



UNIVERSITA' DEGLI STUDI DI PADOVA
DIPARTIMENTO DI SCIENZE ECONOMICHE ED AZIENDALI
"M.FANNO"

CORSO DI LAUREA MAGISTRALE IN
BUSINESS ADMINISTRATION

TESI DI LAUREA

"Agency Conflicts in M&A Transactions"

RELATORE:

CH.MO PROF. AMEDEO PUGLIESE

LAUREANDO: GIUSEPPE CORTESE

MATRICOLA N. 1179588

ANNO ACCADEMICO 2018 – 2019

Il candidato dichiara che il presente lavoro è originale e non è già stato sottoposto, in tutto o in parte, per il conseguimento di un titolo accademico in altre Università italiane o straniere.

Il candidato dichiara altresì che tutti i materiali utilizzati durante la preparazione dell'elaborato sono stati indicati nel testo e nella sezione "Riferimenti bibliografici" e che le eventuali citazioni testuali sono individuabili attraverso l'esplicito richiamo alla pubblicazione originale.

The candidate declares that the present work is original and has not already been submitted, totally or in part, for the purposes of attaining an academic degree in other Italian or foreign universities. The candidate also declares that all the materials used during the preparation of the thesis have been explicitly indicated in the text and in the section "Bibliographical references" and that any textual citations can be identified through an explicit reference to the original publication.

Firma dello studente

Summary

Introduction	6
Chapter 1 – Managerial opportunism and M&As: current state of the literature.....	8
1.1 The separation between ownership and control	8
1.2 The Agency Problem in M&A transactions.....	9
1.3 The impact of deals completion on executive’s job position, wealth and reputation	11
1.4 Room for managerial opportunistic behaviors throughout M&A processes.	14
1.5 Do advisors mitigate managerial opportunism in M&As?	15
Chapter 2 – Buyers’ characteristics affecting M&As outcomes	18
2.1 Buyers’ ownership structure and M&A outcomes: literature comparative analysis.....	19
2.11 Ownership structure variable specification: literature comparative analysis	19
2.12 Buyers’ performance measurement: literature comparative analysis	21
2.13 Analysis results and methodologies: literature comparative analysis.....	23
2.131 Protective governance choices and the value of acquisition activity.....	23
2.132 Ownership Structure, Family Control and Acquisition Decisions	25
2.133 Ownership structure and buyers’ performance: family vs non-family firms	27
2.2 Growing M&A trend and criticisms to previous literature as rationale for a new study	28
Chapter 3 – Empirical analysis	30
3.1 Data selection	30
3.2 CARs computation	31
3.3 Dataset summary	32
3.4 Univariate analysis	34
3.5 Multivariate analysis	36
3.6 Conclusive thoughts	39
Appendix	42
References	52

Introduction

Mergers and acquisitions (buy-side) are not strategies, they are paths to deliver strategies. Theory suggests choosing M&As over the alternatives only when the resources and capabilities a company needs in order to implement its strategy are not accessible through strategic partnerships nor can be built internally within a reasonable time horizon (Capron and Mitchell, 2012). Behind such a prudential approach, suggested by the build-borrow-buy framework, there are several empirical studies highlighting the high risk of failure typically involved in M&A transactions.

Many professors and professionals, indeed, investigated whether M&As create or destroy value for the buyers' shareholders (Moeller et al., 2005, Steiner et al., 2018, Chartier et al., 2018). Even by identifying different sources of failure, such as poor integration plans or over-estimation of potential synergies, they all agree that, on average, M&As destroy buyers' shareholders value.

Despite that, the number and volume of M&A transactions completed globally has been rising over last decade. After the two most recent peaks (2007 and 2015), in which the volume of transactions exceeded \$4.5tn, in 2018 were closed over 45 thousand deals for a total value of \$4.1tn¹.

Such a growth seems being supported by executives' favorable approach toward M&As. According to the 20° ed. of the EY Global Capital Confidence Barometer (Krouskos et al. 2019), 73% out of the 2900 interviewed executives consider M&A transactions a successful growth path and expect their companies to complete more deals in 2019-20 than they did during the previous 12 months.

An unavoidable question arises from such a counterintuitive combination of events: why do buyers' executives increasingly opt for M&As if it is true that such complex transactions often destroy buyers' shareholders value?

My assumption is that one of the root causes of the problem, may be the personal advantages that executives have in pursuing M&As. That is, I recognize Agency Conflicts in M&As, between buyers' executives and shareholders, as an explanation of the high rate of M&As failure.

In support of my assumption, empirical studies (see paragraph 1.3) show that even poor transactions increase executives' variable compensation while they do not affect their fixed compensation (Khorana and Zenner, 1998). Also, managers have incentive to complete M&As to protect their job position, given that larger firms are less likely to become target for takeovers (Palepu, 1986;

¹ Source: Mergermarket.

Ruback, 1983). Finally, theory suggests that executives may pursue M&As to improve their reputation and satisfy their egocentricity (Roll, 1986; Malmendier and Tate, 2003).

Several studies already analyzed Agency Conflicts in M&A Transactions (Healy et al. (1992), Bouzgarrou and Navatte (2013), Teti et al. (2017)) using different approaches (see paragraph 2.11-2.12) and obtaining contrasting results (see paragraph 2.13). However, I do not consider exhaustive the previous literature. Mainly, because of commonly used misleading approaches (see paragraph 2.11). Thus, given the significance of the number and volume of M&A transactions completed over last decade and the misleading approaches used by the previous literature, I decided to focus my dissertation on the topic Agency Conflicts in M&A Transactions. Specifically, my aim is to address the following question: *does managerial opportunism help explain the high rate of failure characterizing M&A transactions?* To answer the question, I studied the impact of shareholders-directors agency relationships on M&As outcomes. Buyers' ownership structure has been used as a proxy to measure the degree of separation between ownership and control therefore to prove that less controlled directors are more likely to complete value-destroying M&As.

As shown in Chapter 3, by exploiting recent data (paragraph 3.1 - focus on the American market) and new approaches (see paragraph 3.2), to verify the relationship between buyers' ownership structure and their stock returns around the transaction announcement dates, I found significant results in line with the Agency Conflicts assumption.

Specifically, I find that American listed firms which make acquisitions, on average destroy shareholders' value during the considered event window [-30;+120]. The analyzed buyer firms recorded a mean CAR [-30;+120] of -5.2% (paragraph 3.4).

Furthermore, there is evidence that buyers characterized by high separation between ownership and control, complete deals which destroy more value, on average by 29.4%, than those completed by highly monitored firms (paragraph 3.5). Therefore, I confirm that Agency Conflicts with buyers' CEOs are one of the reasons why buyers' shareholders value is often destroyed when involved in M&As (paragraph 1.2).

Also, I find evidence that investors short-term decisions are mainly driven by deals' generic characteristics. During the three days around the announcement date, investors significantly reward Large Domestic and Horizontal Deals paid in Cash.

Chapter 1 – Managerial opportunism and M&As: current state of the literature

1.1 The separation between ownership and control

In the late 18th century, the second industrial revolution brought to life the emergence of large corporations in the most industrialized nations, beginning from United Kingdom and United States of America. Companies that were made up of one function, producing one product and financed and controlled by one entrepreneur after 1870, thanks to breakthrough transformation of communication and transportation system, had the possibility to reach much broader markets. Consequently, they grew in terms of geography reach and became more complex which led to new decision-making processes and organizational structures. It was therefore necessary to adopt new governance mechanisms. For the first time, decision-making power was transferred from entrepreneurs to highly skilled and educated delegated managers.

During XIX century, along with economic, scientific and social development a radical transformation of corporate law took place first in the United States of America then throughout the continental Europe further enhancing separation between ownership and control. The US legislature enacted straightforward procedures to incorporate a business activity. “The formation of a corporation was no longer the outcome of a state concession but rather the product of an administrative process” (Bianchini, 2018). Easterbrook and Fieschel (1991) further elaborated on the rules and procedures leading to the raise of the modern concept of corporation, defined as a contractual entity with 5 default characteristics: legal personality, limited liability, free transferability of shares, delegated management and investors’ ownership.

Legal personality arises upon registration of by-law and charter in the firm register. It gives birth to separate legal entity with own rights and duties making it possible to distinguish shareholders from company’s patrimony thus leading to the second characteristic of modern corporations which is limited liability. Such a feature limits shareholders’ risk against creditors thus facilitating aggregation and fragmentation of capital (shareholders do not have to check out over partners’ personal wealth anymore).

Limited Liability also facilitate free transferability of shares therefore stimulating the rise of a new class of small and short-term investors interested in diversifying their investments, not in decision-making instead.

Together with the high requirements to manage the more complex modern corporations, the codification of corporate law facilitated the rise of a new salaried managerial class with own background and objectives often differing from shareholders' ones.

On one hand, modern corporations facilitated economic development by attracting large agglomeration of capital to risky capital-intensive industries. Whereas, characteristics such as limited liability and free transferability of shares fostered investors passivity and irresponsibility. Shareholders were not interested in control anymore. They became equity investors with residual rights on net earnings/assets and weak-fragmented voting rights.

The first scholars studying such separation between ownership and control were Berle and Means (1932) who identified different degrees of separation in quasi-public and public corporations. They defined quasi-public corporations as those characterized by separation between minority and majority shareholders (there is low separation between majority and delegated management in this case). Public corporations are characterized by high separation between shareholders and delegated management instead. Hart (1991) further supported Berle and Means' findings and stated that for small shareholders is not convenient to put effort in governing the business and monitor management (e.g. to limit the free riding problem) thus management becomes increasingly independent and powerful. That's why the more ownership is fragmented the higher the degree of separation is.

Even though typical ownership structures have evolved over last decade because of the diffusion of mutual funds, pension funds, private equity funds and other financial institutions collecting retail investors within a unique and larger stake, the separation between ownership and control is still strong in many cases.

Throughout this dissertation I support that the presence of large majority shareholders assures the alignment of shareholders-directors' interest toward long-term performances. On the contrary, I assume that companies without the presence of controlling shareholders are characterized by a natural misalignment of interest sometimes leading to managers' opportunism.

1.2 The Agency Problem in M&A transactions

An immediate consequence of separation between ownership and control was described by Jensen and Meckling as an "Agency Problem", in their book *Theory of the firm: Managerial behavior, agency costs and ownership structure* (1976). They describe an agency relationship as "a

contractual relationship in which one or more persons (the principal) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent. If both parties to the relationship are utility maximizers, there is good reason to believe that the agent will not always act in the best interests of the principal". The risk of opportunistic behavior is therefore correlated to divergence of interests between contractual parties. Moreover, it is exacerbated by asymmetric information exploited by agents to pursue selfish interests.

Within firms it is possible to identify 3 major relationships satisfying the above characteristics: relationships between majority-minority shareholders, relationships between companies and third parties (i.e. creditors, advisors etc.), relationships between shareholders-directors. This work primarily focuses on the latter source of agency problem.

The delegation of decision-making authority from shareholders (principals) to directors (agents) therefore predicts that managers, when not monitored by shareholders, are likely to make self-maximizing decisions which may not necessarily be in the best interest of shareholders. This is made possible by asymmetric information possessed by managers.

Consequently, agency costs arise for both parties. Agents must incur "bonding costs" to make principal feel safer (i.e. disclose conflict of interest). At the same time, principals must incur "monitoring costs" to reduce agents' opportunistic behaviors (corporate governance mechanisms). Finally, even when both parties incur in monitoring and bonding costs respectively, principals will likely incur residual losses too (negative post M&As buyers' performances).

Throughout this dissertation is be analyzed a specific category of agency problem known as moral hazard. My hypothesis is that directors, who typically possess more information than shareholders, sometimes complete Mergers and Acquisitions to maximize their own utility. Three behavioral hypotheses help explaining the reasons behind such opportunistic behaviors, they are: empire-building, hubris and private-benefits-protection hypothesis.

