price; 2) the last available price of the target’s shares before the completed date; 3) 30 days prior to the announced date share price; 4) 15 days prior to the announced date share price, 5) 1 day prior to the announced date share price and 6) the announced date share price.
- $Hostile_i$ is a dummy variable that takes the number 1 if the acquisition is classified as “Hostile Bid”, “Hostile initially became recommended”, and/or “Unsolicited Bid” in the Sub-Deal Type present in the Zephyr Database, and 0 if the acquisition is classified as “Recommended bid. Considering the literature presented before, premia for the target shareholders of hostile deals are on average positive and higher than the ones for friendly deals, thus it is expected that this coefficient will have a **positive** impact on explaining premia offered to the shareholders of the target company.
- $Cash_i$ is a dummy variable that takes the value of 1 if the transaction is totally paid in cash and 0 if any other method is used. Previous literature showed that cash payments usually go along with higher premia (La Bruslerie, 2013), thus it is expected a **positive** impact.
- $Mixed_i$ is a dummy variable that takes the value of 1 if the transaction is paid in both cash and equity, and 0 if otherwise. The same author also stated that mixed payments also go along with higher premia, so a **positive** impact is also expected.
- $RIndustry_i$ refers to ‘Relatedness in Industry’, thus being a dummy where 1 means that the two companies belong to the same industry and 0 otherwise. It can be

anticipated that the impact of this coefficient on the premium offered is **positive**, considering that is what happened in previous studies.

- Lev_i is the ratio between total debt and total assets of the target. Considering the aforementioned literature, the expected impact of leverage on the premium offered is **ambiguous**.
- $Toehold_i$ is a dummy variable and it takes the value 1 if the bidder previously held shares of the target before the announcement and 0 if it did not. Furthermore, as literature shows the impact expected for the premium offered is **negative**, so a **negative** sign is anticipated for this coefficient.
- Low_{TQ_i} refers to the target Tobin's Q. It is a dummy that comprises the number 1 if the target Tobin's Q is lower than 1 and 0 if otherwise. Considering previous studies, there were only relative studies made, comparing both the target's Tobin-Q and the bidder's Tobin-Q, however considering the meaning of Tobin-Q, a lower than 1 value means that its market valuation is lower than its intrinsic value, which bidders may be tempted to pay more if that is the case. Thus, it is expected a **positive** sign for this coefficient.
- $Domestic_{i,j}$ refers to a dummy where 1 represents that the target belongs to the same country as the bidder, and 0 if both companies belong to different countries. Following the studies referred to above, usually, domestic deals result in lower premia than cross-border deals, thus it is expected that this coefficient will have a **negative** impact on the premium offered to the target's shareholders.
- $Hostile_iCash_i$, $Hostile_iRIndustry_i$, $Hostile_iLev_i$, $Hostile_iToehold_i$, $Hostile_iLow_{TQ_i}$ and $Hostile_iDomestic_i$ refers to a combination of the previous coefficients with the attitude towards the deal to understand once again if it enhances the sign or if has a completely different sign than the previous one. Here, there is no idea of how the sign will turn out since there are no previous studies found regarding this matter.

4.4 Sample Description

This section presents the sample used in this dissertation, including the conditions used to select the deals that were to be analysed.

All the information regarding the deals was retrieved from the Zephyr Database of Bureau Van Dijk. As previously mentioned, a market model will be used for the computation of the CARs, thus for this purpose, the MSCI-Europe index will be used and its information was retrieved from the Eikon Refinitiv database, which is part of the financial data provider Thomson Reuters. Additionally, as aforementioned all information not present in the database was gathered from each company's respective annual report and the Eikon Refinitiv database, for example, the historical prices to compute the CARs.

For an M&A deal to be included in this sample the following conditions should be met:

1. The deals should have taken place during the time period comprised between January 1st, 2010, and January 1st, 2021. Additionally, the deals must be classified as 'Completed', and only deals classified as 'Acquisition' and 'Merger' were selected.
2. The acquirer of the deal must be based in Western Europe as classified in the Zephyr Database, as Europe is the region studied in this dissertation.
3. Deals in the sectors classified by Zephyr Database as "banks" and "insurance companies" were not included, given the specificities of these regulated industries.
4. The target must be listed or have been delisted after the deal completion.

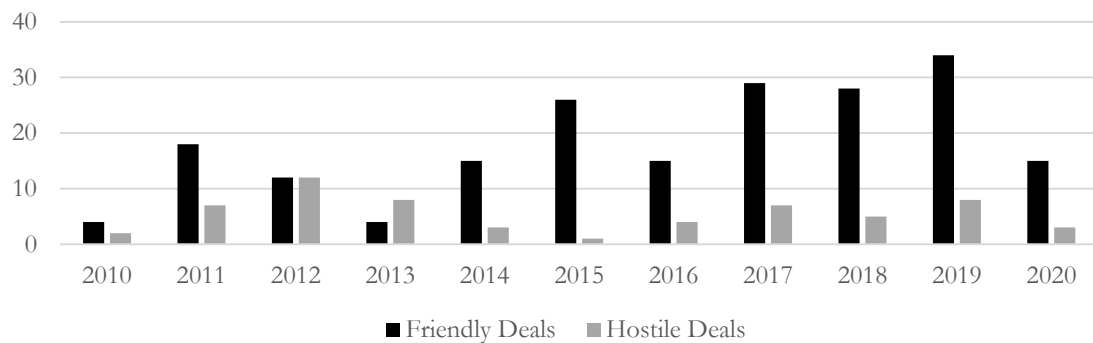
After these conditions were met, the sample was left with 80 855 deals in the database, where 80 deals were classified as 'Hostile Bid', 'Hostile initially became recommended', or 'Unsolicited Bid' and 734 deals were classified as "Recommended Bid" for simplicity of the sample to be used. Due to insufficient information available to compute the model market with the 265 trading days or the accounting information to compute the variables, only 60 deals classified as hostile were able to be included in the sample.

Of the 734 friendly deals, 200 were chosen randomly to simplify the data collection, but also to control the sector they belong in, in the sense that the transactions studied were not in completely different sectors and the results would not be proven relevant.

Therefore, the final sample of this study consists of 260 deals.

In Figure 1 it is possible to observe the number of friendly and hostile deals between 2010 and 2021, for this sample. Appendix 3 shows the number of friendly and hostile transactions by announcement year, prior to the trimming of the sample.

**Figure 1: Number of friendly and hostile transactions by announcement year
(Sample 260 deals)**



As it was expected from the literature the number of friendly deals that occur every year is always greater than the number of hostile ones (Annex 3). In Figure 1 that does not happen because the sample was chosen to control for the sector, which will not have any implications on the final results.

In Figures 2 and 3, it can be observed the origin of bidders and targets that participate in the deals of this sample and more specifically only the hostile ones. Various companies in the United Kingdom are great candidates to become targets from both friendly to hostile deals in Europe, consisting of a total of 81 deals meaning 31,15% of the sample. Followed by France (39 deals), Sweden (33 deals), Germany (15 deals), Norway (14 deals), and the Netherlands (14 deals) in the total sample. However, looking only at the hostile deals, Sweden (8 deals), the Netherlands (5 deals) and Germany (5 deals) are the most targeted countries. The remaining countries of origin of the targets only have a small influence on the total sample.

Regarding the bidders, it is interesting to point out that the United Kingdom is also the main contributor to the sample with 50 deals, followed once again by France (34 deals), Sweden (26 deals), Netherlands (16 deals), Germany (16 deals), Norway (13 deals), and United States (11 deals), while the rest have a residual impact on the overall sample.

Figure 2: Bidder's and target's country of origin (full sample) ¹

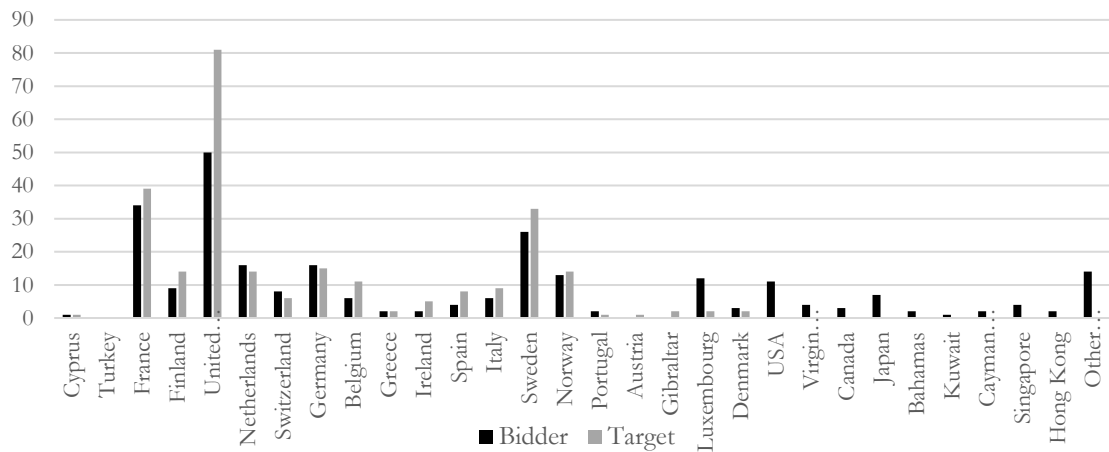
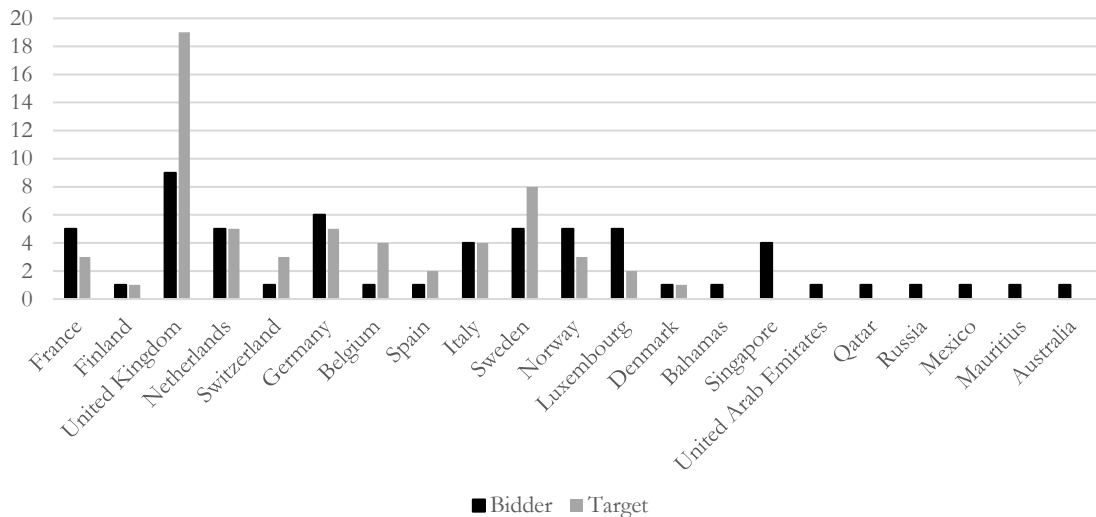


Figure 3: Bidder's and target's country of origin in hostile deals



Now considering the sectors that most targets belong to, in Table 1 it is possible to point out the most attractive sectors for M&A deals in general, as well as hostile deals. Even though the 734 friendly deals were trimmed to control the sector and have more meaningful results it is important to point out that most deals observed were among the ones shown here and after eliminating the evident outliers, these were the sectors remaining:

¹ Other countries entails one bidder from the following countries: Saudi Arabia, Malta, Israel, Thailand, Bermuda, Poland, China, Colombia, United Arab Emirates, Qatar, Russia, Mexico, Mauritius, Australia and United Arab Emirates, and no targets from these countries.

Table 1: Target's main sectors of activity

Target Main Sector	Total Deals	Hostile Deals
Machinery, equipment, furniture, recycling	36	8
Transport	11	6
Primary Sector (agriculture, mining, etc.)	19	6
Chemicals, rubber, plastics, non-metallic products	16	4
Gas, Water, Electricity	8	3
Hotels & restaurants	8	3
Wholesale & retail trade	16	4
Textiles, wearing apparel, leather	2	1
Food, beverages, tobacco	5	1
Education, Health	4	2
Post and telecommunications	6	1
Publishing, printing	3	1
Construction	12	1
Wood, cork, paper	3	1
Metals & metal products	8	1
Other services ² :	103	17

As it is possible to observe, targets that are involved in machinery, equipment, agriculture, mining, wholesales, retail, chemicals, and transportation are very keen on M&A deals. Furthermore, as it is expected from nowadays, targets that belong to the software, data processing and computer programming sectors are also very attractive to engage in M&A transactions². In this sample, most hostile deals occurred in the machinery, equipment, furniture, and recycling sector as classified by the database.

Table 2 shows the specific characteristics of the deals that compose the sample, considering the aspects that were mentioned in the literature review as well as the aspects to be studied in the model.

² In Appendix 4 it is discriminated the various subsectors that belong to the 'Other Services' described by the database. The target's subsector that comprises more deals are the software publishing, computer programming and consulting activities and other financial activities, except insurance and pension fundings.

Table 2: Sample Composition

This table shows the total numbers of M&A transactions by the partition of the sample in a) Attitude to the bid; b) Payment Method; c) Industry relatedness; d) Position at the announcement; e) Geographic range; f) Leverage level; g) Tobin-Q.

<i>Panel A: Attitude to the bid</i>	<i>Deals</i>
Hostile	60
Friendly	200
<i>Panel B: Payment Method</i>	
All Cash	203
Mixed	33
All Equity	24
<i>Panel C: Industry Relatedness</i>	
Industry Focus	152
Diversification	108
<i>Panel D: Position at the announcement</i>	
Toehold	128
No Toehold	132
<i>Panel E: Geographic Range</i>	
Domestic Bids	139
Cross Border	121
<i>Panel F: Leverage Level</i>	
Total Debt/Total Assets <50%	145
Total Debt/Total Assets >50%	115
<i>Panel G: Tobin-Q</i>	
Target Tobin-Q < 1	127
Target Tobin-Q >1	133

The first thing that is evident throughout the whole study is that hostile deals are rare and happen across various industries (Fortier, 1989). In this case, it corresponds to 23.1% of the total sample, however, in the universe of the 80 855 transactions, the 80 hostile deals only represented around 0.10%.

Regarding the payment method, all cash is the preferred form, and it corresponds to 78.08% of the total deals and 88.33% of the hostile deals; mixed payment corresponds to 12.69% of the total sample and 11.67% of hostile deals, leaving all equity as the least chosen form of payment corresponding to 9.23% of the total sample and 0.00% to hostile deals, which is expected considering that all cash tends to be the favoured method of payment used on hostile transactions (Schwert, 2000) and M&A deals in general. Martynova & Renneboog's (2011) sample showed that all cash payments accounted for 38,8% of total deals and all equity

14.4% of the total deals, while a mix of the two represented 17.9%, which although the portions are not close to this sample, the order of the most to least chosen form is the same. On the other hand, a study conducted by Faccio & Masulis (2005) in European Mergers and Acquisitions showed that all cash deals represented 80.2% of the their total sample, while mixed and all equity represented 11.3% and 8.4%, respectively, thus showing similar results to this sample.

Considering now the industry relatedness, it was mentioned above that it would be deemed an industry-related/focused transaction, considering the “Target major sector” and the “NACE Rev.2 code(s)” provided by the Zephyr database, if the NACE code that the companies belong to are equal or if the three first digits are the same. In this sense, industry focus deals represent 58.46% of the total sample and 55% of the hostile deals.