The empire-building hypothesis supports the idea that some managers are interested in managing large companies for reputational and economic reasons. Jensen (1986) argues that empire-building appetite leads managers to overinvest in fast growing strategies. A consequence may be for managers to complete M&As even when they do not represent the most value creation option, when it is not the right time, when there is no good target for sale. The hubris hypothesis (Roll, 1986) highlights executive's overconfidence instead. Unlike traditional empire builders, overconfident executives may believe that they are acting in the interest of shareholders

(Malmendier and Tate, 2003) but they do not fear risk nor price to be paid as far as shareholders bear the full risk of the transaction. According to the private-benefit-protection hypothesis managers may complete M&A transactions to reduce the risk to lose their job. Gorton et al. (2009) argue that managers of target firms are often substituted and that small firms are more likely to be acquired. Therefore, managers may complete deals to increase the size of the company they manage with the ultimate purpose to reduce risk to become targets' managers ("Eat or be Eaten"). Morck et al. (1990) assert that managers may complete acquisitions of companies operating in unrelated industries with the purpose to assure survival and continuity of the resulting conglomerate. In this way, they can protect their private benefits at the expenses of shareholders. Finally, Shleifer and Vishny (1989) support that managers sometimes complete manager-specific investments to reduce the probability of being substituted. They describe this type of opportunistic behavior as managerial entrenchment. Interestingly, even agency costs arising within target companies can end up being incurred by buyers' companies. Sometimes, managements of target companies implement anti-takeover tactics (i.e. poison pill, bear hug, white knight etc.) for the sole purpose to protect their job position. When this happens, transactions turn into hostile, which typically implies higher costs for the acquiring firms. If the transaction is completed despite the opportunistic behaviors implemented by selling-firms' executives, agency costs are transferred from selling shareholders to acquiring shareholders. However, for the purpose of this dissertation is analyzed only the agency relationships between shareholders and directors of the acquiring firms.

1.3 The impact of deals completion on executive's job position, wealth and reputation

The previous paragraph introduced the three main behavioral hypothesis justifying managerial opportunistic behaviors. They explain that managers behave opportunistically to improve their own reputation, increase their patrimony and protect their jobs. Next to the theoretical works a series of empirical examinations support such theoretic framework. First, it is addressed how managers' wealth and reputation varies after they complete bad deals. Then, it is examined whether by completing M&As, executives can reduce the risk to lose their private benefits.

Khorana and Zenner (1998) examined the role of executives' compensation in M&As by comparing the compensation of top executives of firms undertaking large acquisitions against a control sample of non-acquiring firms. They found a positive relation between firm size and compensation for executives of acquirors. However, they did not find such a relation for firms non

engaged in M&As. Separating value-creating from value-destroying transactions was found that successful compensations increase executives' compensations while unsuccessful transactions do not impact on executives' compensations. This justifies managers high risk propensity in M&A transactions, as they only face the positive consequences of transactions, not the negative ones instead. Similarly, Harford and Li (2007) suggest that M&As provide the fastest way to increase a firm size or to change its scope of operation thus enhancing opportunities for executives to renegotiate their fixed compensation. Through an empirical analysis, they found that executives' wealth and fixed salary are insensitive to value-destroying but positively correlated to value-creating deals. Moreover, they demonstrate that risk of managerial opportunism is positively correlated to executive's tenure. This proves that longer executive's tenure implies higher asymmetry of information therefore increasing executive's negotiation power against shareholders. Looking at variable compensation, Grinstein and Hribar (2004) observed a positive correlation between bonus compensation and measures of effort, but not between bonus compensation and deal performance. Moreover, they demonstrated that CEOs with more power also tend to engage in larger deals relative to the size of their own firms, and the market responds more negatively to their acquisition announcements. In this way, they empirically showed that CEOs completing M&As enjoy bonus compensation, no matter what return/loss the transaction produced for buyers' shareholders. For example, in large M&As such as Exxon, HealthSouth, Bankers' Trust, and Travelers Group CEOs were paid cash bonuses between \$5mln and \$14mln upon completion of the transaction. Out of the 327 deals examined through their research, 39% included CEOs reward for the deal completion. In most of cases those rewards were not positively correlated to shareholders' returns.

Regarding consequences of M&As outcome on executives' reputation, have been found contradictory results so far. Fama (1980) argues that career concerns reduce executive moral hazard. Narayanan (1985) stated that executives labor-market mainly evaluate impact of their decisions on firms' short-term performances at the expenses of long-term shareholders' wealth. Not even incentive mechanisms correlating executives' compensation to firms' long-term performances have successfully disentangled such mechanism according to his study. Bebchuk and Stole (1993) agree with Narayanan further highlighting how short-term focus may distort investment decision. Finally, Andrade and Stafford (2004) support that the high degree of uncertainty characterizing M&A transactions make it possible to justify completion of value-destroying deals. CEOs can convince shareholders that a completed deal was value-creating even if market reaction and firm's

operating performances were negative in the short-term. They also found that lower complexity typically involved with internal growth, does not allow managers to gain in terms of wealth and reputation unless capital expenditures produced positive effects on company's performances. This help explaining why M&As are more likely to host opportunistic behaviors than organic growth strategies. Also, the large number of players involved (shareholders, directors, advisors etc.) makes it difficult to correctly attribute responsibilities of bad deals to each party. Even when a transaction is clearly value destroying it may be difficult to understand the why, as players blame each other. In respect to the private-benefit-protection hypothesis, many scholars studied whether M&As can be successfully exploited by managers to preserve their job positions. Gorton, Kahl and Rosen (2009) found that in industries in which all firms have similar size, executives can reduce the risk to lose their job by increasing the size of the company they manage. The fastest path to achieve such objective is provided by mergers and acquisitions. These findings match with those of Palepu (1986) who explained why the probability of being a target is negatively related to the company size and with those of Ruback (1983) who explained that executives have incentive to maintain their firm's independence to preserve their job position. To my knowledge, there is no empirical evidence that by completing M&As in unrelated industries managers can protect their benefits. However, Morck et al. (1990) found that managers believe in diversification as tactic to protect their private benefits. They observed that bidding-shareholders' returns are lower when their firms diversify. Also, firms with fragmented ownership are more likely to make acquisitions in unrelated industries (Faccio et al., 2011). Similarly, there is no empirical evidence justifying or rejecting that managers can entrench their position within a company by completing specific-managers M&As. Despite there is no clear understanding of the consequences produced by bad deals on executives' reputation, previous findings on executives' compensations confirms their incentive to complete M&As even when these are value destroying. Empirical studies show that poor transactions increase executives' variable compensation while they do not affect executives' fixed compensation. Also, managers have incentive to complete M&As to protect their job position, given that larger firms are less likely to become target for takeovers. Finally, managers believe that completing M&As in unrelated industries they can reduce the volatility of their private benefits but there is no empirical evidence to support this last hypothesis.

1.4 Room for managerial opportunistic behaviors throughout M&A processes.

In paragraph 1.2 I explain that M&A transactions may be the result of Agency Conflicts. Then, paragraph 1.3 empirically demonstrates what advantages CEOs do have in completing value-destroying M&As. Finally, as follow will be mapped a typical M&A process to understand what steps of a transactions typically allow directors to exert their power in opportunistic ways. Also, I identify the role of advisors, which will be further analyzed in paragraph 1.5.

The very first decision directors must make when implementing a growth strategy is between organic-growth, alliances and M&As. Theory suggests choosing M&As over the alternatives only when the resources and capabilities a company needs in order to implement its strategy are not accessible through strategic partnerships nor can be built internally within a reasonable time horizon. Behind such a prudential approach, suggested by the build-borrow-buy framework, there are several empirical studies highlighting the high risk of failure typically involved in M&A transactions. Despite that, statistics show that executives increasingly prefer M&As and strategic partnerships to organic growth as paths to deliver strategies. This is partially justified by continuously evolving industries, unpredictable consumers and large globalized markets making organic growth obsolete. Executives' favorable approach toward M&As is also confirmed by the large number and volume of transaction completed over past decades. After the two most recent peaks (2007 and 2015) recording a transaction volume exceeding \$4.5tn, in 2018 were closed over 45 thousand deals for a total value of \$4.1tn. According to the 20^o ed. of the *EY Global Capital Confidence Barometer* (Krouskos et al. 2019), volume and number of transactions are expected to grow in 2020.

It has been demonstrated how some events boost the number and volume of transactions closed during a given period. For instance, technological change, deregulation, ample liquidity, low cost of capital and inefficient financial markets² boost M&A waves. Even if this explains the peaks occasionally inflating the M&A market size, it does not justify the steady growth characterizing the market over past decades.

It is possible that executives' preference for M&As over organic growth and strategic alliances is due by the large room for opportunism that they offer. Paragraph 1.3 shows that executives have incentive to complete even value-destroying M&A transactions as they offer an opportunity to

² For the purpose of this dissertation, a financial market is considered inefficient when it over valueate stock-price of some companies while under valuating stock-price of other companies.

increase the stability of their job-position and their personal wealth while not negatively affecting their reputation instead. Alliances and organic growth do not imply closing-date compensation benefits for managers instead.

Once directors opted for M&As as path to implement a growth strategy it becomes necessary for them to select a group of potential targets. At this stage of the transaction, advisors are typically involved but still considered just a technical support to directors' decisions. For instance, advisors may provide market research and build a potential-buyer-list, but always following buyers' directions who likely know already the target industry. Even the target selection process allows directors to behave opportunistically. For instance, managers may look for the target diversifying their personal portfolio rather than the one maximizing the company's wealth. Also, they may select a target even when there is no good match to the buyers' needs, just to complete a deal and enjoy its consequences (see Paragraph 1.3).

The third group of activities to be performed during an M&A process includes the first contact with the potential targets, preliminary agreements redaction and due diligence. As these activities require experience and specific technical knowledge, they are typically performed by advisors without the intervention of acquiring-firms' directors. Therefore, they do not involve risk for managerial opportunism.

Finally, valuation and negotiation activities are conducted by advisors but according to directors' requests. These two activities, together with the decision among alternative growth paths, are the largest sources of agency costs. As suggested by the hubris, empire-building and private-benefit protection hypothesis, directors may have incentive to overpay a target to maximize their own utility (see paragraph 1.3). Consequently, buyers may end-up pay whatever price is necessary to close a given deal. In this way, managers achieve their personal objectives while advisors enjoy higher revenues.

1.5 Do advisors mitigate managerial opportunism in M&As?

Merger and acquisitions can't certainly be considered routines for industrial firms. Therefore, most of companies do not develop enough internal resources and capabilities to complete such transactions autonomously. Consequently, it is common practice that industrial companies ask for professional support when involved in such complex transactions. This professional support is provided to them by consulting firms and investment banks.

Through this paragraph I verify whether advisor's involvement impacts on M&As outcomes. Especially, I evaluate whether their intervention somehow mitigate managerial opportunistic behaviors or not.

Over past decades were published many studies aiming to correlate different M&As outcomes to different advisors. For instance, Browsers and Miller (1990) tried to measure investment bank ability to perform M&As looking at their brand recognizability and found no relationship with advised clients' returns post transaction. Servaes and Zanner (1996) found that hiring advisors do not generate benefits for clients in comparison to executing the deal using internal resources and capabilities. Rau (2000) explored the relationship between the controlled market share by an investment bank and its quality in completing successful deals. He found a negative relationship between the two variables. These findings supported the theory that advisors do not add value to clients' mandates³ which they simply execute. If true, this would imply that an investment bank recording many value-creating deals had received systematically high-quality mandates. On the contrary, investment banks recording many value-destroying deals should have systematically received mandates from company poor in selecting their target, either because of executives' bounded rationality or selfish interests. Such a conclusion implies that CEOs' inexperience or opportunism in M&As is not mitigated by hiring an advisor.

On the contrary, Bao and Edmans (2011) found that investment banks matter for M&A outcomes. Their research differs from the previously existing ones as it does not attribute the entire post-announcement CAR⁴ to advisors' intervention. Bao and Edmans (2011) removed the portion of CAR which can be explained by buyers' characteristics, such as FCF, Tobin's Q and governance mechanisms measuring the risk-level for managerial opportunism.

As result they found a positive association between certain banks and high shareholders' returns. Measuring three-day CAR of transactions completed by banks who advised on at least ten deals over 1980–2007 and controlling for time effects, they found a difference between the 25th- and 75th-percentile banks of 1.26%. This difference is economically meaningful applied to the mean bidder size of \$10 billion and compared with the mean CAR of 0.72%. Authors suggest that the banks completing the most value-creating deals are those involved in the transaction since the

³ Within the American context, where companies are characterized by fragmented ownership therefore separation between ownership and control, CEOs usually have sufficient power and autonomy to select M&As as growth strategy and to decide the advisor too. This rarely happens within the Italian market instead.

⁴ Cumulative Abnormal Returns: proxy to measure value created/destroyed by M&As.

strategy development phase. These advisors typically help their clients to select the target company rather than just executing the clients' mandates, therefore they can also reduce risk of managerial opportunism.

Another important finding of Edmans (2018) research is that investment banks market-shares are independent of the CAR generated on average by the deals they advised in the past. Instead, their future market share is correlated to their past market share. Finally, they found negative correlation between advisors' historical market share and their ability to complete value-creating deals in the future. This implies that large firms keep growing and enjoying good reputation, no matter the outcomes of the transactions they previously completed.

We can therefore conclude that advisors have incentive to suggest M&As as best path to implement a strategy even when they consider alliances or organic growth a more suitable solution. In the same way, they have incentive to accept also value-destroying mandate to increase their revenues. Whereas, advisors' ability to conduct due diligence and to negotiate may help their clients to obtain better conditions than they would otherwise.

Chapter 2 – Buyers’ characteristics affecting M&As outcomes

The existing literature identifies what characteristics deals, sellers and buyers have a predictable impact on returns of firms undertaking M&S.

Regarding deal characteristics, there is evidence that acquisitions paid with stock produce lower returns than those paid with cash, aligning with the SVAR theory (Fuller et al. 2002, Dutta and Jog 2009); hostile takeovers imply higher price paid for the targets therefore lower abnormal returns for the buyers’ shareholders (Gregory 1997, Schwert 2000, Campa and Hernando 2004) and competition among bidders reduces buyers shareholders abnormal returns in favor of targets’ shareholders (Bradley 1988).

Sellers’ characteristics have proven to be economically significant in predicting buyers’ post M&As performances too. It has been shown that acquisitions of public firms underperform those of private firms (Chang 1998, Fuller et al. 2002, Grossman and Hart 1980) and Moeller et al. (2005) find that the relative deal size ratio (target market value/buyer market value) is negatively correlated with buyers’ abnormal returns.

Finally, literature finds that abnormal returns are lower for acquisitions completed by firms with low leverage (Maloney et al. 1993); high Tobin’s Q, low Book-to-Market-Value and large capitalization of the buyer (Moeller et al. 2004); high excess cash reserves (Jensen 1986, Harford 1999); low managerial share of ownership (Lewellen et al. 1985); overconfident management (Malmendier et al. 2003) and so on.

This dissertation focuses on the third class of forces typically related to M&As outcome: buyers’ characteristics. Specifically, I focus on the impact of buyers’ ownership structure on their stock performances around transactions announcement dates. Ownership structure is analyzed because it is a good proxy of Agency Conflicts risk. In most studies analyzing the impact of managerial opportunism on firms’ performances, fragmented ownership structures are associated to high risk of managerial opportunism. On the contrary, companies characterized by the presence of one or more controlling shareholders, are typically associated to lower risk of Agency Conflicts.

To pave the way toward the empirical analysis (chapter 3), at paragraph 2.1 I present a comparative in-depth analysis of previous literature regarding the topic “Agency Conflicts in M&A Transactions”. Then, at paragraph 2.2, I expose my criticisms to the previous literature and explain the objective of my empirical analysis.

2.1 Buyers' ownership structure and M&A outcomes: literature comparative analysis

In this paragraph are examined the methodologies and results used by the most relevant studies which analyzed the relationship between buyers' ownership structure and their post-transaction performances, obtaining different results.

At sub-paragraph 2.11, I focus on the ownership structure variable specification. Then, at sub-paragraph 2.12, I investigate the different approaches used by the previous literature to compute buyers' performances. Finally, at sub- paragraph 2.13, I examine previous literature results.

2.11 Ownership structure variable specification: literature comparative analysis

Ownership structures are analyzed because they are a good proxy of Agency Conflicts risks. However, it is necessary to elaborate buyers' ownership information in order to obtain meaningful variables. Despite it is shared view to associate fragmented ownership structures to risk of managerial opportunism, there are significant differences among previous studies in terms of data collection methodologies and variables specification. As follows, a comparative analysis of the approaches used by the literature analyzing Agency Conflicts in M&A transactions.

To measure the relationship between buyers' performances and ownership structure, Bauguess and Stegemoller (2008), similarly to Villalonga and Amit (2006), built a family ownership dummy ("family firm") that equals one when one or more family members are officers or directors or own 5% or more of the firm's equity either individually or as a group. They also calculated two variables measuring respectively the percentage ownership stake of insiders⁵ ("inside ownership") and outsiders⁶ ("outside ownership"). According to the above variables' definition, their dataset of America firms contained 14.1% of family firms, an average inside ownership stake of 5.7% and a mean outside block ownership of 12.7%. Only 25% of the observations in the sample used by the American authors had an outside block ownership larger than 20%.

Caprio et al. (2011)), used the methodology developed by La Porta et al. (1999) and followed also by Claessens et al. (2000) and Faccio et al. (2002) among others. They measured the amount of cash flow and voting rights held by the buyers' largest ultimate owner. To do so, they started from the rights held by the largest direct shareholders of the acquiring firms and they tracked the control

⁵ Definition of insiders (Bauguess and Stegemoller): "officers, managers, their relatives, members of the founding family if present, and by all other directors with pecuniary contracts with the firm outside their directorship."

⁶ Definition of outsiders (Bauguess and Stegemoller): "owners unaffiliated with the firm's inside owners."

chains to obtain the cash flow and voting rights of the ultimate owner. For instance, if a buyer company “C” was fully controlled by “B” whose 60% of stock was in turn controlled by “A”, then “A” was considered the largest shareholder of “C” with an ownership stake of 60%. However, they did not stop at the buyers' ultimate parent firm ownership tree, instead, searched for their own controlling shareholders so that the ultimate shareholder is always an individual. Then, based on the percentage of voting rights owned by the largest ultimate owner, they built a dummy variable describing as family firms those whose ultimate largest owner control at least 10% of the reference company, like Barontini et al. (2006). Finally, Caprio et al. (2011) divided the identified family firms in 3 clusters. They described as weak owners the families owning more than 10% but less than 20%, as moderate owners the families owning more than 20% but less than 50% and strong owners those controlling more than 60%. In their sample of European firms, almost 60% of companies own an ownership stake of at least of 20%, out of which almost 50% own more than half of the participated company.

Bouzgarrou and Navatte (2013), following Caprio et al., used the methodology developed by La Porta et al. (1999) looking at the buyers' ultimate shareholders' ownership stake. However, their “family control” dummy assumed value 1 if the underlying ownership stake was larger than 51% or more than doubled the second largest shareholder's stake. According to the above definition of “family control”, the dataset of French firms built by Bouzgarrou and Navatte (2013) contained 33.9% of family firms and their dataset's mean ownership stake amounted to 41.5%.

Like most other studies, I follow the measurement methodology developed by La Porta et al. (1999), which suggest looking at the ownership structure of the buyers' ultimate parent. Despite that, differently than Caprio et al. (2011), if the largest shareholder of the buyer's ultimate parent is a financial institution (i.e. Private Equity fund, Mutual fund etc.) I still consider its stake percentage, rather than analyzing its ownership tree.

After collecting the buyers' ultimate largest shareholders stakes, I built two dummy variables⁷ to identify weakly monitored firms (*weak_mon*) and intensively monitored firms (*inte_mon*). The first variable, *weak_mon*, equals 1 when the buyer's largest ultimate shareholder owns a stake larger than 10% but lower than 20%. The second variable (*inte_mon*), is equal to 1 when the acquiring firm's largest shareholder owns more than 20%. The threshold to distinguish non-monitored firms(<10%), weakly monitored firms (10-20%), intensively monitored firms (>20%)

⁷ Variables Legend available in the appendix – Table 7

is even prudential considering that my dataset comprises only American listed firms with an average market capitalization of US\$9.77bn.

2.12 Buyers' performance measurement: literature comparative analysis

Once it is clear how to address shareholders' control (sub-paragraph 2.11) it is necessary to measure the value produced by the reference transaction for the buyers' shareholders.

The first choice, here, is whether measuring the value generated by a transaction looking at buyers' operating or stock performances. Few professors opted for operating performances. The rationale behind their choice is that M&As outcomes can be correctly evaluated only over the long-run and given that long-term stock returns are affected by the noise of external events, operating performances become the right suit. Also, they criticize that short-term stock returns are entirely based on expectations.

Agreeing with the above assumptions, Carline et al. (2009) measured the transactions outcomes by looking at buyers' industry-adjusted operating cash flow pre and post-transactions. They computed the change in performance as the difference between the five-year post-merger median and the five-year pre-merger median of buyers' adj. OFCF. Similarly, Bouzgarrou and Navatte (2013) and Healy et al. (1992), measured the change in buyers' performances post-transaction by comparing their three-years-pre-acquisition adjusted ROA to their three-years-post-acquisition adjusted ROA. Although there are a few studies observing operating results, the most look at buyers' stock returns. The rationale behind the latter approach is that, having the objective to understand whether the presence of controlling shareholders can stop CEOs from consciously close bad deals, it is enough to examine CEOs' intention rather than their implementation ability. It is therefore relevant to use a performance evaluation approach measuring market expectations rather than realized results. If the market reacts positively to an acquisition within the short-term⁸, assuming rationale investors, it is realistic to believe that shareholder were satisfied with the CEO's decision and therefore that the buyer's CEO did not behave selfishly.

The short-term approach is also suggested by Kaplan and Weisbach (1992) who found that short term stock returns are significantly positively related to subsequent merger success, and by Mitchell and Kenneth (1990) who argue that bidder companies generating negative short-term returns, are more likely to receive a hostile takeover offer because of their future poor performance.

⁸ According to Oler et al. (2006), out of 62 analyzed studies, 91% observed post-event windows shorter than 30 days.

The most common approach to analyze buyers stock performances is the *event study methodology*⁹ where buyers' cumulative abnormal returns are computed, using different methodologies, around the reference transaction announcement date.

Agreeing with the above-mentioned approach, Bauguess and Stegemoller (2008) used the event study methodology to measure buyers' performances post-M&As. Specifically, they observed buyers' Cumulative Abnormal Returns during the event window [-1day;+1day] The abnormal returns, to obtain CARs, were computed as difference between buyers' actual returns and CRSP value-weighted index returns. Similarly, Caprio et al. (2011) computed buyers' stock performances around the transaction announcement date using the event study methodology. However, they computed the abnormal returns using the market model approach where the market indexes of each reference buyers' country of origin was used as benchmark. Furthermore, Caprio et al. (2011) analyzed event windows ([-2day; +2day] and [-30day; +30day]) longer than the one analyzed by Bauguess and Stegemoller (2008). Even Bouzgarrou and Navatte (2013) measured buyers' short and long-term stock performances using the event study methodology. For the short term, following Brown and Warner' methodology (1985), they measured buyers' Cumulative Abnormal Returns generated during the event window [-1day; +1day]. In this case, like Caprio et al. (2011), they used the market model approach where SBF 250 index was used as benchmark. With regard to the long-term, like Barber and Lyon (1997) and Khotari and Warner (1997), they computed the acquiring firms' CARs over a three-year period, beginning the month following the completion of acquisition. The abnormal returns to compute the long-term CARs were estimated using a control firm as a benchmark rather than a market index.

Considering the objective of my dissertation, I believe that it is enough to examine CEOs' intention rather than their long-term implementation ability. Therefore, in chapter 3, I measure buyers' performances looking at their stock returns, rather than their operating performances. Specifically, I use the event study methodology and I compute buyers Cumulative Abnormal Returns using the market model, like Caprio et al (2011) and Bouzgarrou and Navatte (2013). However, I believe that the event windows analyzed by the previous literature are too short even to evaluate CEOs intentions. Oler et al. finds that 76.3% of the studies using the event study methodology, observe post-event window shorter than 5 days. During such a short period, investors' decisions are entirely based on expectations. As stated by Oler et al. (2006), I believe that management researches often

⁹ The methodology is explained in detail at Paragraph 3.2.

over-interpret short-windows event studies' findings. Therefore, differently from the previous literature, I observe a longer time window of 150 days (from 30 days prior to the deal announcement to 120 days post-announcement). Moreover, the length of the time window under observation in my analysis, align with Duncan's theory (2004) which suggests how successful M&As' integration plans are typically executed within 100 days.