Furthermore, concerning the existence of a stake on the target previous to the deal, it is possible to observe that even though this was random 49.23% of the bidders had a toehold on the target and 50.77% did not. Considering only hostile bids, 78.3% of the bidders had a stake in the target’s shares previously to the deal, which is expected since, as previously mentioned, when the management resists the acquisition, the bidder starts to acquire some of the target’s shares in secret.

Finally, about the geographic range, 53.46% of the deals in this sample occur between borders while the remaining go beyond them. Focusing only on hostile transactions, domestic bids occur in 33 out of 60 deals corresponding to a percentage of 55%.

Regarding the level of leverage of the target, it is possible to observe that the sample is quite equilibrated, thus 44.23% of the target companies have a higher than 50% of the total financing being through debt and 55.77% are more equity financed. 33 out of 60 hostile deals have more debt than equity financing which is consistent with the study of (Morck et al., 1988) even though most bidders prefer targets with less leverage in their balance sheet.

Finally, 48.85% of the targets have a lower than 1 Tobin-Q meaning that the market value of the target is lower than its recorded assets, which could mean that the target is undervalued. Additionally, as expected from the literature, hostile bidders prefer targets with lower Tobin-Qs, which is evident in this sample as 40 out of 60 targets have a lower than 1 Tobin-Q.

Regarding the information presented in Table 3, even though most bidders do not have their accounting and financial information available, the mean and median of its firm characteristics were computed either way. From what resulted, by looking at the total assets or the market capitalization, it can be pointed out that the general bidders tend to be larger than their targets, have a higher level of debt on their capital structure, and looking at the overall sample, the bidders have higher Tobin-Qs than the seller companies.

Table 3:

This table displays the accounting and financial characteristics of the companies involved in M&A deals and more specifically hostile deals, prior to the announcement of the transaction. It is shown the mean and median of the information concerning the bidders and the targets. It is relevant to point out that due to some bidders being private in the sample the mean and median were computed with the ones available and so it does not represent accurately the full sample. Nevertheless, it is interesting to observe the characteristics of those available.

	All Bidders³		All Targets		Hostile Bidders⁴		Hostile Targets	
	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>	<i>Mean</i>	<i>Median</i>
Accounting characteristics								
Total Assets (€ in millions)	7762.5	850.3	1828.3	225.8	5425.5	683.3	2101.4	346.4
Total Debts (€ in millions)	4557.5	323.8	1018.7	110.3	3455.9	276.3	1248.7	146.6
Total Shareholders' Funds (€ in millions)	3205.0	352.2	809.8	123.4	1969.6	206.4	853.4	252.0
Leverage (%)	58,71	38,08	55,72	48,82	63,70	40,43	59,42	42,33
Financial characteristics								
Market Capitalization (€ in millions)	15648.4	3369.6	1584.9	264.6	12880.9	5048.8	1243.2	372.5
Tobin's Q	2,688	1,132	2,138	1,037	1,100	1,042	1,146	0,729

³ All bidders number of observations for total assets, total debt, total shareholder funds, market capitalization and Tobin's Q are 170, 170, 170, 81 and 68 respectively.

⁴ Hostile bidders number of observations for total assets, total debt, total shareholder funds, market capitalization and Tobin's Q are 35, 35, 35, 11 and 10 respectively.

5. Results

5.1 Cumulative Average Abnormal Returns

5.1.1 Univariate Analysis

The effects of the announcements of the bids in target's returns for the six aforementioned different event windows, using a univariate analysis, are presented in this section.

In Table 4 it is shown the results of the CARs for the overall sample. For this sample, the results are insightful. Firstly, targets earn statistically significant, at the 1% level, positive cumulative abnormal returns of 16.28% from 30 days before the announcement and 15 days after that date. Furthermore, these positive statistically significant returns increase to 16.34% if the event window is narrowed from 30 days prior to the announced date until 1 day after the announced date, which could mean that after the announced day, the market may experience a downtrend that decreases the cumulative abnormal returns to target shareholders. When the event windows are even more narrowed, the cumulative abnormal returns decrease as well, which could mean that there is a leakage of information that allows investors to trade on private information and earn higher abnormal returns, which start one month prior to the announced date. Other studies showed that this runup effect may start two weeks before the announced date, but in this case, it appears to happen in one month. Other studies also found that the larger the event window the bigger the marginal increase in the amount of cumulative abnormal returns (Campa & Hernando, 2004; Datta et al., 1992; Jensen & Ruback, 1983). On the announced day, targets earn on average positive excess returns of around 10%, however not statistically significant, and although that is the case, this means that the market is quick to react to new information, meaning that the existence of this event changed the "normal" flow of the stock price and indeed impacted the returns for target shareholders which is consistent with the existent literature.

The percentage of companies that showed positive abnormal returns around the event windows is also shown in Table 4, and 78.08% of the deals on the total sample showed positive abnormal returns on 3 days surrounding the announced day, while on the announced day the percentage of positive abnormal returns were of 77.31%. A study from Mulherin (2000) as cited by Campa & Hernando (2004) for a sample size of 202 firms also showed

similar results of positive abnormal returns of 10.14% for target shareholders in the event window [-1,0], with 76% of the returns being positive.

Table 4: CARs of all bids

This table shows the average and median values of the CARs for the whole sample of targets for the 6 different event windows previously mentioned. The window T=0 is the day of the announcement of the deal. The abnormal returns are computed as the difference between the real returns and the market model expected returns. The market model was based on the MSCI-Europe index and the parameters were estimated over a period of 265 days starting 300 days before the announced day. T-statistic tests the null hypothesis that the average CAR is equal to zero and *, **, and *** correspond to the statistical significance of 10%, 5%, and 1%. The Wilcoxon signed-rank test was used to assess the statistical significance of the median returns.

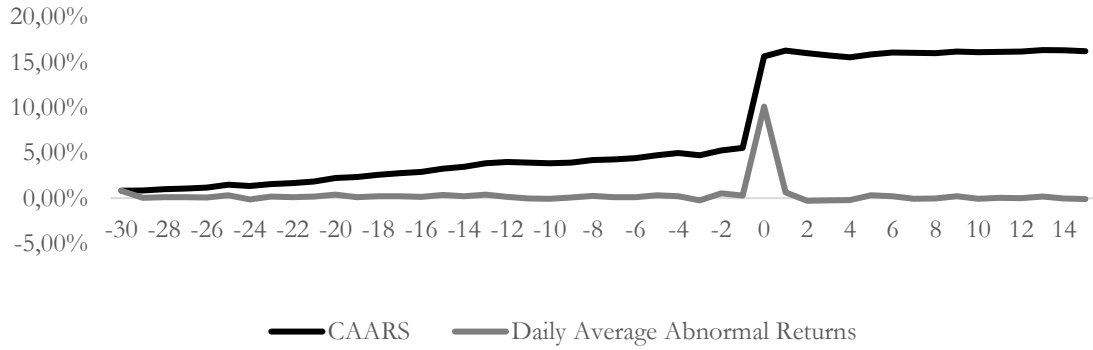
Total Sample			
	Mean	Median	Positive
CARS [-30; +15]	16,28%***	12,43%***	72,31%
CARS [-30; +1]	16,34%***	14,00%***	77,31%
CARS [-15; +5]	13,03%**	9,08%***	71,92%
CARS [-15; +1]	13,43%**	8,84%***	73,85%
CARS [-1; +1]	11,06%	4,30%***	78,08%
T=0	10,12%	2,87%***	77,31%

260 deals

Figure 4 represents the target's daily cumulative average abnormal returns and the daily average abnormal returns surrounding the announcement of the deal. Here, it can be concluded that the target shareholders earn positive, statistically significant excess returns in the 46 days around the announced date. The data in this sample and graph is very similar to the one in Huang & Walkling (1987), where it is evident a great daily average abnormal return around the two days surrounding the announced date but previously and after the average abnormal return is small and stable (Annex 3 shows Huang & Walkling (1987)'s study results). From this figure, it is evident the price runup that occurs before the announcement day, where the jump is more accentuated on the actual day, where the information that comes from the announcement is almost completely incorporated into the target's stock price, which is why after the announcement there is a downward trend that stays until day +3 which after that begins a more stable phase.

Figure 4: Target CAARs around the deal announcement

Figure 4 shows the evolution per day of the cumulative average abnormal returns for target companies beginning 30 days before the announced date up to 15 days after the deal announcement as well as the daily average abnormal returns for all companies. Day 0 is the announced date. The abnormal returns are computed as the difference between the real returns and the market model expected returns. The market model was based on the MSCI-Europe index and the parameters were estimated over a period of 265 days starting 300 days before the announced day.



5.1.1.1 Cumulative Average Abnormal Returns according to the attitude to the bid

Considering the focus of this study, now it will be presented the abnormal returns according to the attitude of the deal for this sample.

In Table 5 it can be observed that the results were not what it was expected by the extended literature review. Even though the average of the CARs is still positive for both cases, what is unexpected is the fact that friendly deals present, on average, higher positive abnormal returns than hostile deals, and both show statistical significance. Furthermore, the differences in the number of positive CARs for friendly and hostile deals in the different windows it is also not expected by the former literature review, since in every event window, the number of negative CARs on hostile deals is higher than the number of negative CARs for friendly deals, besides having lower means.

Table 5: CARs by attitude to the bid

This table reports the target's shareholders' mean and the median values of the CARs received, divided by attitude to the bid for the six different windows. T-statistic tests the null hypothesis that the average CAR is equal to zero and *, **, and *** correspond to the statistical significance of 10%, 5%, and 1%. The Wilcoxon signed-rank test was used to assess the statistical significance of the median returns.

	Hostile Deals			Friendly Deals		
	Mean	Median	Positive	Mean	Median	Positive
[-30; +15]	6,80%**	5,61%***	65,00%	19,13%***	16,83%***	74,50%
[-30; +1]	6,77%*	5,68%***	68,33%	19,22%***	17,94%***	80,00%
[-15; +5]	6,19%	3,01%***	68,33%	15,08%**	11,91%***	73,00%
[-15; +1]	5,68%	4,05%*	66,67%	15,76%**	12,56%***	76,00%
[-1; +1]	4,38%	1,95%***	75,00%	13,06%	6,23%***	79,00%
T=0	3,13%	0,88%***	66,67%	12,2%	5,1%***	80,5%

Figures 5 and 6 show how hostile and friendly target returns evolve throughout the announcement of the bid to the general public, giving additional information to Table 5. The results for friendly deals are very similar to the total sample and consequently to the study of Huang & Walkling (1987). However hostile results are quite different and with no clear pattern, which was not documented before in any study. One possible explanation could be confounding events, which means, that during the event window studied, companies could release earnings information for example, or any other major news that could cause some noise in the sample data, consequently bringing new information to the companies' share prices and influencing returns, that do not have anything to do with the event studied. Another aspect is that sometimes, as Higson & Elliott (1998) mentioned, benchmarks can be biased, which could impact the quality of the calculation of expected firm returns and thus leading to the computation of highly incorrect abnormal returns.

Figure 5: Hostile target CAARs around the deal announcement

Figure 5 shows the evolution per day of the cumulative average abnormal returns for hostile target companies beginning 30 days before the announced date up to 15 days after the deal announcement as well as the daily average abnormal returns for all companies.

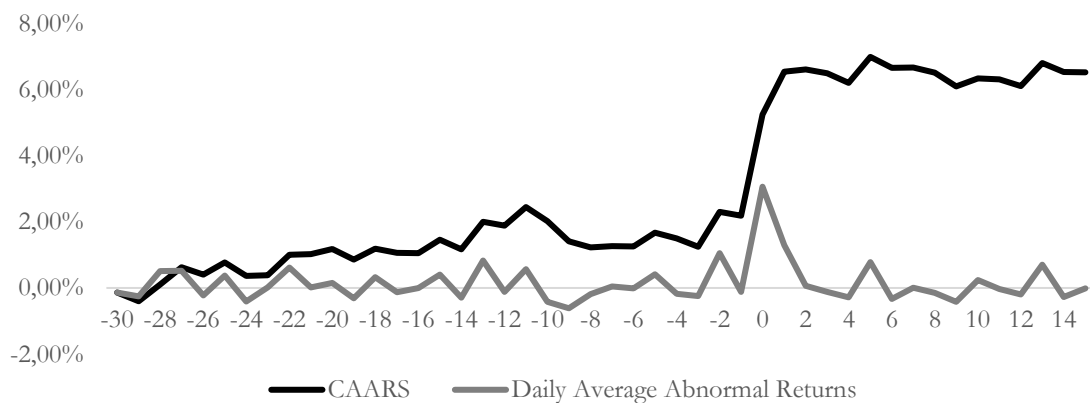
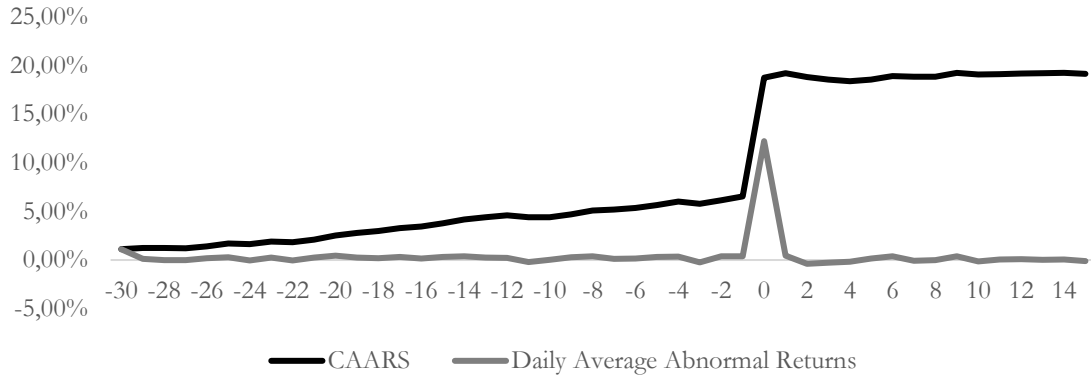


Figure 6: Friendly target CAARs around the deal announcement

Figure 6 shows the evolution per day of the cumulative average abnormal returns for friendly target companies beginning 30 days before the announced date up to 15 days after the deal announcement as well as the daily average abnormal returns for all companies.



5.1.2 Multivariate Analysis

The results obtained in the univariate analysis showed that hostile deals received lower returns than friendly deals, which was unexpected. Furthermore, those results have limitations considering that the univariate analysis does not take into account several elements that influence performance and is also based on restrictive assumptions that undermine econometric problems such as heteroscedasticity. In this sense, these results will now, be explored in a multivariate framework together with the other characteristics that affect the target's announcement returns.

To understand these effects in the target's cumulative abnormal returns, four regressions were estimated. The determinants of the market reaction to the sample's target's bid announcements are reported in Table 6.