2.13 Analysis results and methodologies: literature comparative analysis

At sub-paragraphs 2.11 and 2.12, through a comparative analysis of the previous literature, I clarify what approaches I agree the most with. Specifically, through an in-depth analysis of the previous literature, I identified three studies (Bauguess and Stegemoller (2008), Caprio et al. (2011), Bouzgarrou and Navatte (2013)) which analyzed Agency Conflicts in M&A transaction using theoretical assumption and analysis methodologies similar to mine, but partially different definitions of buyers' ownership structure and performances. Each of them obtained different results. As follows, I examine their finding to understand what factors determined such differences.

2.131 Protective governance choices and the value of acquisition activity

The study of Bauguess and Stegemoller (2008), examined the impact of several governance and ownership characteristics on buyers' post transaction returns, finding that family firms destroy value when they acquire and that firms with large boards are more likely to acquire and to generate positive post-transaction abnormal returns.

Their study was conducted on a sample of 315 U.S. publicly traded companies who completed 1,411 acquisitions between 1994 and 2005. Companies subject to takeover during the considered period were excluded from the dataset. In their sample, the mean buyers' market value amounts to \$19.3 billion and the average deal size is \$1.96 billion.

To verify the relationship between buyers' ownership structure and buyers' stock performance, as explained at sub-paragraph 2.12, they computed buyers' Cumulative Abnormal Returns during the event window [-1;+1]. Then, they compared buyers' performances around the announcement date to three ownership variables (described in detail at sub-paragraph 2.11): family firm, inside ownership and outside ownership.

The univariate analysis (see Table 1 below) of their dataset, conducted by testing the difference of the variables' means, shows that U.S. family firms realize on average negative abnormal returns

one day around the transaction announcement date, similarly to non-family firms. Buyers characterized by the presence of large outside owners (“High Outside Ownership¹⁰”) generate on average positive abnormal returns, larger than the CARs generated by firms without large outside owners (“Low Outside Ownership¹¹”) at a significance level of 5%. Finally, they found that the “High Inside Ownership¹²” firms included in the dataset realized larger CARs than “Low Inside Ownership¹³” firms for 0.93% at a significance level of 1%.

CAR [-1 day; +1 day] (%)	Low Outside Ownership	High Outside Ownership	Mean difference
	-0.61	0.09	0.7**
	Low Inside Ownership	High Inside Ownership	Mean difference
	-0.67	0.26	0.93***
	Non-family	Family	Mean difference
	-0.22	-0.17	0.05

TABLE 1 – The time 0 considered to compute the buyers CARs is the announcement date. ***, **, * denote significance respectively at 1%, 5%, 10%.

Their univariate analysis would align with the agency model discussed in the first chapter as the presence of large inside or outside block-holders seems stimulating efficient investments. For instance, the higher CARs related to the presence of High Inside Ownership could be explained as the result of low separation between ownership and control: if the CEO (inside owner) of a buyer company is also a block-holder, there is lower risk of Agency Conflicts. Whereas, the higher abnormal returns resulting under the presence of large outside block-holders could be justified by higher monitoring activities over directors’ investment choices.

Despite that, as the authors pointed out, considering the large number of forces affecting a company’s returns, it is necessary to assess the relationship between buyers’ ownership structure and CARs using models which include also other predictors. To conduct the multivariate analysis Bauguess and Stegemoller (2008) used OLS multiple regressions (Table 2 – appendix) including, among the controlling predictors, also qualitative and quantitative variables which proved to be economically significant. For instance, the dummies “public target” and “stock deal” proved to be

¹⁰ Firms classified as High Outside Ownership are those included in the third tercile of the “outside ownership” distribution, that is companies with a mean outside ownership’ stake of 25.4%.

¹¹ Firms classified as Low Outside Ownership are those included in the first tercile of the “outside ownership” distribution, that is companies with a mean outside ownership’ stake of 0.5%

¹² Firms classified as High Inside Ownership are those included in the third tercile of the “inside ownership” distribution, that is companies with a mean inside ownership’ stake of 10.3%.

¹³ Firms classified as Low Inside Ownership are those included in the first tercile of the “inside ownership” distribution, that is companies with a mean inside ownership’ stake of 0.6%.

negatively correlated to buyers' CAR [-1; +1] at a significance level of respectively 1% and 5%. Similarly, the logarithm of the buyers' total asset and the ratio between deal size and buyer's market capitalization, resulted to be negatively correlated to buyers' returns one day around the transaction announcement date, in both cases at a significance level of 1%.

After introducing the controlling variables, either the presence of inside or outside block-holders become non significantly correlated to the buyers' CAR. The variable "family firm", within the models including simultaneously several ownership structure variables, proved instead to be negatively correlated to the buyers' returns one day around the announcement date. Therefore, they conclude that family firms are 52% less likely to be the target of a successful takeover relative to non-family firms and make relatively poor investment decisions, destroying 0.74% of the average return when they acquire.

2.132 Ownership Structure, Family Control and Acquisition Decisions

Caprio, Croci and Del Giudice (2011), studied how ownership structure influences the decision to take part in M&As and the post transaction performances.

They do not find evidence that buyers' ownership structure and family control affect acquisitions' performance, moreover they find that family firms are less likely to make acquisitions, particularly when the consequent shares dilution may drive to loss of control.

Their study was conducted on a sample of 777 publicly traded firms operating within continental Europe and which completed deals between 1998-2008. Transactions completed by financial buyers were excluded as well as those with a total asset value pre-transaction below \$250mln.

To verify the relationship between buyers' ownership structure and buyers' stock performance, as explained at sub-paragraph 2.12, they computed buyers' Cumulative Abnormal Returns during the event windows [-2;+2] and [-30;+30]. Then, they compared buyers' performances to three ownership variables (described in detail at sub-paragraph 2.11): weak owners, moderate owners and strong owners.

The univariate analysis (see Table 3 below) of their dataset shows that European acquirers realize positive abnormal returns of 0.80% two days around the transaction announcement date, significant at the level of 1%. Considering only the buyers whose ultimate largest shareholder's stake is lower than 20%, for the same event window, abnormal returns amount to 0.65%, significant at the level

of 1%, while buyers whose ultimate largest shareholder's stake is higher than 50%, for the same event window, realize abnormal returns of 1.31%.

Even the results regarding the time window [-30; +30] show a positive relationship between stake percentage owned by the largest ultimate buyers' shareholder and their abnormal returns post-transaction, but these results are non-economically significant.

%	Ult. largest shareholder owns stake < 20%	Ult. largest shareholder owns stake > 20% and < 50%	Ult. largest shareholder owns stake > 50%
CAR [-2 days; +2 days]	0.65***	0.67***	1.31***
CAR [-30 days; +30 days]	-0.33	0.70	0.97

TABLE 3 – The time 0 considered to compute the buyers CARs is the announcement date. ***, **, * denote significance respectively at 1%, 5%, 10%.

However, as the authors pointed out, the positive relationship between CARs and the size of the ultimate shareholder's stake, can be explained by factors that were omitted in the univariate analysis. To control for these factors, they built several multiple regressions (Table 4 – appendix) where the dependent variables are the abnormal returns in the event window [-2, +2] (columns I–III) and in the event window [-30, +30] (columns IV–VI). Between the predictors were added several controlling variables describing relevant qualitative and quantitative characteristics of both the acquiring and the target companies.

Through this approach, they found that none of the variables describing the buyers' ownership structure were economically significant against the dependent variable CAR [-2; +2], while some of the controlling variables (such as “Relative deal size”, “Ln (size)” and “Cash holding”) captured the statistical significance of the model. On the contrary, the variable representing the ultimate owner's stake percentage (VR UO), which seemed to be non-economically significant when compared to CAR [-30; + 30] in the univariate analysis, acquired significance in the multivariate analysis. It indeed proved to be positively and significantly correlated to CAR [-30; +30].

To conclude, Caprio et al. (2011) find that none of the family variables employed in the analysis are negative and significant. In some specifications they are indeed positive, although still not significant. The absence of a relationship between the variables describing the buyers' ownership structure, is far from irrelevant since it shows that, in the European sample built by the Italian authors, family control does not have the remarkably negative effect documented by Bauguess and Stegemoller (2008) in their dataset of American companies.

2.133 Ownership structure and buyers' performance: family vs non-family firms

Bouzgarrou and Navatte (2013), investigated the impact of family control on French buyers' performance following acquisitions. They found that family-controlled buyers outperform non-family buyers in terms of both short-term and long-term stock performances.

Their study was conducted on a dataset containing 239 acquisitions occurred in the period 1997–2006. The transactions involving buyers operating in highly regulated industries¹⁴ or whose total consideration to shareholder was lower than €1mln were excluded from the analysis.

To verify the relationship between buyers' ownership structure and buyers' stock performance, as explained at sub-paragraph 2.12, they computed buyers' Cumulative Abnormal Returns during the event windows [-1day;+1day] and [0;+3years]. Then, they compared buyers' performances to the ownership dummy variable “family control”, which identified firms whose largest ultimate shareholders owned more than 50% of the outstanding stock.

The univariate analysis (see Table 5 below) of their dataset shows that French acquirers realize positive abnormal returns of 1% three days around the transaction announcement date, significant at the level of 5%. Family firms realize, for the same event window, abnormal returns of 2.81%, significant at the level of 1%. Non-family firms generate abnormal returns of 0.08% instead.

By looking at the long-term stock performances, results are not economically significant instead. Family firms realize positive abnormal returns of 0.47% but economically insignificant. Over the same period, non-family buyers generate negative, but insignificant, CAR of -9.09%.

%	Entire dataset (mean)	Family firms (mean)	Non-family firms (mean)
CAR [-1 days; +1 days]	1.008**	2.816***	0.081***
CAR [0; +3 years]	-5.849	0.473	-9.090

TABLE 5 - The time 0 considered to compute the buyers CARs is the announcement date. ***, **, * denote significance respectively at 1%, 5%, 10%.

Bouzgarrou and Navatte (2013) also built multiple regression models (Table 6 - appendix) to control the relationship between buyers' ownership structure and stock performances for other buyers, targets and transactions' characteristics. For instance, variables such as buyer's leverage, buyer's size, buyer's cash reserve, target's listed status and relative deal size were added to the regression model but with poor results.

¹⁴ Real estate sector, utility sectors and financial sector were classified as highly regulated therefore excluded from the analysis.

The multivariate analysis confirmed the results obtained through the univariate analysis without adding further information. The only controlling variable which proved to be economically significant in the relationship between buyers' ownership structure and its short-term stock performances is the payment method, confirming the SVAR¹⁵ theory.

After testing their models based on event study methodology for endogeneity and nonlinearity problems, Bouzgarrou and Navatte (2013) conclude that French family firms characterized by a high level of control have a positive impact on buyers' performances around the announcement period. Their findings indicate that research of efficiency dominates extraction of private benefits in family firms. This finding can be explained by different reasons. Families usually invest most of their private wealth in the company, and the objective of most of them is to ensure a transfer of wealth to their descendants. Therefore, they tend to behave in a conservative way and to make fewer acquisitions than non-family firms. This cautious acquisition strategy conducts them to acquire only in order to create value. Then, family firms should be efficient when selecting the target firm and efficient in the integration process. Whereas, according to the agency theory and to the entrenchment theory, outside managers tend to complete multiple acquisitions in order to build empires and to become non-substitutable.

2.2 Growing M&A trend and criticisms to previous literature as rationale for a new study

Many professors and professionals investigated whether M&As create or destroy value for the buyers' shareholders (Moeller et al., 2005, Steiner et al., 2018, Chartier et al., 2018). Even by identifying different sources of failure, such as poor integration plans or over-estimation of potential synergies, they all agree that, on average, M&As destroy buyers' shareholders value.