Table 6: Regression of target's CARs⁵

This table reports the results of the OLS regression of the sample's target's CARs for the event window $[-1; +1]$. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both, and Eq.4 includes all variables but also

⁵ To control for industry and country, regressions were made with dummies, as a robustness check. The results showed that no country or industry demonstrated a statistically significant impact on the CARs of the targets, for any of the different event windows.

joins all the variables with the hostile one, to observe its impact on the target's CARs. Variable definitions and expected signs are described in Section 4.2.3. In this table, each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq.2		Eq.3		Eq.4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.044548	0.0267	0.171646	0.031138	0.088567	0.043751	0.095925	0.052438
<i>Hostile</i>	-0.0982***	0.0237			-0.096547***	0.023776	-0.135023**	0.066254
<i>Cash</i>	0.0964**	0.0337			0.097803**	0.041180	0.093013**	0.046254
<i>Mixed</i>	0.1062**	0.0369			0.099563**	0.039008	0.101975**	0.043505
<i>RIndustry</i>			0.011356	0.030427	0.015170	0.030030	0.023325	0.038662
<i>Lev</i>			-0.0301**	0.011922	-0.034032***	0.011208	-0.037325***	0.012760
<i>Toehold</i>			-0.02445	0.034582	-0.010361	0.038549	0.001294	0.049729
<i>Low_TQ</i>			-0.01127	0.029013	0.008617	0.030928	0.006217	0.040564
<i>Domestic</i>			-0.06564**	0.031339	-0.066585**	0.031793	-0.087172**	0.042503
<i>Hostile*Cash</i>							0.015818	0.057407
<i>Hostile*RIndustry</i>							-0.032238	0.049667
<i>Hostile*Lev</i>							0.048803	0.042536
<i>Hostile*Toehold</i>							-0.033556	0.058340
<i>Hostile*Low_TQ</i>							0.001101	0.046550
<i>Hostile*Domestic</i>							0.077978	0.052476
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.042061		0.036339		0.073989		0.081324	
<i>Adjusted R-squared</i>	0.030835		0.017369		0.044475		0.028829	
<i>F-statistic</i>	3.746805		1.915609		2.506893		1.549161	
<i>Prob (F-statistic)</i>	0.011607		0.092163		0.012301		0.094571	

Regarding the results displayed, it can be observed, once again, that the sign expected for the attitude of the bid was not what was expected, translating that hostile deals impact negatively the targets' shareholder's returns, with a statistical significance at the 1% level for Eq.1 and Eq.3. These results go against all the previous studies mentioned. Furthermore, other variables besides the attitude to the bid, also show a significant impact on explaining the target's CARs that were created by the deal announcements. These variables include the method of payments (both cash and mixed showed statistical significance at the 5% level), the leverage level (statistical significance at the 5% level in Eq. 2 and at the 1% level in Eq.3 and Eq.4) and the geographical range (showed statistically significant at the 5% level).

Previous studies state that the market perceives cash payments as positive information, which leads to higher target returns (Hubbard & Palia, 1999; Servaes, 1991), which is also confirmed in this study. Mixed payments, which included both cash and equity also resulted in a positive impact on the target's CARs, which was expected but the impact seems to be higher than cash alone. Paying in equity could mean that the acquirer is less confident regarding the target's valuation, thus, to share some of the risks with the seller the buyer may offer a mixed payment. This method is recent and the literature regarding mixed payments is also new, but nowadays schemes of mixed payments have become increasingly relevant in M&A deals, and the number of mixed payment deals has increased (Betton et al., 2007; La Bruslerie, 2013), hence the market could see this new method as fairer and view it more positively translating in this impact on the CARs.

Regarding the level of leverage of the target, it was shown in Raad et al. (1999) study that the greater the level of leverage of the target, the higher returns its shareholders received, thus a positive significant impact of the leverage was expected for this coefficient. However, the complete opposite happened in this study, which also showed statistical significance. Furthermore, (Hammoud & Tarabay, 2018) stated that leveraged companies were only attractive only if they could grow without having to increase their debt in the future, so, maybe these companies were not that attractive. Also, nowadays, it could make sense that high leverage in targets can be seen as something negative, thus impacting its returns when the bidder offers a deal.

Furthermore, as expected from the literature review, domestic deals tend to have a negative impact on target returns when compared to cross-border deals (Goergen & Renneboog, 2004; Martynova & Renneboog, 2008; Wansley et al., 1983), which was also confirmed in this study and so the variable *Domestic* showed a negative coefficient with statistical significance at the 5% level.

Relating to the other variables, they do not show any statistical significance relating to the CARs of the target, meaning that for this particular sample, with the given confidence level, with the statistical test that is being performed it cannot be said that for the CARs obtained, its effects are unlikely to be due to some fluke of the sample of data rather than something true about the overall population. In this sense, these results are not evidenced to justify the predictions of the sign expected by previous literature, even if most of them showed signs equal to what was expected. Further studies must be conducted.

Section 5.1.1 showed that there is a share-price runup, so it is interesting to observe what kind of determinants could impact that effect. In Table 7 it is reported the determinants of the market reaction to the sample's target's pre-bid announcement, for the event window [-30;+1].

Table 7: Regression of target's CARs⁵

This table reports the results of the OLS regression of the sample's target's CARs for the event window [-30;+1]. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq.2		Eq.3		Eq.4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.022379	0.0548	0.25009	0.0432	0.078309	0.067138	0.094113	0.072413
<i>Hostile</i>	- 0.147873 ***	0.0378			- 0.131314 ***	0.037670	- 0.092874 ***	0.110362
<i>Cash</i>	0.193964 ***	0.0608			0.203910 ***	0.068392	0.197448 ***	0.071327
<i>Mixed</i>	0.187083 ***	0.0616			0.173749 ***	0.062535	0.158835 ***	0.063628
<i>RIndustry</i>			0.0157	0.0391	0.023198	0.038865	0.019421	0.047451
<i>Lev</i>			-0.0309	0.03239	- 0.036810	0.039262	- 0.040128	0.039633
<i>Toehold</i>			-0.05261	0.04166	- 0.046434	0.046431	- 0.022953	0.056382
<i>Low_TQ</i>			-0.0312	0.03927	- 0.000785	0.040248	- 0.009013	0.050728
<i>Domestic</i>			- 0.073317 *	0.0402	- 0.070471 *	0.039330	- 0.091213 *	0.048796
<i>Hostile*Cash</i>							- 0.058170	0.088423
<i>Hostile*RIndustry</i>							0.022813	0.081975
<i>Hostile*Lev</i>							0.003635	0.099614
<i>Hostile*Toehold</i>							- 0.104010	0.096528
<i>Hostile*Low_TQ</i>							0.044139	0.066344
<i>Hostile*Domestic</i>							0.080947	0.084121
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.062784		0.036245		0.091728		0.099629	
<i>Adjusted R-squared</i>	0.051801		0.017274		0.062779		0.048179	
<i>F-statistic</i>	5.716432		1.910507		3.168622		1.936436	
<i>Prob (F-statistic)</i>	0.000841		0.093012		0.001937		0.023472	

From this table, it can be observed that three variables show statistical impact on the target's CARs, which are once again: the attitude to the bidder, the method of payment, and the geographical range.

The existence of hostility showed the unforeseen negative impact on the target's returns, which is statistically significant at the 1% level in Eq.1 and Eq.3, but statistically insignificant in Eq.4. Further studies should also be done to understand this phenomenon.

For this event window, the variables Cash and Mixed showed a positive impact on the target's CARs significant at the 1% level, for all equations, and the variable Domestic showed a negative impact on the target's CARs significant at the 10% level for all equations, once again consistent with previous literature. Appendix 5 reports the results of the OLS regression of the sample's target's CARs for the event windows [-30;+15], [-30;+1], [-15;+1], [-15;+5] and [T=0]. Similar results are presented. Also, in Appendix 6 it is displayed the comparison of signs of the variables between what was expected with the help of the literature review and the results for this specific sample.

Looking now, only at hostile deals, for the event window [-1;+1], it can be observed in Table 8 that cash has a positive statistically significant, at the 1% level, on the hostile target's returns, which was expected by the previous literature mentioned. Low_TQ determinant also showed statistically significant, positive impact on hostile target's CARs, for other event windows, which can be observed in Appendix 7. This result is expected, considering that hostile bidders may be more prone to pay more if the target is seemed to be undervalued. It could, however, be interesting to observe what the bidders' returns would be, in the short, and long run, considering that an overpayment could offset the undervaluation effect that could bring positive abnormal returns in the future.

Table 8: Regression of hostile target's CARs

This table reports the results of the OLS regression of the sample's hostile target's CARs for the event window [-1;+1]. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

Variable	Eq. 1		Eq. 2		Eq. 3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
C	0.000797	0.000818	0.005816	0.006627	-0.003058	0.006430

<i>Cash</i>	0.010533***	0.003811			0.009442***	0.003726
<i>Mixed</i>	0.008607	0.006732			0.010659	0.006892
<i>RIndustry</i>			-0.000722	0.006587	-0.000612	0.006583
<i>Lev</i>			-0.001366	0.001732	-0.001252	0.001870
<i>Toehold</i>			0.006375	0.006016	0.005406	0.006056
<i>Low_TQ</i>			0.008502	0.006293	0.009162	0.006366
<i>Domestic</i>			-0.003527	0.007249	-0.003188	0.007262

<i>Observations</i>	60	60	60
<i>R-squared</i>	0.003937	0.012721	0.016037
<i>Adjusted R-squared</i>	-0.003814	-0.006713	-0.011295
<i>F-statistic</i>	0.507962	0.654569	0.586759
<i>Prob (F-statistic)</i>	0.602323	0.658273	0.766506

Furthermore, to control for the industry and the country, regressions were conducted with dummies, as a robustness check, and for some event windows, interesting results arose. Hostile deals where the targets were located in Switzerland showed a positive (0.07781) statistically significant, at the 1% level, impact on CARS in the event window [-1;+1]. For the same event window, targets that belonged to the Education & Health sector showed a positive (0.07024) statistically significant, at the 10% level on the hostile target returns. On the other hand, for the event windows [-30;+15] and [-30;+1] the “Textiles, wearing apparel, leather” sector showed to have a positive statistically significant impact on the hostile target’s returns (0.2718 at the 1% level and 0.2380 at the 5% level, respectively), and the “Publishing, printing” sector presented a positive statistically significant impact on the hostile target’s returns (0.1527 at the 10% level and 0.1328 at the 10% level, respectively).

5.2 Premia

For this next section, it was computed several premia, considering different points in time for the companies, as it was previously explained. It is important, although, to point out that in the case of the premium computed as the difference between the offer price and the rumoured date of the bid announcement, there is no specific day before the announced date because some companies have rumours starting one year while others have rumours starting one month prior to the bid. Considering that these dates are not consistent the results may be very different and with no significance, however, it is still interesting to observe them.

Tables 9 and 10 reports show the regression of the premia offered to the target’s shareholder, using three equations, for the premia computed with the difference between the offer price and the announced date price (Table 9) and the difference between the offer price and the

share price of the target 30 days before the announced date. Appendix 8 reports the regressions of premia offered computed with the remaining days.

From these two tables, different results are displayed. Table 9 shows that for this sample three variables show statistical significance in impacting the premia offered, which are *Cash* (significant at the 10% level on Eq.1 and Eq.2 and at the 5% level on Eq.3), *Mixed* (significant at the 10% level on Eq.1) and *Domestic* (significant at the 1% level on Eq.2 and Eq.3). Table 10 shows that for this sample two variables are statistically significant in impacting the premia offered, being *Hostile* (significant at the 5% and 10% level on Eq.1 and Eq.2 respectively) and *Domestic* (significant at the 1% and 5% level on Eq.2 and Eq.3 respectively).

Once again, the results displayed are unexpected and this time in more ways than before. Firstly, for the results in Table 9, the coefficient for hostility is positive, which is consistent with previous literature, but not statistically significant. On the other hand, regarding the method of payment, things become tricky, considering that payments totally in cash and mixed are shown in previous studies to be associated with higher premia, and in this study, the contrary happens as it displayed a negative sign for this coefficient, with statistical significance. On Appendix 8, for the computation of the premium using the last price available before the completed date, it is shown that hostility has a positive, statistically significant at the 10% level, impact on hostile premia, which is consistent with the existent literature, but the variable cash contains the same results. The fact that hostile deals are often associated with positive premia, may be often associated with the day the authors use to calculate the premium, since it is possible to observe that the results are very different considering what day is used. On another note, the variable *Domestic* reported an expected result – cross-border deals pay more than domestic ones, with statistical significance.

Table 9: Regression of premia offered (announced date)⁶

⁶ Regressions were made with country and industry dummies, as a robustness check, and for all the event windows similar results arose: all countries appeared to have a negative, statistically significant, at the 1% level, impact on the premia offered. On the other hand, the sector that they belong did not show any statistically significant impact on the premia.

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the price of the target's shares on the announced date. Eq.1 offers the impact of deal characteristics on the premia. Eq. 2 adds the impacts of firm-specific characteristics on the premia and Eq.3 includes all variables but also joins them with the hostile one, to observe its impact. Variable definitions and expected signs are described in Section 4.3. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

Variable	Eq. 1		Eq.2		Eq.3	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.152381	0.062503	0.151646	0.070010	0.163744	0.078455
<i>Hostile</i>	0.067554	0.047121	0.044156	0.051275	0.018695	0.111066
<i>Cash</i>	-0.125384*	0.066261	-0.133480*	0.068061	-0.139522**	0.070582
<i>Mixed</i>	-0.122948*	0.073697	-0.101457	0.067065	-0.096297	0.069898
<i>RIndustry</i>			-0.003977	0.040693	-0.006740	0.047356
<i>Lev</i>			0.039445	0.055016	0.048026	0.059667
<i>Toehold</i>			0.043474	0.049534	0.045390	0.060927
<i>Low_TQ</i>			0.053985	0.043035	0.037300	0.051859
<i>Domestic</i>			-0.103831**	0.045348	-0.112379**	0.054989
<i>Hostile*Cash</i>					0.016185	0.079423
<i>Hostile*RIndustry</i>					0.030369	0.086763
<i>Hostile*Lev</i>					-0.168561	0.134135
<i>Hostile*Toehold</i>					-0.011516	0.090428
<i>Hostile*Low_TQ</i>					0.094988	0.089011
<i>Hostile*Domestic</i>					0.039545	0.100473
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.019716		0.063099		0.071207	
<i>Adjusted R-squared</i>	0.008229		0.033238		0.018133	
<i>F-statistic</i>	1.716310		2.113062		1.341651	
<i>Prob (F-statistic)</i>	0.164075		0.035110		0.183446	

Secondly, when looking at Table 10 completely different results regarding the first three variables are reported. Here, the variable *Hostile* shows a negative impact on the premia offered, which is consistent with the results for the CARs for the same day, even though it is inconsistent with previous literature. Additionally, this variable shows statistical significance for the first and second equations. On the other hand, the variables *Cash* and *Mixed* showed a positive sign, but no statistical significance. Moreover, the variable *Domestic* continues to be consistent and showed a negative, statistically significant, impact on the premia offered, being in accord with the existent literature.

Table 10: Regression of premia offered (30 days prior to the announced date)⁶

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the price of the target's shares 30 days before the announced date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.243156	0.135784	0.273311	0.140886	0.304133	0.155586
<i>Hostile</i>	-0.133416**	0.061816	-0.115350*	0.062103	-0.102667	0.155116
<i>Cash</i>	0.045987	0.140839	0.058032	0.153869	0.050199	0.160244
<i>Mixed</i>	0.047299	0.150261	0.054421	0.135996	0.043563	0.136368
<i>RIndustry</i>			0.023328	0.064875	0.005175	0.076427
<i>Lev</i>			0.064680	0.145710	0.074359	0.155798
<i>Toehold</i>			-0.048296	0.076889	-0.033928	0.094058
<i>Low_TQ</i>			0.028158	0.075275	0.015083	0.092574
<i>Domestic</i>			-0.150947***	0.063643	-0.184631**	0.076570
<i>Hostile*Cash</i>					-0.059629	0.129308
<i>Hostile*RIndustry</i>					0.113236	0.127145
<i>Hostile*Lev</i>					-0.260732	0.216842
<i>Hostile*Toehold</i>					-0.070584	0.136596
<i>Hostile*Low_TQ</i>					0.099922	0.126242
<i>Hostile*Domestic</i>					0.153551	0.136101
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.014251		0.056793		0.068850	
<i>Adjusted R-squared</i>	0.002699		0.026730		0.015641	
<i>F-statistic</i>	1.233683		1.889164		1.293963	
<i>Prob (F-statistic)</i>	0.297949		0.062133		0.211363	

Table 11 shows the determinants that impact the differences in premia offered in hostile deals. Appendix 9 shows the results for the remaining premia, which show similar conclusions to this case. Cash payments appeared to have a positive impact on the premia offered to target shareholders, with statistical significance at the 10 % level, which is consistent with the literature previously mentioned. Furthermore, it appears that hostile bidders prefer targets with lower Tobin-Qs, considering that they are available to pay more to have them since it is shown that the variable *Low_TQ* has a positive, statistically significant at the 10% level, impact on the premium offered to hostile target companies, which may be due to the perceived undervaluation by the bidders. On the premium

computed using 15 days prior to the announced date, the variable Mixed also showed a positive statistically significant, at 10% level, impact on the premium offered to hostile targets.