Many theories and best practices to improve the degree of M&As success have been developed over time, but still M&A transactions keep failing nevertheless the volume and number of transactions completed globally keep growing.

After the two most recent peaks (2007 and 2015), in which the volume of transactions exceeded \$4.5tn, in 2018 were closed over 45 thousand deals for a total value of \$4.1tn.

¹⁵ Shareholders Value at Risk: when consideration is paid in stock, the transaction risk is bear by both buyers and sellers' shareholders. On the contrary, if the acquiring company pays the entire consideration in cash, its shareholders bear the entire risk of the transaction.

An unavoidable question arises from such a counterintuitive combination of events. Considering the high risks involved in M&As for the buyers and the several alternatives available to grow (strategic alliances, JV, organic growth), what drives the positive M&A trend?

My assumption is that one of the root causes of the problem, may be the advantages that executives have in pursuing M&As (see paragraph 1.3) which drive them to behave opportunistically.

According to the 20th ed. of the EY Global Capital Confidence Barometer (Krouskos et al. 2019), in support of my assumption, around 73% out of the 2900 interviewed executives expect their companies to complete more deals in 2019-20 than they did during the previous 12 months.

Several studies already analyzed the problem (Healy et al. (1992), Bouzgarrou and Navatte (2013), Teti et al. (2017)) using different approaches (see paragraph 2.11-2.12) and obtaining contrasting results (see paragraph 2.13). However, I do not consider exhaustive the previous literature. Mainly, because of commonly used misleading approaches (see paragraph 2.11). For instance, given that the objective of the underlying topic is to evaluate executives' intention rather than implementation ability, I do not consider the analysis of operating performances (Carline et al. (2009)) as fitting the purpose. On the other hand, even if I agree with those studies using the event study methodology and observing buyers' operating performances, I consider too short, therefore not able to capture the transactions effect, the event windows they took into consideration (Caprio et al. (2011)). Finally, I do not agree with the ownership thresholds selected by the previous literature to distinguish the highly fragmented firms from those characterized by low separation between ownership and control (Bauguess and Stegemoller (2008)).

To conclude, given the significance of the number and volume of M&A transactions completed over last decade and the misleading approaches used by the previous literature, I decided to focus my dissertation on the topic *Agency Conflicts in M&A Transactions*. My objective is to exploit recent data and new approaches to verify the relationship between buyers' ownership structure and stock returns around the transaction announcement dates.

As follow, in Chapter 3, an in-depth explanation of the methodologies and results used in my empirical analysis.

Chapter 3 – Empirical analysis

3.1 Data selection

This analysis examines a sample of 219 acquisitions completed by U.S. firms between 2016 and 2019. Data were gathered from the S&P Capital IQ database according to the following criteria:

- The transaction was announced publicly (either through regulatory filings, company press release or news article) between January first, 2016 and December 31, 2018. Finally, it was closed by September 15, 2019. Such a short and recent period allows to reduce the noise of external events which may impact on the sample firms' performances (i.e. new regulatory policies and disruptive macroeconomic events) and therefore affect the outcome of the analysis.
- Each acquiring firm (from now on "buyer") was incorporated in the United States and is therefore subject to the United States Corporate Law. In this way, the impact of regulatory policies on firms' performances and ownership structure is minimized.
- Each buyer is listed either on the New York Stock Exchange or on NASDAQ. Buyers' stock daily returns are necessary to compute their Abnormal daily Returns.
- Each buyer holds less than 50 per cent of the target's shares before the announcement and obtains more than 50 per cent of the target's shares after completing the acquisition.
- Each buyer coincides with its ultimate parent. This approach facilitates the ownership data collection.
- The deal value (measured in terms of Total Consideration to Shareholders) is equal or greater than US\$1mln and the ratio between the deal value and the market capitalization of the acquiring firm, one day prior to the transaction announcement date, is equal or higher than 1%. The objective is to include only deals that can effectively impact on stock returns and therefore on buyers' CARs.
- The consideration was paid in cash or common equity. Transactions funded with debt were excluded because they would imply the additional monitoring role of banks, which would further complicate the results interpretation.

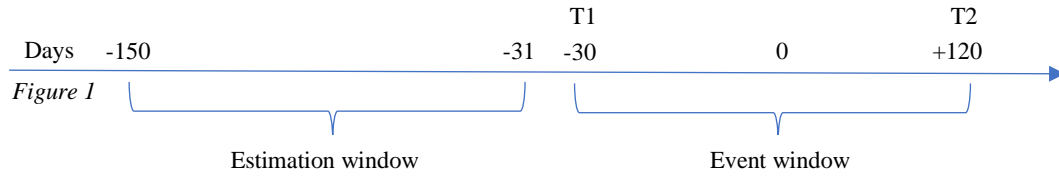
Transactions completed by buyers classified as financial institution were removed. Transactions completed by buyers whose stock daily closing price, for the period of interest, was not available

on S&P Capital IQ were removed. Transactions completed by buyers whose ownership information (at January of the transaction year) were not available on S&P Capital IQ were removed.

Further elaborating the gathered data, I obtained 3 classes of variables describing respectively: deals' characteristics, buyers' characteristics, buyers' performances around the transaction announcement date (each variable observed in the analysis is explained in detail in the Variables Legend section of the Appendix - Table 7).

3.2 CARs computation

To discover if there is any relationship between a buyers' ownership structure and its post transaction stock performances, I use the event study methodology (rationale of the decision at paragraph 2.12). The announcement dates of the transactions included in my dataset are taken as the Events. As shown in *Figure 1* below, the observed *Event window* goes from 30 stock-market-days before the transaction announcement date to 120 stock-market-days after the transaction announcement date. The 30 days before the transaction announcement are included in the *Event window* because the market could acquire information on the deal, and therefore react, before its public disclosure.



Like , Bouzgarrou and Navatte (2013), Campa & Hernando (2006), Beltratti and Palladino (2011), I measure buyers' performances around a mix of (a)symmetric event windows¹⁶ by computing their Cumulative Abnormal daily Returns (CAR). CARs were computed according to the following formulas:

$$CAR_i = \sum_{t=t1}^{t2} AR_{it}$$

Where :

$$AR_{it} = Actual\ daily\ Return_{it} - Expected\ daily\ Return_{it}$$

¹⁶ A list of all the event windows tested through univariate analysis is available in the appendix – Table 9.

The *Actual daily Return*_{it} were computed on the buyers' closing prices recorded during the *Event window*. The *Expected daily Return*_{it} (ER_{it}) were computed using the market model and the S&P 500 index's daily closing values were chosen as benchmark for their computation.

$$ER_{it} = \alpha_i + \beta_i Rm_t + \varepsilon_{it}$$

Finally, the coefficient α_i and β_i were computed using stock and market returns recorded during the *Estimation window* (see Figure 1, above) that goes from 150 days before the transaction announcement date to 31 days before the transaction announcement date. The following formulas were used to compute the ER_{it} coefficients:

$$\beta_i = \frac{Cov(R_i, Rm)}{Var(Rm)} \quad \text{and} \quad \alpha_i = R_i - \beta_i Rm$$

Where R_i is the average of the daily stock returns registered by the reference company during the *Estimation window* and Rm is the mean of the market daily returns registered during the *Estimation window*.

The limitation of CARs computation is related to the use of the *market model* to estimate the buyers' *expected returns*. It implies that results depend on the choice of the market index used as benchmark (Rm) which in turn affects the above-mentioned coefficients, α_i and β_i . However, none of the alternative approaches seem solving the problem. Using comparable companies as a benchmark, for instance, requires the existence of listed comparables. Even by computing the ER_{it} using the reference buyers' business plans (which however are not publicly available), data would be subject to executives' expectations, which according to the assumption of Agency Conflicts in M&A Transactions, may be biased. Executives aiming to complete M&A transactions for personal interests, would have incentive to inflate post-transactions expected financial results to convince boards' members and shareholders on the goodness of the considered deal.

3.3 Dataset summary

My dataset built according to the criteria described at paragraph 3.1 contains 219 transactions announced by U.S. listed firms between 2016 and 2018. The median total consideration to

shareholders (TCtS¹⁷) amounts to US\$141mln while the mean rises to US\$1.2bn because of the presence of very large deals (in 33 deals the TCtS exceed US\$1bn). The minimum deal size ratio, measured as ratio between TCtS and buyer's market capitalization the day prior to the reference transaction announcement, is 1% while the average is 13.3%. In any case, each considered transaction proved to be economically significant for the reference buyer company as each of them generated Abnormal daily Returns, around the announcement date, significantly different from 0. Almost 85% of the sample buyers have a leverage ratio, computed dividing net debt by EBITDA, lower than 3.5x, with only 19 companies exceeding a leverage of 5x. However, considering the large size of the sample firms, also a 5x leverage can be considered sufficiently low.

The average EBITDA margin of the sample buyers is equal to 16.5% and 73% has an EBITDA margin equal or larger than 10%. Out of the 219 analyzed transactions, 76.2% were horizontal acquisitions¹⁸ and 78% were domestic transactions¹⁹.

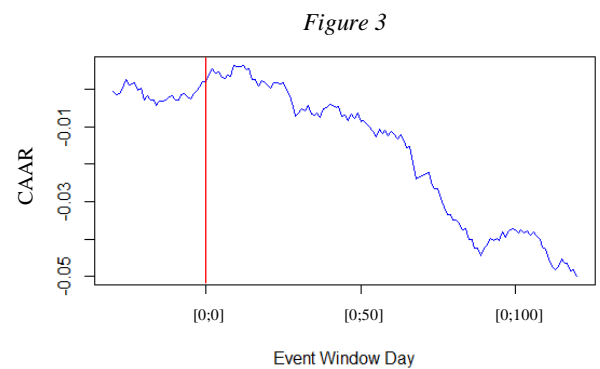
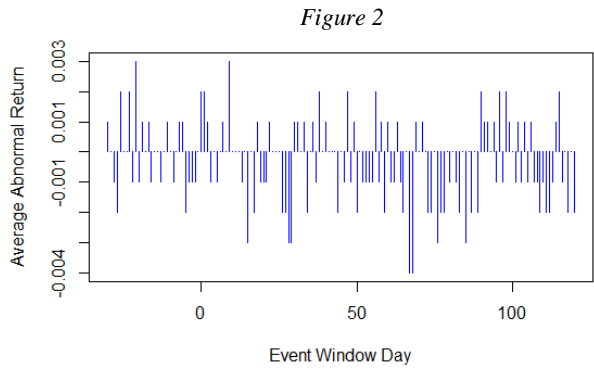
Regarding ownership data, the buyers' ultimate largest shareholder stake is lower than 10% in 41% of cases and between 10% and 20%, therefore classified as "weakly monitored", in 91 cases out of 219. In 17.3% of cases the buyers' ultimate largest shareholder stake exceed 20%, these firms are classified as "intensively monitored". The average stake owned by the sample buyers' ultimate-largest- shareholders classified as "weakly monitored" amounts to 13.3%, while it amounts to 32.8% within the "intensively monitored firms". As expected, my dataset of U.S. companies, strongly differs from the one analyzed by Bouzgarrou and Navatte (2013) containing only French companies, where 33.9% of acquiring firms have an ultimate largest shareholder owning more than 50%. Similarly, in the dataset examined by Caprio et al. (2011), 60% of (European) companies were controlled by ultimate largest shareholders with ownership stake larger than 20%.

In 131 cases it was possible to collect also the ownership stake of the buyers' CEO. Considering the available data, the median CEO's stake is equal to 0.2% and only in 34 cases it exceeds 1%. Out of the 219 sample transactions, in 18.7% of cases the buyers' ultimate largest shareholder is an individual while the remaining were classified as financial institution.

¹⁷ Variables Legend in the appendix – Table 7.

¹⁸ Horizontal acquisitions involve buyers and targets operating in the same primary industry. In this research, it was used the primary industry classification of S&P Capital IQ to distinguish horizontal transactions from the cross-industry ones.

¹⁹ Domestic acquisitions involve buyers and targets incorporated in the same country. In this research, all the sample buyers were incorporated in the U.S. and therefore the Domestic acquisitions represent transactions where the target was incorporated in the U.S. too.