Table 11: Regression of premia offered to hostile targets (announced date)⁶

This table reports the results of the OLS regression of the sample's premia offered to hostile target shareholders, considering the difference between the offer price and the price of the target's shares on the announced date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001537	0.001593	0.003068	0.009865	-0.012796	0.013850
<i>Cash</i>	0.023963*	0.012209			0.016716*	0.010151
<i>Mixed</i>	0.012914	0.010659			0.019688*	0.011267
<i>RIndustry</i>			0.006424	0.020119	0.006590	0.020208
<i>Lev</i>			-0.012079	0.008724	-0.011851	0.008713
<i>Toehold</i>			0.032438	0.022178	0.030835	0.021520
<i>Low_TQ</i>			0.036013*	0.019368	0.037213*	0.019735
<i>Domestic</i>			-0.023265	0.022317	-0.022695	0.022275
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002291		0.027560		0.028636	
<i>Adjusted R-squared</i>	-0.005473		0.008417		0.001654	
<i>F-statistic</i>	0.295120		1.439710		1.061292	
<i>Prob (F-statistic)</i>	0.744694		0.210424		0.389051	

Regarding all the regressions computed, it is interesting to look at the R-squared of the equations. As it is known, R-squared measures the goodness of fit based on the principle of the adding decomposition of the total variation of y around its average. A value of 0.023 means that the model explains 2.3% of all the variances of the CARs, and a R-squared close to 1 is better. For this reason, it can be stated that all the equations of every regression made display very low R-squared. However, this does not mean that the results make no sense, instead, the existence of statistically significant variables means that the independent variables are correlated with the CARs, but they do not explain much of the variability in the dependent variable.

6. Conclusions and Limitations

In this section, the main conclusions and limitations concerned this study will be presented.

6.1 Conclusions

This study evaluated the effects of hostility on the cumulative abnormal returns of the European target companies and the premia offered to them. In addition, the goal of this study is to understand what impacts the differences in returns and premia of hostile deals.

In this sense, to accomplish this purpose, an event study methodology that allowed for the determination of how the share price of the targets reacted to a specific event, in this case, the announcement of the bid, in a short-term analysis, was used. To determine what are the determinants that impact these two variables, an OLS methodology was applied. The sample used has 260 European deals, where 60 are classified as hostile and 200 as friendly, that were announced between 2010 and 2021.

Concerning the overall results of this study, it was found that, for this sample, the existence of hostility negatively impacts both the returns and premia offered to the target companies, however for the latter results are ambiguous.

Focusing on the univariate analysis, it was found that targets for the total sample earn on average positive excess returns of around 16%, significant at the 1% level, starting one month before the announced date. Decreasing the event window to $[-30;+1]$ the CARs increase, which could mean that after the event all the information is available, and a downtrend starts. However, the contrary happens to hostile deals, since its CARs increase when the event window became larger, from $[-30;+1]$ to $[-30;+15]$, which could mean that the market perceives the benefits of these deals after the announcement, even though their CAARs are lower than in friendly deals. This could be consistent with the pre-bid runup-hypothesis if the returns of hostile deals were higher, which explains that if the pre-bid runup of the target is lower for hostile takeovers than for friendly ones, then hostile bidders have the possibility to have a higher bid premium to reach the same level of total premium when compared to a similar friendly offer. However, to test this a new study should be made, considering similarities in most of the aspects besides the attitude between deals, which should account for the size of the deal as well. Furthermore, observing two weeks before the announced date, targets earn on average positive excess returns of around 13%, for the whole sample,

and what happened by narrowing the event window for one month, happened again in hostile deals. A runup effect starting from one month before the announced date, for both friendly and hostile deals was perceived, which could mean that there is a leakage of information that allows investors to trade on private information and earn higher abnormal returns, even if hostile deals usually are more discrete and unexpected.

Considering the cross-sectional analysis, for both cumulative abnormal returns and premia offered, there is evidence of European hostile deals having lower returns and lower premia associated, when compared to friendly transactions, once again being inconsistent with the small number of studies that were made in this field. However, when observing the results for the premia computed using the last price available before the completed date, hostility showed a positive statistically significant impact, which could lead to the inference that it depends on the authors way to compute the premium offered, for the results shown in literature to be as they are. Looking only at hostile transactions, those that were paid only in cash showed to have a statistically significant positive impact on the target's returns and premia, and it was also found evidence, with statistical significance at the 10% level, that hostile targets with lower Tobin-Qs receive higher premia. So, to answer the research questions, it can be concluded that for this sample:

Research Question 1: Hypothesis 1 is rejected, meaning that the existence of hostility does not positively affect the target's cumulative abnormal returns when compared to non-hostile deals.

Research Question 2: The results are ambiguous considering the two different, with statistical significance, results. Further studies must be done, in order to understand better this phenomena.

As it was explained previously in Section 2, there is the suggestion that hostile takeovers often occur because the bidder perceives the inefficiency of the management of the company, and thus offers the deal to the shareholders because it intends to increase its efficiency, by acting as disciplinarians. But other studies did not find any evidence of the poor performance of the targets before the hostile takeover. This could be a possible explanation for the average results obtained for this sample, considering that if the general public does not find any value in the acquisition, or believe that the target is performing poorly, then they became uninterested in the deal thus the rejection of the deal per the

management of the target does not affect the target's perceived value by the general public, consequently its share price, its returns and so it is treated only as a normal acquisition, thus explaining these lower positive abnormal returns when compared to friendly deals where the public seems to accept as synergetic deals. Moreover, there is also the possibility that the target's management is rejecting the offer to increase the share premium offered to its shareholders, which has nothing to do with the target's value and worth, thus if the market perceived that, it could increase its shareholdings but then if the premium is not raised or does not correspond to the expected returns and premia could be lower.

Further research may be developed by analysing another sample, with different hostile deals and friendly deals, since this sample, although randomly chosen, could be luckily full of great positive abnormal returns for the friendly target shareholders. Additionally, it could be interesting to see the impact on the bidder's CARs, considering the debatable existent literature, which was not possible in this study since most bidders were privately held. Consequently, observing the impact of the combined entity would be interesting.

6.2 Limitations

Data availability is the main limitation of this research. Firstly, even though Martynova & Renneboog (2008) stated that the European market is becoming more hostile, defining one deal as hostile is very difficult, as explained by Schwert (2000). Furthermore, the Zephyr database does not provide any explanation on how it classifies the deals presented, so a more detailed analysis regarding the hostile deals chosen was not possible. This difficulty in defining hostility brings two limitations: the first one is that it is subject to the database or the person reading about the deal to classify it as hostile, and the second one is that there are always fewer hostile deals than friendly ones, which makes comparisons with large data to be impossible.

Furthermore, using a market model methodology to compute the expected normal returns has its limitations, besides the simple mathematical errors that can impact the whole research, the subjectiveness in choosing the broad index to use as a benchmark, can contain biases consequently leading to highly incorrect abnormal returns computed.

Finally, it is difficult to observe if confounding events have happened at the same time as the announced date for all the deals, which also can impact the significance and relevance of the results shown.

Appendix

Appendix 1: Value Creation in M&A deals: Resume and compilation of empirical evidence

Authors	Type of Deal	Country/Region Coverage	Sample Period	Sample Size	Model Used	Event Window	Bidder CAAR (%)	Target CAAR (%)
(Agrawal et al., 1992)	Merger and Tender Offer	USA	1955-1987	765	Market-Model, CAPM and RATS Model with adjustments	49-60 months after merger completion	-10.26%	-
(Andrade et al., 2001)	Merger	USA	1973-1998	4256	Market-Model	[-1;+1]	-0.70%	16%**
						[-20;Close]	-3.80%	23.8%**
(Asquith, 1983)	Merger	USA	1962-1976	211	Market-Model	[-1;0]	0.20%	6.2%***
(Bradley et al., 1988)	Tender Offer	USA	1963-1984	236	Market-Model	[-5;+5 Last bid]	0.97***	31.77%***
(Campa & Hernando, 2004)	Merger	EU	1998-2000	262	Market-Model	[-1;+1]	0.44%	3.93%**
						[-30;+30]	0.56%	8.9%**
(Dodd, 1980)	Merger	USA	1970-1977	151	Market-Model	[-10;Close]	-7.22%	33.96%
						[-1;0]	-1.09%	13.41%***
(Dodd & Ruback, 1977)	Tender Offer	USA	1958-1976	386	Market-Model	Month 0	2.83%	20.58%
(Firth, 1979)	Takeover	UK	1972-1974	224	Market-Model	Month -3	-0.015%	-
						Month -2	-0.005%	
						Month -1	0.093%	
						Month 0	0.334%	
(Franks et al., 1991)	Merger and Tender Offer	USA	1975-1984	399	Market-Model	[-5;+5]	-1.02%	28.04%***
(Franks & Harris, 1989)	Merger and Tender Offer	UK	1955-1985	1814	Marker-Model CAPM	Month 0	1.00%	23.30%
	Merger	Europe	1993-2000	228	CAPM	[-2;+2]	1.18%***	12.96%***

(Goergen & Renneboog, 2004)						[-1;0]	-0.48%	21.66%***
(Higson & Elliott, 1998)	Takeover	UK	1975-1990	830	Market-Model	Month 0	0.20%	31.50%*
(Huang & Walkling, 1987)	Merger and Tender Offer	USA	1977-1982	204	Market-Model	[-50;+50]	-	30.09%***
(Ma et al., 2009)	Merger	Asia	2000-2005	1447	Market-Model	[-1;+1]	1.28%***	-
(Kaplan & Weishbach, 1992)	Acquisition	USA	1971-1982	271	Market-Model	[-5;+5 Last bid]	-1.49%***	26.90%
(Keown & Pinkteron, 1981)	Merger	USA	1975-1978	194	Market-Model	[-60;+10]	-	27.04%
(Lang et al., 1989)	Tender Offer	USA	1968-1986	87	Market-Model	[-5;+5]	0.10%	40.3%
(Martynova & Renneboog, 2011)	Tender Offer and Merger	Europe	1993-2001	2419	Market-Model	[-1;+1]	0.72%***	12.47%***
						[-5;+5]	0.79%***	15.83%***
						[-60;+60]	-2.83%**	26.7%***
(Moeller et al., 2004)	Merger and Tender Offer	USA	1980-2001	12023	Market-Model	[-1;+1]	1.10%***	-
(Servaes, 1991)	Merger and Tender Offer	USA	1972-1987	704	Market-Model	[0;Close]	-1.07%**	23.64%***
(Shah & Arora, 2014)	Merger	Asia-Pacific	2013	37	Market-Model	[-2;+2]	1.20%	9.50%**
						[-5;+5]	1.70%	10.00%***

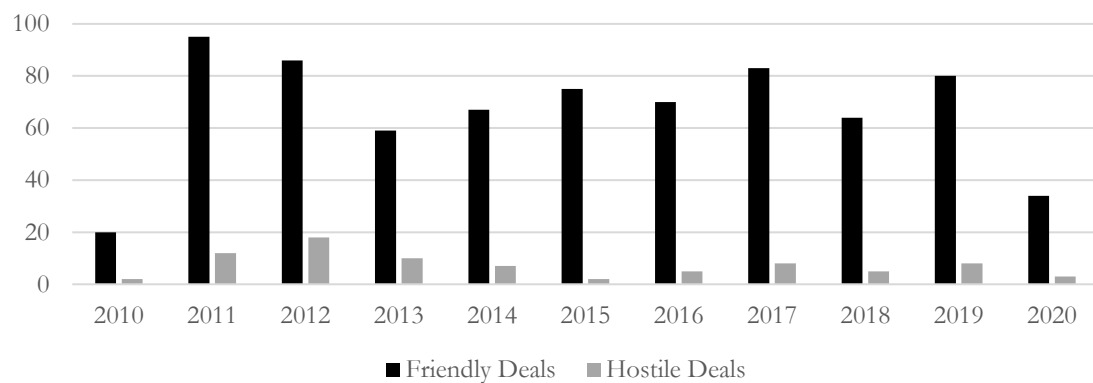
Significance level : ***, **, * meaning statistical significance at the 1%, 5% and 10% level, in order.

Appendix 2: Resume and compilation of empirical evidence of deals with different attitude towards the bid

Authors	Type of Deal	Country/Region Coverage	Sample Period	Sample Size	Event Window	Attitude towards the bid	Bidder CAAR (%)	Target CAAR (%)
(Franks et al., 1991)	Merger and Tender Offer	USA	1975-1984	399	[-5;+5]	Hostile	-3.54%	35.32%***
						Friendly	-0.17%	23.58%***
(Franks & Harris, 1989)	Merger and Tender Offer	UK	1955-1985	1814	Month 0	Hostile	-0.40%	29.58%
						Friendly	0.00%	20.60%
(Goergen & Renneboog, 2004)	Merger	Europe	1993-2000	228	[-2;+2]	Hostile	1.94%***	11.33%***
						Friendly	-3.43%***	17.95%***
(Huang & Walkling, 1987)	Merger and Tender Offer	USA	1977-1982	204	[-1;0]	Hostile	-	28.30%
						Friendly	-	22.60%
(Lang et al., 1989)	Tender Offer	USA	1968-1986	87	[-5;+5]	Hostile	0.80%	43.40%***
						Friendly	-1.40%	33.40%***
(Martynova & Renneboog, 2011)	Merger and Tender Offer	Europe	1993-2001	2419	[-1;+1]	Hostile	-0.83%	17.62%***
						Friendly	1.06%***	4.59%***
						Tender Offer	-0.45%	16.12%***
					[-60;+60]	Hostile	-1.61%**	43.85%***
						Friendly	-4.35%***	10.22%***
						Tender Offer	2.00%	32.24%***
(Servaes, 1991)	Merger and Tender Offer	USA	1972-1987	704	[0;Close]	Hostile	-0.16%	21.89%***
						Friendly	-4.71%	31.77%***

Significance level : ***, **, * meaning statistical significance at the 1%, 5% and 10% level, in order.