Looking at the Average daily Abnormal Returns (AAR) generated by the sample buyers (Figure 2, where 0 represent the transaction announcement date) it is possible to observe that the AARs assume values higher or lower than 0.2% with a frequency lower than 5 days only in the time window $[-30;-24]$ and in the time window $[+15; 120]$. Also, there is evidence of a decline of the AARs from the announcement date to the 89th day post-announcement. This is even clearer in Figure 3, where the vertical axis measures the Cumulative Average Abnormal Returns generated over the time window indicated in the horizontal axis (Event Window Day). The CAARs on the left of the red line (Figure 3) represent the sum of the Average Abnormal Returns generated by the sample buyers during the days before the transaction announcement day (i.e. the CAAR on the very left side of the chart was computed over the time window $[-30;0]$ and the next CAAR was computed over the time window $[-29;0]$). The CAARs on the right side of the red line, instead, represent the sum of the Average Abnormal Returns generated by the sample companies during the days after the transaction announcement day (i.e. the CAAR $[0;+50]$ was computed as sum of the buyers AAR registered from the announcement date to the 50th day after the announcement). Looking at the right side of Figure 3, there is evidence that M&A transactions, on average, generate positive CAAR for the acquiring firms during the time window $[0;+27]$, while they destroy buyers' shareholders value during the time window $[+28;+120]$.

3.4 Univariate analysis

To verify the significance of the CARs generated by the sample buyers around the reference transaction announcement dates, as some of the CAR variables' distribution are not normal, I used both the parametric T-student test and the non-parametric Wilcoxon Rank Sum test (equivalent to the Mann-Whitney test).

First, I performed the T-test on each of the CAR variables, considering all the 219 observations. In this way, I tested the null hypothesis that the CAR variables' means are equal to 0 and the alternative hypothesis that they are not. Then I performed the two samples²⁰ T-test to verify the null hypothesis that the difference between the samples' means are equal to 0 and the alternative hypothesis that they are not. Similarly, the Wilcoxon Rank Sum test was performed on the entire dataset to test the null hypothesis that CAR variables' medians are equals to 0 and the alternative hypothesis that they are not. Finally, the non-parametric test was performed as two-samples²¹ test to verify the null hypothesis that the difference between the sample' medians are equal to 0 and the alternative hypothesis that they are not. The full table with the results is available in the appendix – Table 9. As follow, a brief summary of the most relevant findings.

After testing the 48 CARs variables included in the dataset, each computed on a specific time window, I found that the most significant are those observing the 120 days following the transaction announcement date (see Table 8 below).

%	Entire Sample (n=219)		Weakly monitored buyers (n=91)		Intensively monitored buyers (n=38)	
<i>Variable</i> ²²	<i>Mean</i>	<i>Median</i>	<i>Mean difference</i>	<i>Median difference</i>	<i>Mean difference</i>	<i>Median difference</i>
<i>car_m30_p120</i>	-5.2**	-0.6	-6.4	-7.3	15.0***	15.8***
<i>car_m15_p120</i>	-5.5**	-2.8**	-7.1	-5.9	13.9**	19.4**
<i>car_m7_p120</i>	-5.3**	-2.8**	-7.2	-4.9	13.4**	17**
<i>car_m3_p120</i>	-5.2**	-2.6**	-6.3	-5.3	14**	17.4***
<i>car_m1_p120</i>	-5**	-2.3**	-5.5	-5.9	14.2**	18***
<i>car_120</i>	-5**	-3.1**	-5.3	-6	14.6**	17.5***

TABLE 8 - The time 0 considered to compute the buyers' CARs is the announcement date. ***, **, * denote significance respectively at 1%, 5%, 10%.

²⁰ The two-samples T-test was performed on the sample of *Weakly Monitored* buyers against the *non-monitored* buyers and on the sample of *Intensively monitored* buyers against the *non-Intensively monitored* buyers (*non-monitored* buyers are those not weakly nor intensively monitored).

²¹ The two-samples Wilcoxon Rank was performed on the sample of *Weakly Monitored* buyers against the *non-monitored* buyers and on the sample of *Intensively monitored* buyers against the *non-Intensively monitored* buyers (*non-monitored* buyers are those not weakly nor intensively monitored).

²² Variables Legend available in the Appendix – Table 7

The results show that American listed firms which make acquisitions, on average destroy shareholders' value during the event window [-30;+120]. The sample buyer firms recorded a mean CAR [-30;+120] of -5.2%. However, there is evidence that the intensively monitored buyers²³, completed deals which destroyed less value than buyers characterized by higher separation between ownership and control. This is shown by the higher mean (medians), even by 15%, generated by the intensively monitored buyers in comparison to the non-intensively monitored acquiring-firms. Both the T-test and the Wilcoxon Rank Sum test rejected the null hypothesis at a significance level of 5% or 10%. Finally, the weakly monitored buyers²⁴ included in my sample, did generate CARs' mean lower than those of the non-monitored firms even by 7.2%. However, both the T-test and the Wilcoxon test did not reject the null hypothesis at a significant level of 10%.

These findings, which align with my agency model, imply that there may be a positive relationship between shareholders monitoring activities and buyers' performances post-transaction. However, considering the large number of factors affecting a firms' stock performances, it is useful to perform a multivariate analysis too. Doing so, I verify whether the obtained results are explained by other variables omitted in the univariate analysis.

3.5 Multivariate analysis

To conduct the multivariate analysis, I used the OLS approach. The fitted models (see Table 11 and 12) were obtained through backward selection methodology and were tested for collinearity and multicollinearity, heteroscedasticity, outliers and non-linearity problems. Plots of the models' residuals and methodology description are available in the appendix (Table 13).

Table 11 shows the regressions I and II, which use the buyers' CAR [-30;+120] as dependent variable. They respectively do not include and include the *ceo_ow* predictor.

I consider a time window of 150 days around the transaction announcement date, like the one analyzed by the models I and II, as a sufficiently long period to gather information on the acquiring-firms' post-transaction business plans and to observe the first results of their integration plans. I therefore interpret models I and II' coefficients as the results of investors' informed decisions. That is, the models I and II' coefficient are the result of conscious market reactions, not entirely based on expectations.

²³ Buyers whose largest ultimate shareholders owns a stake equal or larger than 20% are classified as weakly monitored.

²⁴ Buyers whose largest ultimate shareholders owns a stake between 10% and 20% are classified as weakly monitored.

With this in mind, the positive and significant relationship between buyers' stock performances (*car_m30_p120*) and shareholders' control (*inte_mon*), can be interpreted as a market reward toward efficient acquiring-firms. These efficient buyers, which are able to promote and implement attractive post-transaction business plans, thus, to attract investors trust, happen to coincide with the intensively monitored ones (*inte_mon*). Model I, characterized by a lower Adj. R-squared (7.1%) but fitted on a larger number of observations (218), shows that intensively monitored firms generate CAR [-30;+120] higher than the non-intensively monitored ones, on average by 18.9%. Model II, which includes the *ceo_ow*²⁵ variable, confirms that intensively monitored buyers generate extra performances during the event period on average by 29.4%. Also, both models suggest that larger buyers (*log(acq_rev)*) and considerations paid in cash (*consideration_details*) are positively correlated to buyers' CAR [-30;+120]. Furthermore, model II shows that the *ceo_ow* variable, which is not significant itself, help explaining the negative and significant relationship

Table 11	car_m30_p120	car_m30_p120
	I	II
inte_mon	0.1890*** (0.0025)	0.2942*** (0.0001)
ceo_ow		-0.3699 (0.3591)
log(acq_rev)	0.0362** (0.0125)	0.0556*** (0.0070)
acq_td_ta_ratio	-0.1618 (0.1489)	-0.2568* (0.0654)
consideration_details	0.1766** (0.0216)	0.3139*** (0.0045)
largest_sh_type	-0.0913 (0.1345)	-0.1418* (0.0892)
acq_margin		-0.4170** (0.0273)
deal_size_ratio		0.2565 (0.1031)
Intercept	-0.4562*** (0.0005)	-0.6564*** (0.0012)
N° of observations	218	130
Adj. R-squared	0.0711	0.1677

***, **, * denote significance respectively at 1%,5%,10%. The variables legend is available in the appendix (Table 7)

between buyers' stock performances and the predictors *acq_margin*, *acq_td_ta_ratio*, *largest_sh_type*. Its introduction shows that buyers with higher EBITDA margin (*acq_margin*) at the announcement date, generate on average significantly lower CAR [-30,+120]. This finding aligns with the *Agency cost of free cash flow* theory (Jensen et al. 1986). Also, one percentage point in the buyers' Total Debt to Total Asset ratio at the announcement date (*acq_td_ta_ratio*), correspond to lower CAR [-30;+120] on average by 25.6% . Finally, buyers whose ultimate largest shareholder is an individual person (*largest_sh_type*) generate on average lower CAR [-30;+120] by 14.1% against financial institutions, who typically have more experience in developing, promoting and implementing post- transaction business plans.

²⁵ Information regarding executives' ownership were available only for 131 observation out of the 219 included in the dataset.

Table 12	log(car_m1_p1)	car_m1_p1
	III	IV
inte_mon	0.1581 (0.5445)	-0.0001 (0.9904)
ceo_ow		-0.0047 (0.9388)
log(acq_rev)	-0.1977* (0.0500)	-0.0097** (0.0109)
log(TCtS)	0.2443*** (0.0021)	0.0057* (0.0645)
geography	0.4249* (0.0999)	0.0252** (0.0141)
acq_margin	1.3590* (0.0575)	
acq_td_ta_ratio	0.8381* (0.0991)	
log(acq_cash)	-0.1457* (0.0913)	
consideration_details		0.0800*** (1.22e-06)
industry_match		0.02713*** (0.0063)
Intercept	-3.5207*** (2.14e-08)	-0.0652 (0.0423)**
N° of observations	122 ²⁶	129
Adj. R-squared	0.1594	0.2083

***, **, * denote significance respectively at 1%,5%,10%. The variables legend is available in the appendix (Table 7)

Analyzing the shorter event window [-1;+1], I obtained the regression models III and IV (see Table 12). As I consider a time window of 3 days around the transaction announcement date, in this case, I interpret models' (III and IV) coefficients as the result of market reactions entirely based on expectation.

Both models show a non-significant relationship between shareholders' monitoring activities (*inte_mon*) and buyers' CARs [-1;+1]. This finding aligns with those of Bauguess and Stegemoller (2008), Caprio et al. (2011) who studied the relationship between buyers' ownership structure and CAR[-1;+1] or CAR [-2;+2] (see table 2 and table 4 in the appendix).

Interestingly, during such a short event window, the variables significantly related to buyers' CAR [-1;+1] are those giving general information on the reference deal. For instance, as shown by model IV, market agents have positive

expectations on domestic deals between firms operating in the same primary industry. This is shown by the positive coefficient related to the variables *geography* and *industry_match*. This finding may explain that investors believe more in synergy realization and integration plan implementation when deals are respectively horizontal and domestic.

Finally, when investors' decisions are based on expectations, they typically reward larger deals (*log(TCtS)*), transaction closed by smaller acquirers (*log(acq_rev)*) and deals paid in cash.

²⁶ The presence of heteroscedasticity in the original regression, has required to transform the dependent variable using a log function. The logarithmic transformation of the dependent variable produced NAs, reducing the number of available observations.

3.6 Conclusive thoughts

This dissertation finds that American listed firms which make acquisitions, on average destroy shareholders' value during the considered event window $[-30;+120]$. The sample buyer firms recorded a mean CAR $[-30;+120]$ of -5.2% (paragraph 3.4).

Furthermore, there is evidence that buyers characterized by high separation between ownership and control, complete deals which destroy more value, on average by 29.4%, than those completed by highly monitored firms (paragraph 3.5). Therefore, I confirm that Agency Conflicts with buyers' CEOs are one of the reasons why buyers' shareholders value is often destroyed when involved in M&As (paragraph 1.2). Also, I find useful the comparison between analysis of very short event windows (i.e. $[-1;+1]$, $[-30;+30]$ etc.) and the event window $[-30;+120]$ because it allows to understand investors' decisions rationales. For instance, observing the event windows $[-1;+1]$ and $[-30;+30]$, like Caprio et al. (2011) and Bauguess and Stegemoller (2008), I do not find significant relationship between buyers' ownership structure and their stock performances .