Appendix 3: Number of friendly and hostile transactions by announcement year
(Sample:841 deals)



Appendix 4: Other services – Subsectors

Other Services: Subsector	Total Sample	Hostile Deals
Other software publishing	14	2
Management of real estate on a fee or contract basis	7	2
Data processing, hosting, and related activities	9	2
Site preparation	5	2
Renting and operating of own or leased real estate	5	2
Fund management activities	5	2
Other financial service activities, except insurance and pension funding	12	2
Wholesale of computers, computer peripheral equipment and software	3	1
Gambling and betting	2	1
Computer programming activities/Computer consultancy activities	12	1
Business and other management consulting activities	5	0
Other activities auxiliary to insurance and pension funding	3	0
Engineering activities and related technical consultancy	4	0
Activities of employment placement agencies / Temporary employment agency activities	2	0
Buying and selling of own real estate	1	0
Research and experimental development on biotechnology	8	0
Manufacture of medical and dental instruments and supplies	3	0
Television programming and broadcasting activities	1	0
Activities of holding companies	2	0

Appendix 5: Regression of target's CARs

Event Window [-30;+15]

This table reports the results of the OLS regression of the sample's target's CARs for the event window [-30;+15]. Eq.1 offers the impact of deal characteristics on target's CARs. Eq. 2 presents the impacts of firm specific characteristics on target's CARs. Eq.3 is a combination of both, and Eq.4 includes all variables but also joins all the variables with the hostile one, to observe its impact on target's CARs. Variable definitions and expected signs are described in Section 4.2.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3		Eq. 4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	-0.011183	0.061083	0.241637	0.047128	0.035454	0.073659	0.053353	0.079243
<i>Hostile</i>	0.151607	0.039142			0.138455	0.040503	0.092211	0.127282
<i>Cash</i>	0.233443	0.067268			0.244932	0.074731	0.237548	0.077480
<i>Mixed</i>	0.210649	0.068372			0.200639	0.069785	0.183550	0.070703
<i>RIndustry</i>					0.029198	0.041771	0.028322	0.051583
<i>Lev</i>			0.020410	0.042279	0.035153	0.042179	0.038152	0.042632
<i>Toehold</i>			0.028796	0.033790	0.043551	0.050524	0.017205	0.061281
<i>Low_TQ</i>			0.044745	0.045339	0.010556	0.043704	6.61E-06	0.054916
<i>Domestic</i>			0.022986	0.042693	0.075795	0.042079	0.102501	0.053063
<i>Hostile*Cash</i>			0.080495	0.043187			0.073832	0.108459
<i>Hostile*RIndustry</i>							0.013689	0.082073
<i>Hostile*Lev</i>							0.009082	0.102869
<i>Hostile*Toehold</i>							0.112001	0.106026
<i>Hostile*Low_TQ</i>							0.058384	0.073295
<i>Hostile*Domestic</i>							0.105383	0.083868
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.066923		0.030321		0.093326		0.102722	
<i>Adjusted R-squared</i>	0.055989		0.011232		0.064428		0.051449	
<i>F-statistic</i>	6.120401		1.588445		3.229508		2.003437	
<i>Prob (F-statistic)</i>	0.000491		0.163746		0.001628		0.018151	

Event Window [-15;+1]

This table reports the results of the OLS regression of the sample's target's CARs for the event window [-15;+1]. Eq.1 offers the impact of deal characteristics on target's CARs. Eq. 2 presents the impacts of firm specific characteristics on target's CARs. Eq.3 is a combination of both, and Eq.4 includes all variables but also joins all the variables with the hostile one, to observe its impact on target's CARs. Variable definitions and expected signs are described in Section 4.2.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3		Eq. 4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.044639	0.034605	0.205625	0.033663	0.080126	0.048352	0.093418	0.054969
<i>Hostile</i>	- 0.116238 ***	0.032300			- 0.090769 ***	0.031204	- 0.120065	0.076987
<i>Cash</i>	0.128265 ***	0.042049			0.151442 ***	0.047183	0.145156 ***	0.051358
<i>Mixed</i>	0.129124 ***	0.046889			0.115431 ***	0.045577	0.111020 **	0.048881
<i>RIndustry</i>			0.024024	0.033301	0.029880	0.032733	0.033848	0.040269
<i>Lev</i>			- 0.036562 ***	0.012868	- 0.041020 ***	0.012152	- 0.046474	0.013142
<i>Toehold</i>			- 0.081740 **	0.036744	- 0.080815	0.040683	- 0.062950	0.050821
<i>Low_TQ</i>			- 0.014813	0.031899	0.006317	0.033132	0.000690	0.042641
<i>Domestic</i>			- 0.036475	0.034659	- 0.033500	0.034627	- 0.056789	0.043304
<i>Hostile*Cash</i>							- 0.012819	0.066832
<i>Hostile*RIndustry</i>							- 0.015729	0.071250
<i>Hostile*Lev</i>							0.072589	0.068207
<i>Hostile*Toehold</i>							- 0.061376	0.076878
<i>Hostile*Low_TQ</i>							0.017120	0.054914
<i>Hostile*Domestic</i>							0.088025	0.074653
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.049536		0.051863		0.094451		0.103197	
<i>Adjusted R-squared</i>	0.038397		0.033199		0.065589		0.051951	
<i>F-statistic</i>	4.447334		0.018312		3.272483		2.013758	
<i>Prob (F-statistic)</i>	0.004570		0.000097		0.001440		0.017441	

Event Window [-15;+5]

This table reports the results of the OLS regression of the sample's target's CARs for the event window [-15;+5]. Eq.1 offers the impact of deal characteristics on target's CARs. Eq. 2 presents the impacts of firm specific characteristics on target's CARs. Eq.3 is a combination of both, and Eq.4 includes all variables but also joins all the variables with the hostile one, to observe its impact on target's CARs. Variable definitions and expected signs are described in Section 4.2.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq.2		Eq.3		Eq.4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.02800 0	0.038620	0.201155	0.035795	0.069451	0.055882	0.084844	0.064971
<i>Hostile</i>	- 0.10604 7 ***	0.033085			-0.082872 ***	0.032711	-0.133057	0.083650
<i>Cash</i>	0.14137 1 ***	0.046850			0.159443* **	0.053817	0.151117 ***	0.058866
<i>Mixed</i>	0.12923 3 ***	0.050786			0.114511* *	0.050035	0.112289 **	0.052976
<i>RIndustry</i>			0.024822	0.035864	0.030930	0.035568	0.036513	0.044494
<i>Lev</i>			-0.035065 ***	0.014523	-0.039339 ***	0.013353	-0.046545 ***	0.014412
<i>Toehold</i>			-0.064650	0.041040	-0.068005	0.045974	-0.046097	0.058063
<i>Low_TQ</i>			-0.020454	0.035542	-0.000245	0.037420	-0.007526	0.048654
<i>Domestic</i>			-0.048534	0.038251	-0.044494	0.038639	-0.071238	0.049868
<i>Hostile*Cash</i>							0.004206	0.074484
<i>Hostile*RIndustry</i>							-0.024494	0.069952
<i>Hostile*Lev</i>							0.105201	0.065608
<i>Hostile*Toehold</i>							-0.075570	0.081234
<i>Hostile*Low_TQ</i>							0.017741	0.059891
<i>Hostile*Domestic</i>							0.098326	0.074665
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.040176		0.039500		0.075984		0.086790	
<i>Adjusted R-squared</i>	0.028928		0.020592		0.046533		0.034607	
<i>F-statistic</i>	3.571811		2.089102		2.580045		1.663172	
<i>Prob (F-statistic)</i>	0.014642		0.067256		0.010073		0.063926	

$$T=0$$

This table reports the results of the OLS regression of the sample's target's CARs for $T=0$. Eq.1 offers the impact of deal characteristics on target's CARs. Eq. 2 presents the impacts of firm specific characteristics on target's CARs. Eq.3 is a combination of both, and Eq.4 includes all variables but also joins all the variables with the hostile one, to observe its impact on target's CARs. Variable definitions and expected signs are described in Section 4.2.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq.2		Eq.3		Eq.4	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.042318	0.019128	0.139328	0.029213	0.057438	0.032727	0.058271	0.037984
<i>Hostile</i>	-	0.020692			-	0.021173	-	0.054821
<i>Cash</i>	0.101882	0.026033			0.095978	0.033471	0.103592	0.037409
<i>Mixed</i>	0.090916	0.030425			0.099618	0.034590	0.099331	0.039542
<i>RIndustry</i>			0.022898	0.027838	0.085990	0.027143	0.087374	0.035082
<i>Lev</i>			-		0.027263	0.027143	0.032486	0.035082
<i>Toehold</i>			0.016468	0.009826	-	0.010848	-	0.011610
<i>Low_TQ</i>			-		0.020912	0.032999	-	0.042272
<i>Domestic</i>			0.035906	0.029448	0.024297	0.025901	0.021618	0.033703
<i>Hostile*Cash</i>			0.006738	0.024681	0.012601	0.025901	0.017085	0.033703
<i>Hostile*RIndustr</i>			-		-	0.026158	-	0.034683
<i>y</i>			0.041591	0.026261	0.041851	0.026158	0.054414	0.034683
<i>Hostile*Lev</i>							0.003482	0.050114
<i>Hostile*Toehold</i>							-	0.045465
<i>Hostile*Low_T</i>							0.018115	0.041135
<i>Q</i>							0.002498	0.041135
<i>Hostile*Domestic</i>							-	0.051628
<i>Observations</i>	260		260		260		260	
<i>R-squared</i>	0.056536		0.033335		0.083878		0.087729	
<i>Adjusted R-squared</i>	0.045480		0.014306		0.054679		0.035599	
<i>F-statistic</i>	5.113527		1.751792		2.872611		1.682894	
<i>Prob (F-statistic)</i>	0.001880		0.123333		0.004475		0.059635	

Appendix 6: Comparison of variable's sign between expected and final outcome

This tables shows the variables studied in this dissertation that may or may not impact the CARs of the targets, as well as the expected impact that they could have based on previous literature presented on Section 2.3.1 and the actual impact that each variable had in this specific sample.

Variable	Prediction in relation to CAR	Actual relation to CAR
<i>Hostile</i>	Positive	Negative
<i>Cash</i>	Positive	Positive
<i>Mixed</i>	Positive	Positive
<i>RIndustry</i>	Positive	Positive
<i>Lev</i>	Positive	Negative
<i>Toehold</i>	Negative	Mixed ⁷
<i>Low_TQ</i>	Positive	Mixed
<i>Domestic</i>	Negative	Negative
<i>Hostile*Cash</i>	Positive	Positive
<i>Hostile*RIndustry</i>	N/A	Negative
<i>Hostile*Lev</i>	N/A	Positive
<i>Hostile*Toehold</i>	N/A	Negative
<i>Hostile*Low_TQ</i>	N/A	Positive
<i>Hostile*Domestic</i>	N/A	Positive

⁷ Mixed means that in certain windows or equations its sign different than what was expected. It would be interesting to study what could be the reason for these differences, both on different event windows and in different equations.

Appendix 7: Regression of hostile target's CARs

Even window [-30;+15]

This table reports the results of the OLS regression of the sample's hostile target's CARs for the event window [-30;+15]. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001549	0.001668	0.003609	0.017007	-0.015735	0.016517
<i>Cash</i>	0.014413*	0.007940			0.019568*	0.010082
<i>Mixed</i>	0.022757	0.018118			0.027161	0.018550
<i>RIndustry</i>			0.010449	0.014595	0.010501	0.014507
<i>Lev</i>			-0.003671	0.004787	-0.003277	0.005064
<i>Toehold</i>			-0.003162	0.013875	-0.004474	0.014914
<i>Low_TQ</i>			0.020838	0.013324	0.022400*	0.013541
<i>Domestic</i>			-0.001509	0.015455	-0.000999	0.015635
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002637		0.011029		0.014927	
<i>Adjusted R-squared</i>	-0.005124		-0.008439		-0.012436	
<i>F-statistic</i>	0.339771		0.566539		0.545531	
<i>Prob (F-statistic)</i>	0.712252		0.725622		0.799416	

Even window [-30;+1]

This table reports the results of the OLS regression of the sample's hostile target's CARs for the event window [-30;+1]. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001606	0.001683	0.006356	0.016491	-0.011905	0.016092
<i>Cash</i>	0.013944*	0.008097			0.017900*	0.009463
<i>Mixed</i>	0.024603	0.015882			0.027859*	0.016116
<i>RIndustry</i>			0.011120	0.014626	0.011063	0.014564
<i>Lev</i>			-0.003207	0.004314	-0.002752	0.004577
<i>Toehold</i>			-0.002100	0.013822	-0.002888	0.014585
<i>Low_TQ</i>			0.016181	0.013134	0.017726	0.013350
<i>Domestic</i>			-0.004681	0.016271	-0.004330	0.016425
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.003010		0.008189		0.012061	
<i>Adjusted R-squared</i>	-0.004749		-0.011335		-0.015381	
<i>F-statistic</i>	0.387928		0.419425		0.439515	
<i>Prob (F-statistic)</i>	0.678858		0.835027		0.876726	

Even window [-15;+5]

This table reports the results of the OLS regression of the sample's hostile target's CARs for the event window [-15;+5]. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001098	0.001163	0.002324	0.011870	-0.015455	0.012079
<i>Cash</i>	0.015053**	0.006630			0.020448***	0.007740
<i>Mixed</i>	0.011306	0.011135			0.015429	0.011834
<i>RIndustry</i>			0.004546	0.011592	0.005050	0.011587
<i>Lev</i>			0.001800	0.004334	0.001809	0.004635
<i>Toehold</i>			-0.004182	0.011181	-0.007330	0.011897
<i>Low_TQ</i>			0.015093	0.010755	0.016232	0.010951
<i>Domestic</i>			0.005778	0.013556	0.006805	0.013650
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002661		0.009341		0.013901	
<i>Adjusted R-squared</i>	-0.005100		-0.010160		-0.013491	
<i>F-statistic</i>	0.342839		0.479000		0.507483	
<i>Prob (F-statistic)</i>	0.710077		0.791800		0.828570	

Even window [-15;+1]

This table reports the results of the OLS regression of the sample's hostile target's CARs for the event window [-15;+1]. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001132	0.001181	0.002220	0.012304	-0.014851	0.012346
<i>Cash</i>	0.013028*	0.007012			0.018837**	0.007723
<i>Mixed</i>	0.014148	0.010057			0.017896*	0.010648
<i>RIndustry</i>			0.005270	0.012144	0.005607	0.012135
<i>Lev</i>			0.000580	0.003592	0.000703	0.003955
<i>Toehold</i>			-0.006173	0.011640	-0.008567	0.012222
<i>Low_TQ</i>			0.014339	0.011159	0.015528	0.011353
<i>Domestic</i>			0.006628	0.014609	0.007434	0.014720
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.001901		0.008333		0.011911	
<i>Adjusted R-squared</i>	-0.005867		-0.011188		-0.015536	
<i>F-statistic</i>	0.244689		0.426879		0.433979	
<i>Prob (F-statistic)</i>	0.783130		0.829740		0.880383	

Even window $T=0$

This table reports the results of the OLS regression of the sample's hostile target's CARs for $T=0$. Eq.1 offers the impact of deal characteristics on the target's CARs. Eq. 2 presents the impacts of firm-specific characteristics on the target's CARs. Eq.3 is a combination of both. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.000559	0.000578	0.002757	0.005873	-0.003206	0.006170
<i>Cash</i>	0.007583**	0.003418	0.003700	0.005890	0.006558*	0.003532
<i>Mixed</i>	0.005822	0.004627	-0.002134	0.001710	0.006342	0.004702
<i>RIndustry</i>			0.005780	0.005372	0.003813	0.005927
<i>Lev</i>			0.003528	0.005724	-0.002087	0.001772
<i>Toehold</i>			-0.002247	0.006196	0.004962	0.005462
<i>Low_TQ</i>					0.003947	0.005827
<i>Domestic</i>					-0.001971	0.006205
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002588		0.007251		0.009097	
<i>Adjusted R-squared</i>	-0.005174		-0.012291		-0.018428	
<i>F-statistic</i>	0.333474		0.371058		0.330508	
<i>Prob (F-statistic)</i>	0.716740		0.868233		0.939636	

Appendix 8: Regression of premia offered

Rumour Date

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the price of the target's shares on the rumour date stated on the Zephyr database. Eq.1 offers the impact of deal characteristics on the premia. Eq. 2 adds the impacts of firm specific characteristics on the premia and Eq.3 includes all variables but also joins them with the hostile one, to observe its impact on premia. Variable definitions and expected signs are described in Section 4.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.126281	0.057617	0.168635	0.074293	0.172295	0.081168
<i>Hostile</i>	0.071366	0.055484	0.041761	0.064142	0.046189	0.131877
<i>Cash</i>	-0.016841	0.064325	-0.015362	0.072670	-0.029290	0.074988
<i>Mixed</i>	-0.031522	0.077495	-0.012007	0.077201	0.006479	0.082312
<i>RIndustry</i>			-0.013766	0.045988	-0.016169	0.053616
<i>Lev</i>			-0.033853	0.059026	-0.030228	0.061327
<i>Toehold</i>			0.020996	0.056984	0.053496	0.064698
<i>Low_TQ</i>			0.093966*	0.050536	0.090617	0.059876
<i>Domestic</i>			-0.131603***	0.050653	-0.146246***	0.059164
<i>Hostile*Cash</i>					0.169151	0.109420
<i>Hostile*RIndustry</i>					0.026123	0.102895
<i>Hostile*Lev</i>					-0.117207	0.154546
<i>Hostile*Toehold</i>					-0.188247	0.141348
<i>Hostile*Low_TQ</i>					-0.000207	0.108996
<i>Hostile*Domestic</i>					0.043507	0.117703
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.007125		0.053890		0.064441	
<i>Adjusted R-squared</i>	-0.004510		0.023735		0.010981	
<i>F-statistic</i>	0.612357		1.787091		1.205402	
<i>Prob (F-statistic)</i>	0.607547		0.079978		0.271676	

Last price available before completed date

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the last share price available before the completed date stated on the Zephyr database. Eq.1 offers the impact of deal characteristics on the premia. Eq.2 adds the impacts of firm specific characteristics on the premia and Eq.3 includes all variables but also joins them with the hostile one, to observe its impact on premia. Variable definitions and expected signs are described in Section 4.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.205025	0.102536	0.180537	0.098489	0.191890	0.107078
<i>Hostile</i>	0.085307*	0.047113	0.066544	0.043805	0.096133	0.164838
<i>Cash</i>	-0.211649**	0.102824	-0.224837**	0.105715	-0.220966**	0.108913
<i>Mixed</i>	-0.201791*	0.108201	-0.179980**	0.094309	-0.189885**	0.089166
<i>RIndustry</i>			-0.008747	0.037727	-0.027089	0.039381
<i>Lev</i>			0.077339	0.095746	0.091396	0.105020
<i>Toehold</i>			0.052679	0.043300	0.031532	0.047341
<i>Low_TQ</i>			0.027439	0.045776	0.014420	0.052240
<i>Domestic</i>			-0.068609*	0.038673	-0.059304	0.039962
<i>Hostile*Cash</i>					-0.096972	0.153572
<i>Hostile*RIndustry</i>					0.099803	0.090003
<i>Hostile*Lev</i>					-0.266239	0.146388
<i>Hostile*Toehold</i>					0.084619	0.100855
<i>Hostile*Low_TQ</i>					0.110409	0.088845
<i>Hostile*Domestic</i>					-0.012486	0.098082
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.058954		0.114238		0.139606	
<i>Adjusted R-squared</i>	0.047926		0.086007		0.090441	
<i>F-statistic</i>	5.345883		4.046494		2.839522	
<i>Prob (F-statistic)</i>	0.001379		0.000152		0.000572	

15 days prior to the announced date

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the price of the target's shares 15 days prior to the announced date. Eq.1 offers the impact of deal characteristics on the premia. Eq. 2 adds the impacts of firm specific characteristics on the premia and Eq.3 includes all variables but also joins them with the hostile one, to observe its impact on premia. Variable definitions and expected signs are described in Section 4.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.202772	0.056812	0.209868	0.080566	0.221229	0.091302
<i>Hostile</i>	-0.113443*	0.061467	-0.097907	0.065005	-0.063973	0.132808
<i>Cash</i>	0.048507	0.067162	0.088222	0.079690	0.086638	0.084954
<i>Mixed</i>	0.012039	0.075061	0.022414	0.077938	0.016549	0.083900
<i>RIndustry</i>			0.048837	0.057338	0.049681	0.068464
<i>Lev</i>			-0.004648	0.060746	0.001853	0.066861
<i>Toehold</i>			-0.098135	0.068018	-0.091181	0.083817
<i>Low_TQ</i>			0.089710	0.059051	0.092674	0.073227
<i>Domestic</i>			-0.121084**	0.060636	-0.153852**	0.073194
<i>Hostile*Cash</i>					-0.046448	0.105726
<i>Hostile*RIndustry</i>					0.023865	0.121356
<i>Hostile*Lev</i>					-0.172225	0.158905
<i>Hostile*Toehold</i>					-0.023520	0.123995
<i>Hostile*Low_TQ</i>					0.012893	0.110964
<i>Hostile*Domestic</i>					0.146166	0.133486
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.012547		0.061507		0.069231	
<i>Adjusted R-squared</i>	0.000976		0.031595		0.016044	
<i>F-statistic</i>	1.084312		2.056247		1.301653	
<i>Prob (F-statistic)</i>	0.356261		0.040664		0.206650	

1 day prior to the announced date

This table reports the results of the OLS regression of the sample's premia offered to target shareholders, considering the difference between the offer price and the price of the target's shares 1 day prior to the announced date. Eq.1 offers the impact of deal characteristics on the premia. Eq. 2 adds the impacts of firm specific characteristics on the premia and Eq.3 includes all variables but also joins them with the hostile one, to observe its impact on premia. Variable definitions and expected signs are described in Section 4.3. In this table, for each variable it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.205369	0.068351	0.208717	0.086447	0.225755	0.098385
<i>Hostile</i>	-0.087772	0.058419	-0.101676*	0.061600	-0.130635	0.137956
<i>Cash</i>	-0.001042	0.076018	0.011934	0.087140	0.008657	0.092288
<i>Mixed</i>	-0.012631	0.086333	0.009995	0.084976	0.013456	0.091219
<i>RIndustry</i>			0.030796	0.056141	0.025324	0.066904
<i>Lev</i>			0.023175	0.070976	0.032211	0.078163
<i>Toehold</i>			-0.008820	0.066346	-0.006658	0.081946
<i>Low_TQ</i>			0.093646	0.058768	0.095278	0.072639
<i>Domestic</i>			-	-	-	-
			0.157448**	0.059296	0.191437**	0.071965
			*		*	
<i>Hostile*Cash</i>					0.001365	0.108318
<i>Hostile*RIndustry</i>					0.054816	0.116047
<i>Hostile*Lev</i>					-0.211183	0.151508
<i>Hostile*Toehold</i>					-0.002369	0.116442
<i>Hostile*Low_TQ</i>					0.017119	0.108513
<i>Hostile*Domestic</i>					0.154187	0.127731
<i>Observations</i>	260		260		260	
<i>R-squared</i>	0.007908		0.058190		0.068492	
<i>Adjusted R-squared</i>	-0.003718		0.028172		0.015263	
<i>F-statistic</i>	0.680181		1.938524		1.286744	
<i>Prob (F-statistic)</i>	0.564883		0.054891		0.215862	

Appendix 9: Regression of premia offered to hostile targets

Last day available before completed date

This table reports the results of the OLS regression of the sample's premia offered to hostile target shareholders, considering the difference between the offer price and the price of the last day available before the completed date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001761	0.002203	-0.003971	0.012349	-0.013313	0.017116
<i>Cash</i>	0.017282	0.012131			0.005380	0.013329
<i>Mixed</i>	0.024972	0.033984			0.028882	0.031079
<i>RIndustry</i>			0.017508	0.021750	0.016777	0.021416
<i>Lev</i>			-0.014482	0.009622	-0.013707	0.009071
<i>Toehold</i>			0.040858	0.026274	0.043433	0.028948
<i>Low_TQ</i>			0.026324	0.020672	0.027570	0.020719
<i>Domestic</i>			-0.025342	0.025040	-0.026019	0.025698
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.001309		0.025369		0.027605	
<i>Adjusted R-squared</i>	-0.006463		0.006183		0.000594	
<i>F-statistic</i>	0.168427		1.322282		1.021992	
<i>Prob (F-statistic)</i>	0.845086		0.255036		0.416095	

30 days prior to the announced date

This table reports the results of the OLS regression of the sample's premia offered to hostile target shareholders, considering the difference between the offer price and the price of the target's shares 30 days before the announced date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.003247	0.003254	0.003127	0.018908	-0.029994	0.021516
<i>Cash</i>	0.034922**	0.015509			0.032625**	0.015239
<i>Mixed</i>	0.043012**	0.020863			0.049918**	0.021529
<i>RIndustry</i>			0.028451	0.025794	0.028376	0.025795
<i>Lev</i>			-0.015192	0.010377	-0.014389	0.010418
<i>Toehold</i>			0.027395	0.027219	0.025842	0.027346
<i>Low_TQ</i>			0.039461	0.024520	0.042243*	0.024950
<i>Domestic</i>			-0.016698	0.029169	-0.016025	0.029257
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.003156		0.019334		0.022930	
<i>Adjusted R-squared</i>	-0.004601		0.000030		-0.004211	
<i>F-statistic</i>	0.406883		1.001548		0.844860	
<i>Prob (F-statistic)</i>	0.666150		0.417324		0.551073	

15 days prior to the announced date

This table reports the results of the OLS regression of the sample's premia offered to hostile target shareholders, considering the difference between the offer price and the price of the target's shares 15 days before the announced date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.002362	0.002378	0.004128	0.015995	-0.025437	0.019300
<i>Cash</i>	0.032527**	0.015173			0.032573**	0.014257
<i>Mixed</i>	0.024173*	0.012840			0.031203**	0.014179
<i>RIndustry</i>			0.016453	0.024934	0.017026	0.025038
<i>Lev</i>			-0.013505	0.009843	-0.013283	0.009954
<i>Toehold</i>			0.020381	0.026363	0.016275	0.026273
<i>Low_TQ</i>			0.037889	0.024056	0.039955*	0.024545
<i>Domestic</i>			-0.008765	0.028542	-0.007382	0.028582
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002492		0.014135		0.016495	
<i>Adjusted R-squared</i>	-0.005270		-0.005272		-0.010824	
<i>F-statistic</i>	0.321079		0.728338		0.603794	
<i>Prob (F-statistic)</i>	0.725656		0.602750		0.752594	

1 day prior to the announced date

This table reports the results of the OLS regression of the sample's premia offered to hostile target shareholders, considering the difference between the offer price and the price of the target's shares 1 day before the announced date. In this table, for each variable, it is represented the coefficient and the standard error. All equations were run through a heteroskedastic procedure. *, ** and *** corresponds to the statistical significance at 10%, 5% and 1%, respectively.

	Eq. 1		Eq. 2		Eq. 3	
Variable	Coeff.	SE	Coeff.	SE	Coeff.	SE
<i>C</i>	0.001956	0.002009	-0.000792	0.014343	-0.021979	0.017119
<i>Cash</i>	0.028554**	0.014217			0.022861*	0.012139
<i>Mixed</i>	0.018399	0.013064			0.024224*	0.013366
<i>RIndustry</i>			0.018205	0.023577	0.018526	0.023675
<i>Lev</i>			-0.014663	0.009608	-0.014435	0.009603
<i>Toehold</i>			0.033017	0.025278	0.030454	0.024942
<i>Low_TQ</i>			0.034392	0.022610	0.035931	0.023035
<i>Domestic</i>			-0.016764	0.026984	-0.015882	0.026932
<i>Observations</i>	60		60		60	
<i>R-squared</i>	0.002254		0.020010		0.021384	
<i>Adjusted R-squared</i>	-0.005510		0.000719		-0.005800	
<i>F-statistic</i>	0.290316		1.037246		0.786637	
<i>Prob (F-statistic)</i>	0.748272		0.396172		0.599070	

References

- Agrawal, A., Jaffe, J. F., & Mandelker, G. N. (1992). The Post-Merger Performance of Acquiring Firms: A Re-Examination of an Anomaly. *The Journal of Finance*, 47(4), 1605. <https://doi.org/10.2307/2328956>
- Akbulut, M. E., & Matsusaka, J. G. (2010). 50+ years of diversification announcements. *Financial Review*, 45(2), 231–262. <https://doi.org/10.1111/j.1540-6288.2010.00245.x>
- Andrade, G., Mitchell, M., & Stafford, E. (2001). New evidence and perspectives on mergers. *Journal of Economic Perspectives*, 15(2), 103–120. <https://doi.org/10.1257/jep.15.2.103>
- Andrade, G., & Stafford, E. (2004). Investigating the economic role of mergers. *Journal of Corporate Finance*, 10(1), 1–36. [https://doi.org/10.1016/S0929-1199\(02\)00023-8](https://doi.org/10.1016/S0929-1199(02)00023-8)
- Ang, J. S., & Cheng, Y. (2006). Direct evidence on the market-driven acquisition theory. *Journal of Financial Research*, 29(2), 199–216. <https://doi.org/10.1111/j.1475-6803.2006.00174.x>
- Asquith, P. (1983). Merger bids, uncertainty, and stockholder returns. *Journal of Financial Economics*, 11(1–4), 51–83. [https://doi.org/10.1016/0304-405X\(83\)90005-3](https://doi.org/10.1016/0304-405X(83)90005-3)
- Asquith, P., Bruner, R. F., & Mullins, D. W. (1983). The gains to bidding firms from merger. *Journal of Financial Economics*, 11(1–4), 121–139. [https://doi.org/10.1016/0304-405X\(83\)90007-7](https://doi.org/10.1016/0304-405X(83)90007-7)
- Berkovitch, E., & Narayanan, M. P. (1993). Motives for Takeovers: An Empirical Investigation. *The Journal of Financial and Quantitative Analysis*, 28(3), 347. <https://doi.org/10.2307/2331418>
- Betton, S., & Eckbo, B. E. (2000). Toeholds, bid jumps, and expected payoffs in takeovers. *Review of Financial Studies*, 13(4), 841–882. <https://doi.org/10.1093/rfs/13.4.841>
- Betton, S., Eckbo, B. E., & Thorburn, K. S. (2007). Corporate Takeovers. In *Handbook of Empirical Corporate Finance SET* (Vol. 1, pp. 291–429). <https://doi.org/10.1016/B978-0-444-53265-7.50007-X>
- Bhagat, S., Shleifer, A., Vishny, R. W., Jarrel, G., & Summers, L. (1990). Hostile Takeovers in the 1980s: The Return to Corporate Specialization. *Brookings Papers on Economic Activity. Microeconomics*, 1990, 1. <https://doi.org/10.2307/2534780>

- Bhattacharyya, S., & Nain, A. (2011). Horizontal acquisitions and buying power: A product market analysis. *Journal of Financial Economics*, 99(1), 97–115. <https://doi.org/10.1016/j.jfineco.2010.08.007>
- Billett, M. T., & Qian, Y. (2008). Are overconfident CEOs born or made? Evidence of self-attribution bias from frequent acquirers. *Management Science*, 54(6), 1037–1051. <https://doi.org/10.1287/mnsc.1070.0830>
- Bradley, M., Desai, A., & Kim, E. H. (1983). The rationale behind interfirm tender offers. Information or synergy? *Journal of Financial Economics*, 11(1–4), 183–206. [https://doi.org/10.1016/0304-405X\(83\)90010-7](https://doi.org/10.1016/0304-405X(83)90010-7)
- Bradley, M., Desai, A., & Kim, E. H. (1988). Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. *Journal of Financial Economics*, 21(1), 3–40. [https://doi.org/10.1016/0304-405X\(88\)90030-X](https://doi.org/10.1016/0304-405X(88)90030-X)
- Brueller, N. N., Carmeli, A., & Markman, G. D. (2018). Linking Merger and Acquisition Strategies to Postmerger Integration: A Configurational Perspective of Human Resource Management. *Journal of Management*, 44(5), 1793–1818. <https://doi.org/10.1177/0149206315626270>
- Bruner, R. F. (1988). The Use of Excess Cash and Debt Capacity as a Motive for Merger. *The Journal of Financial and Quantitative Analysis*, 23(2), 199. <https://doi.org/10.2307/2330881>
- Campa, J. M., & Hernando, I. (2004). Shareholder value creation in european M&As. *European Financial Management*, 10(1), 47–81. <https://doi.org/10.1111/j.1468-036X.2004.00240.x>
- Cartwright, S., & Schoenberg, R. (2006). Thirty years of mergers and acquisitions research: Recent advances and future opportunities. *British Journal of Management*, 17(1), S1–S5. <https://doi.org/10.1111/j.1467-8551.2006.00475.x>
- Chen, C., & Cornu, P. (2002). Managerial performance, bid premiums, and the characteristics of takeover targets. *Annals of Economics and Finance*, 3(1), 67–84. <https://ideas.repec.org/a/cuf/journal/y2002v3i1p67-84.html>
- Chevalier, J. (2004). What do we know about cross-subsidization? Evidence from merging firms. *Advances in Economic Analysis and Policy*, 4(1). <https://doi.org/10.2202/1538->