The absence of a relationship, between buyers' short-term stock performances and ownership control, confirms that investors do not have positive a priori expectations on the acquisitions completed by highly monitored firms. During the three day around the announcement date (as shown by Model IV - Table 12), their decisions are rather driven by deals' generic characteristics. Specifically, they have a priori positive expectations on Large Domestic and Horizontal deals paid in Cash. On the other hand, during the same time window, investors do not have much information to evaluate the quality of a transaction.

The latter observations strengthen the significance of the positive relationship between buyers' CAR $[-30;+120]$ and ownership control. Investors, during the 150days window, have the possibility to gather information on buyers' integration plans and synergies realization probability. Therefore, the relationship between buyers' results registered during longer event window $[-30;+120]$ and shareholders' control, may be the result of investors' informed decisions who tend to reward intensively monitored firms not because of a priori positive expectations but because they coincide, on average, with the firms able to promote and implement the most successful post-transaction plans.

The immediate implication of these findings is that acquiring-firms must take care of their governance corporate structure, in order to reduce the risk of executives' opportunistic behaviors. With this regard, Teti et al. (2017) find that the presence of independent profiles in the board of

directors, the separation of the role of CEO from that of president and establishing a fixed compensation for the CEO, are all elements contributing to the complement of successful deals. Finally, given that M&A transactions strongly affect the development of companies and considering the large volume and number of transactions completed globally over past years (in 2018 were closed over 45 thousand deals for a total value of \$4.1tn²⁷) a valuable subject that should be considered and addressed in future researches is the impact of value-destroying M&As on industries' structure and macro-economic development.

²⁷ Source: Mergermarket

Appendix

Table 2 - Bauguess, S. et al.: Multivariate analysis

	1	2	3	4	5
Board size	0.087** (0.043)				0.090** (0.044)
Percent insiders	0.759 (1.255)				1.829 (1.477)
Family firm		-0.350 (0.312)			-0.740* (0.388)
Inside ownership			0.146 (1.822)		1.221 (2.126)
Outside block ownership			0.284 (1.451)		0.433 (1.454)
G				0.009 (0.050)	-0.005 (0.053)
Prior year return	1.355* (0.705)	1.295* (0.708)	1.326* (0.720)	1.333* (0.707)	1.299* (0.720)
Same industry	0.149 (0.255)	0.151 (0.256)	0.150 (0.258)	0.142 (0.255)	0.177 (0.258)
Stock deal	-0.842** (0.346)	-0.793** (0.347)	-0.794** (0.345)	-0.796** (0.347)	-0.820** (0.347)
Public target	-1.048*** (0.308)	-1.052*** (0.307)	-1.034*** (0.307)	-1.034*** (0.307)	-1.071*** (0.308)
Relative size	-2.361*** (0.822)	-2.449*** (0.826)	-2.441*** (0.825)	-2.438*** (0.825)	-2.399*** (0.821)
Leverage	1.396 (1.210)	1.098 (1.177)	1.102 (1.190)	1.087 (1.161)	1.507 (1.194)
Dividend yield	-8.890 (11.468)	-6.409 (11.374)	-4.955 (11.943)	-5.629 (11.258)	-9.129 (12.218)
Free cash flow	-2.666 (3.109)	-2.930 (3.118)	-2.799 (3.142)	-2.821 (3.138)	-2.862 (3.183)
Q	-0.175 (0.155)	-0.164 (0.154)	-0.160 (0.156)	-0.163 (0.154)	-0.175 (0.156)
Log of total assets	-0.432*** (0.123)	-0.357*** (0.120)	-0.330*** (0.128)	-0.334*** (0.122)	-0.438*** (0.145)
Constant	3.935*** (1.505)	4.559*** (1.454)	4.137** (1.642)	4.141** (1.696)	3.842* (2.058)
Lambda					
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies					
Observations	1249	1249	1249	1249	1249
Adj. R-squared	0.078	0.076	0.075	0.075	0.077

This table presents results from ordinary least squares (OLS) and two-stage regressions of abnormal announcement returns to all successful bids. Models use standard OLS methodology with all independent variables measured prior to the announcement date. Board size is the aggregate number of directors on the board at the time of the annual meeting. Family firm is a binary variable equal to one if by any member of the founding family is observed in the firm's proxy statement, either through a directorship or ownership position, meeting the 5% reporting threshold. Inside ownership is the percentage of all ownership by officers, managers, their relatives, members of the founding family if present, and by all other directors with pecuniary contracts with the firm outside their directorship. Outside block ownership is the percentage ownership of all beneficial (5%) owners unaffiliated with the firm's inside owners. G is the governance index of Gompers, Ishii, and Metrick (2003). Relative size is deal value scaled by market value of equity. The column Public target reports the percent of deals in which the target firm was publicly traded. The column Stock deal denotes acquisitions with stock included in the means of payment. The column Same industry reports the percentage of acquisitions that share the same two-digit SIC. Leverage is long term debt scaled by total assets minus the same ratio from the ten closest size- and industry-matched firms. Dividend yield is the dividend per share scaled by the price per share. Free cash flow is operating income before depreciation minus interest expense, income taxes, and dividends; this number is scaled by prior-year assets. Q is the firm's market value of assets scaled by the book value of assets. Log of total assets is calculated on bidders' financials pre-transactions. Lambda is the coefficient estimate of the non-selection hazard (inverse mills ratio). Prior year return is the firm's prior year or panel year raw return. Bidder CAR is the bidder's cumulative abnormal announcement return (firm return minus the CRSP value-weighted index) from day -1 to day +1; public, private, and subsidiary denote the target public status. Dollars are adjusted to 2005 by the CPI. Heteroskedasticity adjusted standard errors are in parentheses. Statistical significance is denoted ***, **, * for 1%, 5%, and 10% respectively.

Table 4 - Caprio, L. et al.: Multivariate analysis

	CAR(-2, 2)					
	I	II	III	IV	V	VI
Constant	0.0383*** [0.0111]	0.0386*** [0.0108]	0.0364*** [0.0109]	0.0217 [0.0547]	0.0227 [0.0552]	0.0257 [0.0537]
Family	0.0011 [0.0033]			0.0093 [0.0058]		
Family Less 20%		0.0021 [0.0040]			0.0136 [0.0115]	
Family 20% < x < 50%		-0.0006 [0.0027]			0.01 [0.0090]	
Family Over 50%		0.0037 [0.0043]			-0.0012 [0.0099]	
Founder CEO/Chair			0.0008 [0.0066]			0.0127 [0.0107]
Family CEO/Chair			0.0046 [0.0045]			0.0058 [0.0084]
VR UO	0.0001 [0.0001]	0.0001 [0.0001]	0.0001 [0.0001]	0.0005* [0.0003]	0.0006* [0.0003]	0.0005* [0.0003]
Wedge UO	-0.0001 [0.0001]	-0.0001 [0.0001]	-0.0001 [0.0001]	-0.0008* [0.0005]	-0.0009* [0.0005]	-0.0007* [0.0004]
VR 2nd LS	0 [0.0002]	0.0001 [0.0002]	0.0001 [0.0002]	-0.0005 [0.0005]	-0.0005 [0.0005]	-0.0004 [0.0005]
Relative Size	0.0375*** [0.0051]	0.0375*** [0.0051]	0.0375*** [0.0050]	0.0470*** [0.0171]	0.0470*** [0.0174]	0.0466*** [0.0173]
Ln(Size)	-0.0020*** [0.0006]	-0.0020*** [0.0006]	-0.0019*** [0.0007]	-0.0005 [0.0024]	-0.0006 [0.0023]	-0.0005 [0.0024]
Tangible Assets	0.0074 [0.0102]	0.0073 [0.0102]	0.0075 [0.0103]	-0.0233* [0.0129]	-0.0232* [0.0129]	-0.0253** [0.0109]
Cash Holding	-0.0231* [0.0133]	-0.0233* [0.0135]	-0.0228* [0.0138]	-0.0142 [0.0489]	-0.0138 [0.0496]	-0.0136 [0.0515]
Leverage	-0.0159 [0.0132]	-0.0155 [0.0134]	-0.0163 [0.0134]	-0.0165 [0.0255]	-0.0185 [0.0257]	-0.0174 [0.0252]
M/B	0.0001 [0.0005]	0.0001 [0.0005]	0.0001 [0.0004]	-0.0024 [0.0017]	-0.0023 [0.0017]	-0.0023 [0.0017]
Run-up	-0.0178*** [0.0026]	-0.0177*** [0.0026]	-0.0178*** [0.0025]	-0.1763*** [0.0100]	-0.1768*** [0.0097]	-0.1769*** [0.0102]
ROA	-0.0086 [0.0098]	-0.0091 [0.0102]	-0.0082 [0.0102]	-0.0028 [0.0439]	0.0008 [0.0471]	-0.001 [0.0449]
Sales Growth	-0.0019 [0.0040]	-0.0019 [0.0041]	-0.0019 [0.0042]	-0.0280** [0.0136]	-0.0286** [0.0139]	-0.0289** [0.0143]
Public	-0.0039 [0.0054]	-0.004 [0.0054]	-0.0039 [0.0054]	-0.0082 [0.0057]	-0.0081 [0.0057]	-0.0087 [0.0056]
Owned Before	0.0003 [0.0003]	0.0003 [0.0003]	0.0003 [0.0003]	0.0013 [0.0010]	0.0013 [0.0010]	0.0013 [0.0010]
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.0545	0.0546	0.0541	0.1651	0.1646	0.1646
Observations	2145	2145	2145	2145	2145	2145

This table presents the results of ordinary least squares regressions in which the dependent variable is CAR [-2, 2]. A firm is defined as a family (non-family) firm if its ultimate owner is (is not) a family member. Family Less 20%, Family 20% < x < 50%, and Family Over 50% are dummies taking the value one if the firm is a family firm and the family holds less than 20%, between 20% and 50%, and more than 50%, respectively, of the company's voting rights, and zero otherwise; and Founder (Non-Founder) CEO/Chairman is a dummy variable that takes the value of one when the founder (a family member who is not the founder) is the CEO or chairman in a family firm, and zero otherwise. VR UO represents the ultimate owner's voting rights in the firm; Relative Size is the ratio between the deal value and the acquirer's size; Ln(Size) is the logarithm of the firm's market value of equity; Tangible Assets is the ratio of tangible assets to total assets; Cash Holding is the ratio of cash plus tradable securities to total assets; Leverage is the ratio of the book value of financial debt as a percentage of the book value of total assets; Market-to-book is the ratio of market value of equity in U.S. dollars to common equity in U.S. dollars; ROA is the ROA, defined as EBITDA over total assets; Sales Growth is the growth rate in total sales.; Run-up is the market-adjusted stock price performance over the period [-240, -41; Public is a dummy that takes the value one if the target is a publicly listed company; and Owned Before is the percentage of the target firm's equity held by the bidder before the transaction. Statistical significance is denoted by ***, **, and * for the 1%, 5%, and 10% respectively.