- Cotter, J. F., Shivdasani, A., & Zenner, M. (1997). Do independent directors enhance target shareholder wealth during tender offers? *Journal of Financial Economics*, 43(2), 195–218. [https://doi.org/10.1016/S0304-405X\(96\)00886-0](https://doi.org/10.1016/S0304-405X(96)00886-0)
- Datta, D. K., Pinches, G. E., & Narayanan, V. K. (1992). Factors influencing wealth creation from mergers and acquisitions: A meta-analysis. *Strategic Management Journal*, 13(1), 67–84. <https://doi.org/10.1002/smj.4250130106>
- de La Bruslerie, H. (2013). Crossing takeover premiums and mix of payment: An empirical test of contractual setting in M&A transactions. *Journal of Banking and Finance*, 37(6), 2106–2123. <https://doi.org/10.1016/j.jbankfin.2013.01.037>
- DeAngelo, H., & Rice, E. M. (1983). Antitakeover charter amendments and stockholder wealth. *Journal of Financial Economics*, 11(1–4), 329–359. [https://doi.org/10.1016/0304-405X\(83\)90016-8](https://doi.org/10.1016/0304-405X(83)90016-8)
- DePamphilis, D. (2011). Mergers and Acquisitions Basics. In *Mergers and Acquisitions Basics*. Elsevier Inc. <https://doi.org/10.1016/C2009-0-20145-0>
- Devos, E., Kadapakkam, P. R., & Krishnamurthy, S. (2009). How do mergers create value? A comparison of taxes, market power, and efficiency improvements as explanations for synergies. *Review of Financial Studies*, 22(3), 1179–1211. <https://doi.org/10.1093/rfs/hhn019>
- Dodd, P. (1980). Merger proposals, management discretion and stockholder wealth. *Journal of Financial Economics*, 8(2), 105–137. [https://doi.org/10.1016/0304-405X\(80\)90014-8](https://doi.org/10.1016/0304-405X(80)90014-8)
- Dodd, P., & Ruback, R. (1977). Tender offers and stockholder returns. An empirical analysis. *Journal of Financial Economics*, 5(3), 351–373. [https://doi.org/10.1016/0304-405X\(77\)90043-5](https://doi.org/10.1016/0304-405X(77)90043-5)
- Dong, M., Hirshleifer, D., Richardson, S., & Teoh, S. H. (2006). Does investor misvaluation drive the takeover market? *Journal of Finance*, 61(2), 725–762. <https://doi.org/10.1111/j.1540-6261.2006.00853.x>
- Edmans, A., Goldstein, I., & Jiang, W. (2012). The Real Effects of Financial Markets: The Impact of Prices on Takeovers. *Journal of Finance*, 67(3), 933–971. <https://doi.org/10.1111/j.1540-6261.2012.01738.x>

- Faccio, M., & Masulis, R. W. (2005). The choice of payment method in European mergers and acquisitions. *Journal of Finance*, 60(3), 1345–1388. <https://doi.org/10.1111/j.1540-6261.2005.00764.x>
- Faccio, M., McConnell, J. J., & Stolin, D. (2006). Returns to acquirers of listed and unlisted targets. *Journal of Financial and Quantitative Analysis*, 41(1), 197–220. <https://doi.org/10.1017/S0022109000002477>
- Fama, E. F., Fisher, L., Jensen, M. C., & Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*, 10(1), 1. <https://doi.org/10.2307/2525569>
- Fan, J. P. H., & Goyal, V. K. (2006). On the patterns and wealth effects of vertical mergers. *Journal of Business*, 79(2), 877–902. <https://doi.org/10.1086/499141>
- Firth, M. (1979). The Profitability of Takeovers and Mergers. *The Economic Journal*, 89(354), 316. <https://doi.org/10.2307/2231604>
- Flanagan, D. J., & O'Shaughnessy, K. C. (2003). Core-related acquisitions, multiple bidders and tender offer premiums. *Journal of Business Research*, 56(8), 573–585. [https://doi.org/10.1016/S0148-2963\(01\)00269-7](https://doi.org/10.1016/S0148-2963(01)00269-7)
- Fortier, D. L. (1989). Hostile takeovers and the market for corporate control. *Federal Reserve Bank of Chicago*, 13(1), 2–16. <https://www.chicagofed.org/publications/economic-perspectives/1989/01janfeb1989-part1-fortier>
- Franks, J., & Harris, R. (1989). Shareholder wealth effects of corporate takeovers. The U.K. experience 1955-1985. *Journal of Financial Economics*, 23(2), 225–249. [https://doi.org/10.1016/0304-405X\(89\)90057-3](https://doi.org/10.1016/0304-405X(89)90057-3)
- Franks, J., Harris, R., & Titman, S. (1991). The postmerger share-price performance of acquiring firms. *Journal of Financial Economics*, 29(1), 81–96. [https://doi.org/10.1016/0304-405X\(91\)90014-B](https://doi.org/10.1016/0304-405X(91)90014-B)
- Fuller, K., Netter, J., & Stegemoller, M. (2002). What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *Journal of Finance*, 57(4), 1763–1793. <https://doi.org/10.1111/1540-6261.00477>
- Gaughan, P. A. (2010). *Mergers, Acquisitions, and Corporate Restructurings* (7th ed.). John Wiley & Sons, Ltd.

- Goergen, M., & Renneboog, L. (2004). Shareholder Wealth Effects of European Domestic and Cross-border Takeover Bids. *European Financial Management*, 10(1), 9–45. <https://doi.org/10.1111/j.1468-036X.2004.00239.x>
- Gregory, A. (1997). An examination of the long run performance of UK acquiring firms. *Journal of Business Finance and Accounting*, 24(7–8), 971–1002. <https://doi.org/10.1111/1468-5957.00146>
- Hammoud, J., & Tarabay, M. N. (2018). Determinants of m & a premiums: empirical evidence from Kuwaiti firms. *Journal of Business, Economics and Finance (JBEF)*, 7(1), 131–139. <https://doi.org/10.17261/pressacademia.2018.802>
- Healy, P., Palepu, K., & Ruback, R. (1997). Which Takeovers Are Profitable? Strategic or Financial? *Sloan Management Review*, 38(4), 45–57. <https://www.hbs.edu/faculty/Pages/item.aspx?num=3185>
- Higson, C., & Elliott, J. (1998). Post-takeover returns: The UK evidence. *Journal of Empirical Finance*, 5(1), 27–46. [https://doi.org/10.1016/S0927-5398\(96\)00015-1](https://doi.org/10.1016/S0927-5398(96)00015-1)
- Houston, J. F., James, C. M., & Ryngaert, M. D. (2001). Where do merger gains come from? Bank mergers from the perspective of insiders and outsiders*. *Journal of Financial Economics*, 60(2–3), 285–331. [https://doi.org/10.1016/S0304-405X\(01\)00046-0](https://doi.org/10.1016/S0304-405X(01)00046-0)
- Huang, Y. S., & Walkling, R. A. (1987). Target abnormal returns associated with acquisition announcements: Payment, acquisition form, and managerial resistance. *Journal of Financial Economics*, 19(2), 329–349. [https://doi.org/10.1016/0304-405X\(87\)90008-0](https://doi.org/10.1016/0304-405X(87)90008-0)
- Hubbard, R. G., & Palia, D. (1999). A reexamination of the conglomerate merger wave in the 1960s: An internal capital markets view. *Journal of Finance*, 54(3), 1131–1152. <https://doi.org/10.1111/0022-1082.00139>
- Jarrell, G. A., & Bradley, M. (1980). The Economic Effects of Federal and State Regulations of Cash Tender Offers. *The Journal of Law and Economics*, 23(2), 371–407. <https://doi.org/10.1086/466965>
- Jarrell, G. A., & Poulsen, A. B. (1989). Stock trading before the announcement of tender offers: Insider trading or market anticipation? *Journal of Law, Economics, and Organization*, 5(2), 225–248. <https://doi.org/10.1093/oxfordjournals.jleo.a036969>
- Jensen, M. C. (1988). Takeovers: Their Causes and Consequences. *The Journal of Economic*

- Perspectives*, 2(1), 21–48. <https://doi.org/10.2139/ssrn.173455>
- Jensen, M. C., & Ruback, R. S. (1983). The market for corporate control. The scientific evidence. *Journal of Financial Economics*, 11(1–4), 5–50. [https://doi.org/10.1016/0304-405X\(83\)90004-1](https://doi.org/10.1016/0304-405X(83)90004-1)
- Jory, S. R., Ngo, T. N., & Wang, D. (2016). Credit ratings and the premiums paid in mergers and acquisitions. *Journal of Empirical Finance*, 39, 93–104. <https://doi.org/10.1016/j.jempfin.2016.09.004>
- Kaplan, S. N., & Weishbach, M. S. (1992). The Success of Acquisitions: Evidence from Divestitures. *The Journal of Finance*, 47(1), 107–138. <https://doi.org/10.1111/j.1540-6261.1992.tb03980.x>
- Keown, A. J., & Pinkerton, J. M. (1981). Merger Announcements and Insider Trading Activity: An Empirical Investigation. *The Journal of Finance*, 36(4), 855–869. <https://doi.org/10.1111/J.1540-6261.1981.TB04888.X>
- Lang, L. H. P., & Stulz, R. M. (1994). Tobin's q, Corporate Diversification, and Firm Performance. *Journal of Political Economy*, 102(6), 1248–1280. <https://doi.org/10.1086/261970>
- Lang, L. H. P., Stulz, R. M., & Walkling, R. A. (1989). Managerial performance, Tobin's Q, and the gains from successful tender offers. *Journal of Financial Economics*, 24(1), 137–154. [https://doi.org/10.1016/0304-405X\(89\)90075-5](https://doi.org/10.1016/0304-405X(89)90075-5)
- Levy, H., & Sarnat, M. (1970). Diversification, Portfolio Analysis and the Uneasy Case for Conglomerate Mergers. *The Journal of Finance*, 25(4), 795. <https://doi.org/10.2307/2325416>
- Loughran, T., & Vijh, A. M. (1997). Do Long-Term Shareholders Benefit From Corporate Acquisitions? *The Journal of Finance*, 52(5), 1765. <https://doi.org/10.2307/2329464>
- Ma, J., Pagán, J. A., & Chu, Y. (2009). Abnormal Returns to Mergers and Acquisitions in Ten Asian Stock Markets. *International Journal of Business*, 14(3), 235–250.
- MacKinlay, A. C. (1997). Event Studies in Economics and Finance. *Journal of Economic Literature*, 35(1), 13–39. <http://www.jstor.org/stable/2729691>
- Madura, J., & Ngo, T. (2008). Clustered synergies in the takeover market. *Journal of Financial*

- Research*, 31(4), 333–356. <https://doi.org/10.1111/j.1475-6803.2008.00242.x>
- Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics*, 89(1), 20–43. <https://doi.org/10.1016/j.jfineco.2007.07.002>
- Maloney, M. T., McCormick, R. E., & Mitchell, M. L. (1993). Managerial Decision Making and Capital Structure. *The Journal of Business*, 66(2), 189. <https://doi.org/10.1086/296601>
- Maquieira, C. P., Megginson, W. L., & Nail, L. (1998). Wealth creation versus wealth redistributions in pure stock-for-stock mergers. *Journal of Financial Economics*, 48(1), 3–33. [https://doi.org/10.1016/s0304-405x\(98\)00002-6](https://doi.org/10.1016/s0304-405x(98)00002-6)
- Martynova, M., & Renneboog, L. (2006). *Mergers and Acquisitions in Europe* (Working Paper Series in Finance No. 114/2006). European Corporate Governance Institute (ECGI) <https://doi.org/10.1016/b978-044452723-3/50004-8>
- Martynova, M., & Renneboog, L. (2008). A century of corporate takeovers: What have we learned and where do we stand? *Journal of Banking and Finance*, 32(10), 2148–2177. <https://doi.org/10.1016/j.jbankfin.2007.12.038>
- Martynova, M., & Renneboog, L. (2011). The Performance of the European Market for Corporate Control: Evidence from the Fifth Takeover Wave. *European Financial Management*, 17(2), 208–259. <https://doi.org/10.1111/j.1468-036X.2009.00497.x>
- Mateev, M., & Andonov, K. (2018). Do European bidders pay more in cross-border than in domestic acquisitions? New evidence from Continental Europe and the UK. *Research in International Business and Finance*, 45, 529–556. <https://doi.org/10.1016/j.ribaf.2017.09.003>
- Mitchell, M. L., & Lehn, K. (1990). Do Bad Bidders Become Good Targets? *Journal of Political Economy*, 98(2), 372–398. <https://doi.org/10.1086/261682>
- Moeller, S. B., & Schlingemann, F. P. (2005). Global diversification and bidder gains: A comparison between cross-border and domestic acquisitions. *Journal of Banking & Finance*, 29(3), 533–564. <https://doi.org/10.1016/j.jbankfin.2004.05.018>
- Moeller, S. B., Schlingemann, F. P., & Stulz, R. M. (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, 73(2), 201–228.

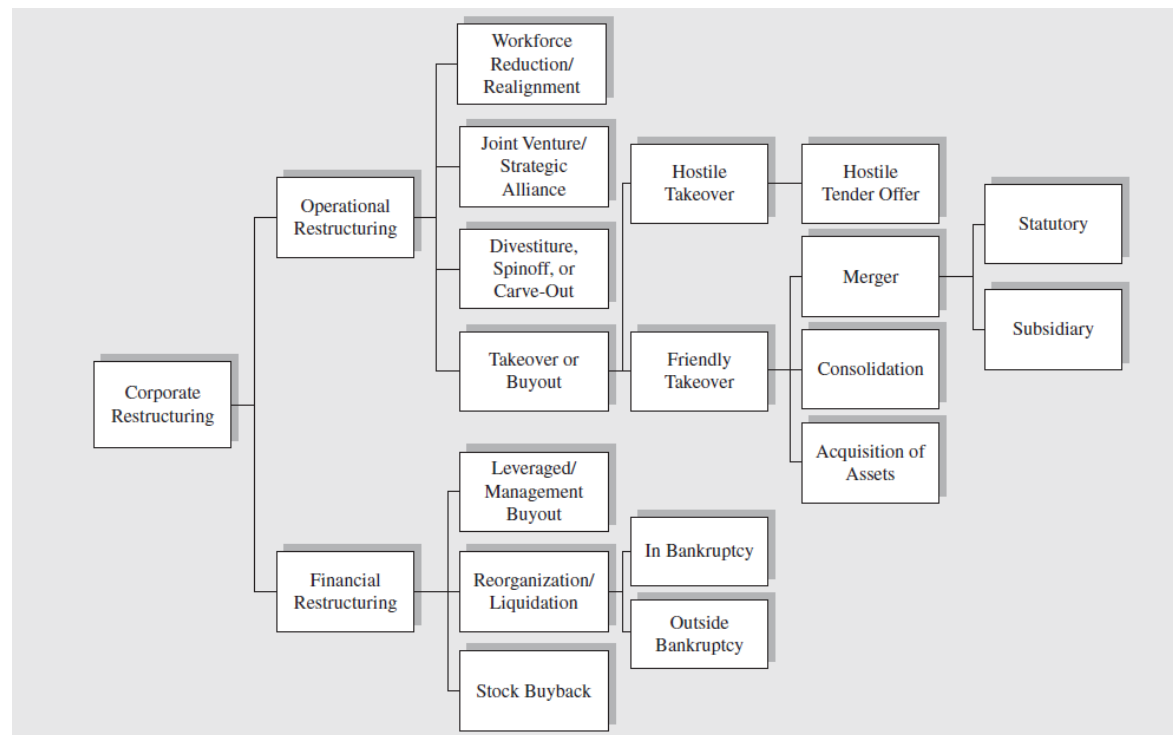
- <https://doi.org/10.1016/j.jfineco.2003.07.002>
- Mohamad, S., & Nassir, A. M. (1991). *Returns to Bidding and Target Firms in Hostile Takeovers: Some UK Evidence* (Issue 3).
- Morck, R., Shleifer, A., & Vishny, R. W. (1988). Characteristics of Targets of Hostile and Friendly Takeovers. In ed. Alan J. Auerbach (Ed.), *Corporate Takeovers: Causes and Consequences* (pp. 137–156). University of Chicago Press.
- Mulherin, H. (2000). *Incomplete acquisitions and organizational efficiency*, Working Paper, Penn State.
- Pearce, J. A., & Robinson, R. B. (2004). Hostile takeover defenses that maximize shareholder wealth. *Business Horizons*, 47(5), 15–24. <https://doi.org/10.1016/j.bushor.2004.07.004>
- Raad, E., Ryan, R., & Sinkey, J. F. J. (1999). Leverage, Ownership Structure, and Returns to Shareholders of Target and Bidding Firms. *Quarterly Journal of Business and Economics*, 38(2), 37–53. <https://www.jstor.org/stable/40473258?seq=2>
- Rau, P. R., & Vermaelen, T. (1998). Glamour, value and the post-acquisition performance of acquiring firms. *Journal of Financial Economics*, 49(2), 223–253. [https://doi.org/10.1016/s0304-405x\(98\)00023-3](https://doi.org/10.1016/s0304-405x(98)00023-3)
- Reed, S. F., Lajoux, A., & Nesvold, H. P. (2007). The Art of M&A, Fourth Edition: A Merger Acquisition Buyout Guide. In *McGraw-Hill*. <https://doi.org/10.1036/0071403027>
- Roll, R. (1986). The Hubris Hypothesis of Corporate Takeovers. *The Journal of Business*, 59(2), 197. <https://doi.org/10.1086/296325>
- Ross, S. A., Westerfield, R., & Jaffe, J. F. (2010). *Corporate finance* (9th ed.). McGraw-Hill Irwan.
- Salter, M. S., & Weinhold, W. a. (1978). Diversification via acquisition: Creating value. *Harvard Business Review*, 56(4), 166–176. <https://hbr.org/1978/07/diversification-via-acquisition-creating-value>
- Scanlon, K. P., Trifts, J. W., & Pettway, R. H. (1989). Impacts of Relative Size and Industrial Relatedness on Returns to Shareholders of Acquiring Firms. *Journal of Financial Research*, 12(2), 103–112. <https://doi.org/10.1111/j.1475-6803.1989.tb00106.x>
- Schwert, G. W. (2000). Hostility in takeovers: In the eyes of the beholder? *Journal of Finance*,

- 55(6), 2599–2640. <https://doi.org/10.1111/0022-1082.00301>
- Servaes, H. (1991). Tobin's Q and the Gains from Takeovers. *The Journal of Finance*, 46(1), 409–419. <https://doi.org/10.1111/j.1540-6261.1991.tb03758.x>
- Seth, A. (1990). Value creation in acquisitions: A re-examination of performance issues. *Strategic Management Journal*, 11(2), 99–115. <https://doi.org/10.1002/smj.4250110203>
- Shah, P., & Arora, P. (2014). M&A Announcements and Their Effect on Return to Shareholders: An Event Study. *Accounting and Finance Research*, 3(2). <https://doi.org/10.5430/afr.v3n2p170>
- Shivdasani, A. (1993). Board composition, ownership structure, and hostile takeovers. *Journal of Accounting and Economics*, 16(1–3), 167–198. [https://doi.org/10.1016/0165-4101\(93\)90009-5](https://doi.org/10.1016/0165-4101(93)90009-5)
- Shleifer, A., & Vishny, R. W. (1986). Large Shareholders and Corporate Control. *Journal of Political Economy*, 94(3, Part 1), 461–488. <https://doi.org/10.1086/261385>
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance*, 52(2), 737–783. <https://doi.org/10.1111/j.1540-6261.1997.tb04820.x>
- Shleifer, A., & Vishny, R. W. (2003). Stock market driven acquisitions. *Journal of Financial Economics*, 70(3), 295–311. [https://doi.org/10.1016/S0304-405X\(03\)00211-3](https://doi.org/10.1016/S0304-405X(03)00211-3)
- Sinha, R. (2004). The role of hostile takeovers corporate governance. *Applied Financial Economics*, 14(18), 1291–1305. <https://doi.org/10.1080/0960310042000280492>
- Song, M. H., & Walkling, R. A. (1993). The Impact of Managerial Ownership on Acquisition Attempts and Target Shareholder Wealth. *The Journal of Financial and Quantitative Analysis*, 28(4), 439. <https://doi.org/10.2307/2331159>
- Statista. (2022). *Number of M&A deals globally 2010-2021*. Statista Research Department. <https://www.statista.com/statistics/267368/number-of-mergers-and-acquisitions-worldwide-since-2005/>
- Stulz, R. M. (1988). Managerial control of voting rights. Financing policies and the market for corporate control. *Journal of Financial Economics*, 20(C), 25–54. [https://doi.org/10.1016/0304-405X\(88\)90039-6](https://doi.org/10.1016/0304-405X(88)90039-6)
- Sudarsanam, S., Holl, P., & Salami, A. (1996). Shareholder wealth gains in mergers: Effect of

- synergy and ownership structure. *Journal of Business Finance and Accounting*, 23(5–6), 673–698. <https://doi.org/10.1111/j.1468-5957.1996.tb01148.x>
- Sudarsanam, S., & Mahate, A. A. (2006). Are friendly acquisitions too bad for shareholders and managers? Long-term value creation and top management turnover in hostile and friendly acquirers. *British Journal of Management*, 17(SUPPL. 1), S7–S30. <https://doi.org/10.1111/j.1467-8551.2006.00476.x>
- Tamosiuniene, R., & Duksaite, E. (2009). *The Importance of Mergers and Acquisitions in Today's Economy*.
- Thaler, R. H. (1988). Anomalies: The Winner's Curse. *Journal of Economic Perspectives*, 2(1), 191–202. <https://doi.org/10.1257/jep.2.1.191>
- Travlos, N. G. (1987). Corporate Takeover Bids, Methods of Payment, and Bidding Firms' Stock Returns. *The Journal of Finance*, 42(4), 943–963. <https://doi.org/10.1111/j.1540-6261.1987.tb03921.x>
- Tuch, C., & O'Sullivan, N. (2007). The impact of acquisitions on firm performance: A review of the evidence. *International Journal of Management Reviews*, 9(2), 141–170. <https://doi.org/10.1111/j.1468-2370.2007.00206.x>
- Varaiya, N. P., & Ferris, K. R. (1987). Overpaying in Corporate Takeovers: The Winner's Curse. *Financial Analysts Journal*, 43(3), 64–70. <https://doi.org/10.2469/faj.v43.n3.64>
- Walker, M. M. (2000). Corporate Takeovers, Strategic Objectives, and Acquiring-Firm Shareholder Wealth. *Financial Management*, 29(1), 53. <https://doi.org/10.2307/3666361>
- Wansley, J. W., Lane, W. R., & Yang, H. C. (1983). Abnormal Returns to Acquired Firms by Type of Acquisition and Method of Payment. *Financial Management*, 12(3), 16. <https://doi.org/10.2307/3665512>
- Weston, J. F. (1986). The Rules for Successful Mergers. In J. M. Stern & D. H. Chew (Eds.), *The Revolution in Corporate Finance* (pp. 387–390). Basil Blackwell, Inc.
- Yim, S. (2013). The acquisitiveness of youth: CEO age and acquisition behavior. *Journal of Financial Economics*, 108(1), 250–273. <https://doi.org/10.1016/j.jfineco.2012.11.003>

Annexes

Annex 1: Corporate Restructuring Process (DePamphilis, 2011)



Source: DePamphilis, D. (2011). Mergers and Acquisitions Basics. In *Mergers and Acquisitions Basics*. Elsevier Inc. <https://doi.org/10.1016/C2009-0-20145-0>

Annex 2: Summary Statistic for Takeover Characteristics and Measures of Hostility, 1975-1996 (Schwert, 2000)

	(1)	(2)	(3)	(4)		(5)		(6)		(7)	
	Full Sample (N = 2,346)			Host(WSJ) vs. Full		Host(SDC) vs. Full		Host(Uns) vs. Full		Host(Pre) vs. Full	
	Cases	Mean	Std. Error	Diff.	t-statistic	Diff.	t-statistic	Diff.	t-statistic	Diff.	t-statistic
Panel A: Measures of Hostility											
Host(WSJ)	174	0.074	0.005			0.342	12.32	0.144	12.04	0.058	5.16
Host(SDC)	300	0.216	0.011	0.746	25.19			0.378	17.73	0.140	6.45
Host(Uns)	990	0.422	0.010	0.513	20.23	0.552	23.27			0.143	7.01
Host(Pre)	1,043	0.445	0.010	0.209	5.50	0.207	6.64	0.145	7.02		
Host(Factor)		0.246	0.005	0.706	69.26	0.376	20.34	0.389	50.64	0.267	28.88
Panel B: Deal Characteristics											
Pill	218	0.093	0.006	0.229	6.47	0.267	9.25	0.128	9.84	0.131	10.44
Auction	454	0.194	0.008	0.331	8.54	0.316	10.27	0.254	15.05	0.126	7.59
Success	1,751	0.746	0.009	-0.074	-2.01	-0.116	-3.86	-0.276	-15.14	-0.134	-7.35
Cash	1,363	0.581	0.010	0.179	5.18	0.208	7.07	0.241	12.23	0.035	1.69
Equity	556	0.237	0.009	-0.169	-7.48	-0.186	-8.52	-0.246	-15.47	-0.119	-6.97
Tender offer	763	0.325	0.010	0.431	12.22	0.313	9.96	0.166	8.45	0.065	3.34
Public bidder (First)	1,426	0.608	0.010	0.070	1.88	-0.088	-2.73	-0.251	-12.53	-0.116	-5.71
Public bidder (Winner)	1,174	0.500	0.010	-0.031	-0.80	-0.117	-3.61	-0.291	-14.59	-0.133	-6.45
Panel C: Target Performance Statistics											
ROE	1,631	0.090	0.003	0.005	0.59	0.015	1.69	-0.024	-3.66	-0.009	-1.34
Sales growth	1,630	0.078	0.005	-0.040	-2.75	-0.020	-1.42	-0.035	-3.49	-0.021	-2.08
Liquidity	1,468	0.247	0.006	-0.026	-1.32	-0.003	-0.21	0.004	0.39	-0.029	-2.60
D/E	1,622	0.999	0.102	-0.507	-4.09	-0.587	-2.87	-0.120	-0.56	0.107	0.52
M/B	1,612	1.670	0.093	-0.465	-3.72	-0.672	-3.95	-0.173	-0.83	-0.221	-1.22
P/E	1,336	13.674	0.326	-1.929	-2.55	-1.667	-1.89	-0.941	-1.43	0.210	0.32
Size	2,306	11.512	0.036	1.468	11.81	0.929	9.22	0.189	2.62	0.573	8.07
Panel D: Target Stock Price Behavior											
Runup	2,296	0.124	0.005	-0.007	-0.52	0.015	1.09	-0.022	-2.17	0.047	4.56
Markup	2,296	0.096	0.007	0.122	5.40	0.051	2.36	0.023	1.63	-0.081	-6.02
Premium	2,296	0.220	0.009	0.115	4.46	0.067	2.53	0.000	0.01	-0.034	-1.89

Source: Schwert, G. W. (2000). Hostility in takeovers: In the eyes of the beholder? *Journal of Finance*, 55(6), 2599–2640.

<https://doi.org/10.1111/0022-1082.00301>

Annex 3: Huang & Walkling (1987) study results

“Average daily abnormal returns and cumulative abnormal returns for 204 target firms from 50 days before through 50 days after the initial Wall Street Journal acquisition-related announcement. The sample period is from April 1997 through September 1982”

(Huang & Walkling, 1987)

Day	Cases	Average abnormal returns		t-statistics for average abnormal returns	
		Daily	Cumulative	Daily	Cumulative
-50	204	0.002	0.002	1.003	1.003
-40	204	0.000	0.003	0.216	0.515
-30	204	-0.001	0.003	-0.874	0.438
-20	204	0.001	0.020	0.685	2.146
-19	204	0.001	0.021	0.435	2.189
-18	204	0.001	0.022	0.895	2.312
-17	204	0.000	0.022	0.155	2.304
-16	204	0.000	0.023	0.100	2.288
-15	204	0.000	0.022	-0.101	2.239
-14	204	-0.001	0.022	-0.332	2.154
-13	204	0.000	0.022	0.175	2.154
-12	204	0.003	0.025	2.014	2.448
-11	204	0.002	0.027	1.159	2.601
-10	204	0.000	0.027	-0.176	2.541
-9	204	0.000	0.027	-0.238	2.474
-8	204	0.004	0.031	2.549	2.834
-7	204	0.004	0.035	2.602	3.194
-6	204	0.002	0.038	1.463	3.376
-5	204	0.008	0.046	4.717	4.035
-4	204	0.008	0.053	4.505	4.649
-3	204	0.010	0.063	6.181	5.492
-2	204	0.028	0.091	16.536	7.798
-1	204	0.143	0.234	85.738	19.845
0	204	0.093	0.327	55.694	27.448
1	204	-0.001	0.325	-0.613	27.098
2	204	-0.003	0.322	-1.869	26.584
3	204	-0.003	0.320	-1.511	26.131
4	204	0.000	0.320	0.021	25.895
5	204	0.001	0.321	0.579	25.741
6	204	-0.002	0.318	-1.425	25.325
7	204	0.000	0.318	-0.188	25.081
8	204	-0.001	0.317	-0.549	24.796
9	204	0.003	0.320	1.700	24.808
10	203	0.004	0.324	2.337	24.903
11	203	-0.001	0.323	-0.587	24.626
12	203	-0.002	0.321	-1.449	24.247
13	203	0.001	0.321	0.448	24.113
14	203	0.001	0.323	0.697	24.013
15	203	-0.003	0.320	-1.591	23.634
16	203	0.004	0.324	2.450	23.756
17	203	-0.002	0.322	-1.242	23.430
18	203	-0.002	0.320	-1.246	23.109
19	202	0.000	0.319	-0.190	22.919
20	201	0.001	0.320	0.599	22.826
30	197	-0.000	0.309	-0.056	20.563
40	191	-0.004	0.311	-2.340	19.499
50	180	0.002	0.309	1.214	18.291

Source: Huang, Y. S., & Walkling, R. A. (1987). Target abnormal returns associated with acquisition announcements: Payment, acquisition form, and managerial resistance. *Journal of Financial Economics*, 19(2), 329–349. [https://doi.org/10.1016/0304-405X\(87\)90008-0](https://doi.org/10.1016/0304-405X(87)90008-0)