Table 6 - H. Bouzgarrou, P. Navatte: multivariate analysis

	Exp Signs	CAR[−1; +1]			CAR (36 months)		
		(1)	(2)	(3)	(4)	(5)	(6)
Family Firm	+	0.023** (0.035)	0.027** (0.049)	0.028* (0.061)	0.045 (0.760)	0.032 (0.849)	0.038 (0.837)
Family Wedge	−		−0.010 (0.533)	−0.011 (0.536)		−0.035 (0.861)	−0.069 (0.746)
Non-family Insider Own	+/−			0.010 (0.716)			0.242 (0.537)
Largest Outsider Own	+/−			−0.072 (0.428)			1.644 (0.387)
Tobin's Q	+	0.001 (0.606)	0.001 (0.632)	0.001 (0.632)	0.110* (0.076)	0.109* (0.078)	0.113* (0.069)
Leverage	+/−	−0.044 (0.161)	−0.043 (0.168)	−0.040 (0.215)	−1.432** (0.023)	−1.430** (0.023)	−1.339** (0.028)
Cash Reserve	−	−0.021 (0.674)	−0.023 (0.645)	−0.024 (0.651)	−1.443* (0.070)	−1.452* (0.069)	−1.491* (0.061)
Acquirer Size	−	−0.001 (0.435)	−0.001 (0.452)	−0.002 (0.390)	−0.071** (0.034)	−0.071** (0.035)	−0.053 (0.141)
Relative Deal Size	−	0.004 (0.618)	0.003 (0.646)	0.003 (0.665)	−0.103 (0.557)	−0.104 (0.548)	−0.119 (0.493)
Listed Target	−	−0.008 (0.419)	−0.008 (0.431)	−0.007 (0.474)	−0.151 (0.260)	−0.150 (0.259)	−0.159 (0.249)
All shares Payment	−	−0.023* (0.097)	−0.022 (0.119)	−0.022 (0.123)	−0.292 (0.202)	−0.287 (0.222)	−0.263 (0.276)
Pre-acq Performance	+				0.073 (0.392)	0.074 (0.388)	0.074 (0.382)
CAR[−1; +1]	+/−				−1.356 (0.234)	−1.362 (0.236)	−1.314 (0.256)
Constant		0.038 (0.329)	0.049 (0.234)	0.058 (0.209)	1.356** (0.017)	1.506** (0.021)	1.181* (0.067)
Year Dummies		Yes	Yes	Yes			
N		239	239	239	239	239	239
F. Stat		1.92**	1.83**	1.62**	2.15**	1.96**	1.81**
Adjusted R ²		0.056	0.053	0.049	0.065	0.061	0.060

CAR[−1;+1] is short-term stock performance. CAR (36 months) is long-term stock performance. Post-acq Adj Pfc is operating performance. Family Firm is a dummy equal to 1 if the family controls more than 51% of voting rights or controls more than double the voting rights of the second largest shareholder. Family Wedge is the ratio of the level of voting rights to the level of cash-flow rights. Non-family Insider Own is holdings of the ultimate non-family block-holder represented on the board. Largest Outsider is holdings of block-holder not represented on the board. Tobin's Q is the sum of market value of assets and total debt divided by book value of assets. Leverage is total debt divided by book value of assets. Cash Reserve is cash and cash equivalents divided by book value of assets. Acquirer Size is the logarithm of market value. Relative Deal Size is the deal value divided by the market value. Listed Target is a dummy variable equal to 1 if target is a listed company. All Shares Payment is a dummy variable equal to 1 if only shares are used for payment. Statistical significance is corrected for heteroskedasticity using MacKinnon and White (1985) adjustment. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

Table 7 -Variables Legend

Variables describing deals' characteristics:

- *Announcement_date*: the date when the transaction has been announced publicly either through regulatory filings, company press release, news article, etc.
- *Percent_sold*: percentage of shares sold through the transaction.
- *TCtS*: amount paid by a buyer (in US\$mln.) to the target company's shareholders in exchange for their Common Stock, Interest, Units, Options, Rights, Warrants, Tracking Stock, Assets, and/or Business Division.
- *Deal_size_ratio*: is computed as the ratio between *TCtS* and the reference buyer's market capitalization recorded the day before the transaction announcement (*acq_mc*).
- *Consideration_details*: dummy variable describing the payment method. It equals 0 if at least 20% of the *TCtS* was paid using Common Equity, 1 otherwise.
- *Industry_match*: dummy variable equal to 0 if buyer and target companies involved in the transaction operate in different primary sectors (according to S&P Capital IQ classification), 1 otherwise.
- *Geography*: dummy variable equal to 0 if buyer and target companies were incorporated in different countries, 1 otherwise.

Variables describing buyers' characteristics:

- *Ceo_ow*: percentage of buyer shares owned by the CEO of the buyer.
- *Largest_sh*: percentage of buyer shares owned by the largest ultimate shareholder of the buyer.
- *Second_sh*: percentage of buyer shares owned by the second largest ultimate shareholder of the buyer.
- *Sum_sh*: sum of the variables *Largest_sh* and *Second_sh*.
- *Largest_sh_type*: dummy variable equal to 0 if the *Largest_sh* is a financial institution (i.e. Private Equity fund, Mutual fund), 1 if the largest shareholder is a person.
- *Weak_mon*: dummy variable equal to 0 when the corresponding *Largest_sh* variable assumes value lower than 10% and 1 when the corresponding *Largest_sh* variable assumes value between 10% and 20%.
- *Inte_mon*: dummy variable equal to 0 when the corresponding *Largest_sh* variable assumes value lower than 10% and 1 when the corresponding *Largest_sh* variable assumes value between 10% and 20%.
- *Acq_rev*: revenue of the buyer company recorded at the last closing before the transaction announcement date. Value in US\$mln.
- *Acq_ebitda*: EBITDA of the buyer company recorded at the last closing before the transaction announcement date. Value in US\$mln.
- *Acq_margin*: measured as ratio between *Acq_ebitda* and *Acq_rev*.
- *Acq_mc*: market capitalization of the buyer measured, as shares market value multiplied by number of total shares, one day before the transaction announcement date. Value in US\$mln.
- *Acq_size*: measured as $\log_{10}(\text{acq_mc})$

- *Acq_cash*: total cash and short-term investment of the buyer company recorded at the last closing before the transaction announcement date. Value in US\$mln.
- *Acq_ta*: total asset of the buyer company recorded at the last closing before the transaction announcement date. Value in US\$mln.
- *Acq_nd*: net debt of the buyer company recorded at the last closing before the transaction announcement date. Value in US\$mln.
- *Acq_td*: measured as sum of *Acq_cash* and *Acq_nd*.
- *Acq_td_ta*: measured as ratio between *Acq_td* and *Acq_ta*.
- *Acq_nd_ebitda*: measured as ratio between *Acq_nd* and *Acq_ebitda*.

Variables describing buyers' performances:

- *Car_m'''_p'''*: all the *Car_m'''_p'''* variables measure the buyers' Cumulative Abnormal Returns over a time window which considers *m* days before the transaction announcement date and *p* days after the transaction announcement date. For instance, the variable *Car_m1_p1* is equal to the sum of the buyers' abnormal returns generated from time -1 (one day prior to the transaction announcement date) to time 1 (day after the transaction announcement date).
- *Car_'''*: all the *Car_'''* variables measure the buyers' Cumulative Abnormal Returns over a time window which starts on the transaction announcement date and considers the *'''* days after the transaction announcement date. For instance, the variable *Car_1* is equal to the sum of the buyers' abnormal returns generated from time 0 (transaction announcement date) to time 1 (day after the transaction announcement date).

Table 9 – Univariate analysis results

	Entire Sample (n=219)		Weakly monitored buyers (n=91)		Intensively monitored buyers (n=38)	
<i>Variable</i> ²⁸	<i>Mean</i>	<i>Median</i>	<i>Mean difference</i> ²⁹	<i>Median difference</i>	<i>Mean difference</i> ³⁰	<i>Median difference</i>
<i>car_m30_p120</i>	-0.052**	-0,006	-0,064	-0,073	0,150***	0,158***
<i>car_m30_p90</i>	-0.045**	-0,008	-0,038	-0,078	0,105**	0,076*
<i>car_m30_p60</i>	-0.014	0,003	-0,035	-0,062	0,075**	0,053*
<i>car_m30_p30</i>	-0.009	0,000	-0,027	-0,044	0,066**	0,062*
<i>car_m30_p15</i>	0	0,009	-0,018	-0,049	0,039	0,032
<i>car_m30_p7</i>	0.001	0,016	-0,018	-0,026	0,033	0,043
<i>car_m30_p3</i>	0.002	0,011	-0,017	-0,025	0,034	0,048
<i>car_m30_p1</i>	0.002	0,008	-0,006	-0,013	0,016	0,030
<i>car_m15_p120</i>	-0.055**	-0,028**	-0,071	-0,059	0,139**	0,194**
<i>car_m15_p90</i>	-0.048**	-0,015**	-0,045	-0,029	0,094*	0,076*
<i>car_m15_p60</i>	-0.017	-0,004	-0,042	-0,040	0,065*	0,027
<i>car_m15_p30</i>	-0.011	0,000	-0,034	-0,037*	0,055*	0,013
<i>car_m15_p15</i>	-0.003	0,008	-0,025	-0,027	0,028	0,015
<i>car_m15_p7</i>	-0.001	-0,003	-0,025	-0,014	0,022	0,013
<i>car_m15_p3</i>	0	0,000	-0,024	0,000	0,023	0,021
<i>car_m15_p1</i>	-0.001	0,003	-0,013	-0,003	0,005	0,003
<i>car_m7_p120</i>	-0.053**	-0,028**	-0,072	-0,049	0,134**	0,170**
<i>car_m7_p90</i>	-0.046**	-0,019**	-0,046	-0,058	0,089*	0,103
<i>car_m7_p60</i>	-0.014	-0,006	-0,043	-0,061	0,059*	0,040
<i>car_m7_p30</i>	-0.009	-0,006	-0,034	-0,044**	0,050*	0,049
<i>car_m7_p15</i>	0	0,003	-0,026	-0,023*	0,023	0,030
<i>car_m7_p7</i>	0	0,001	-0,026*	-0,009*	0,017	0,016
<i>car_m7_p3</i>	0.001	0,001	-0,025*	-0,010*	0,018	0,026

²⁸ Variables Legend available in the appendix – Table 7.

²⁹ Mean (Median) difference for the weakly monitored buyers was computed by comparing the mean (median) of the weakly monitored buyers against the non-monitored buyers.

³⁰ Mean (Median) difference for the intensively monitored buyers was computed by comparing the mean (median) of the intensively monitored buyers against the non-intensively monitored buyers.

<i>car_m7_p1</i>	0	0,004	-0,014	-0,014	0,000	0,013
<i>car_m3_p120</i>	-0.052**	-0,026**	-0,063	-0,053	0,140**	0,174***
<i>car_m3_p90</i>	-0.044**	-0,024**	-0,037	-0,047	0,095*	0,101*
<i>car_m3_p60</i>	-0.013	-0,007	-0,034	-0,052	0,065*	0,042
<i>car_m3_p30</i>	-0.008	-0,003	-0,025	-0,050	0,056*	0,059*
<i>car_m3_p15</i>	0	-0,002	-0,017	-0,014	0,028	0,042
<i>car_m3_p7</i>	0.001	0,000	-0,017	0,006	0,023	0,037
<i>car_m3_p3</i>	0.002	0,002	-0,016	-0,003	0,024	0,042*
<i>car_m3_p1</i>	0.002	0,008	-0,005	-0,002	0,006	0,017
<i>car_m1_p120</i>	-0.050**	-0,023**	-0,055	-0,059	0,142**	0,180***
<i>car_m1_p90</i>	-0.042**	-0,023**	-0,030	-0,015	0,097*	0,096*
<i>car_m1_p60</i>	-0.011	-0,006	-0,026	-0,034	0,068*	0,048
<i>car_m1_p30</i>	-0.006	-0,002	-0,018	-0,039	0,058*	0,047
<i>car_m1_p15</i>	0.003	-0,003	-0,009	-0,008	0,031	0,019
<i>car_m1_p7</i>	0.004	-0,002	-0,009	-0,002	0,025	0,031
<i>car_m1_p3</i>	0.004	0,005	-0,008	-0,001	0,026	0,029*
<i>car_m1_p1</i>	0.004	0,005	0,002	0,002	0,008	0,006
<i>car_1</i>	0.004	0,003	0,005	0,003	0,011	0,006
<i>car_3</i>	0.004	0,004	-0,006	-0,005	0,029*	0,024**
<i>car_7</i>	0.004	-0,001	-0,006	0,001	0,029	0,025*
<i>car_15</i>	0.003	0,001	-0,007	-0,019	0,034	0,018
<i>car_30</i>	0.004	-0,006	-0,015	-0,019	0,062**	0,066*
<i>car_60</i>	-0.011	-0,009	-0,024	-0,020	0,071*	0,064
<i>car_90</i>	-0.042**	-0,025**	-0,027	0,005	0,100*	0,092*
<i>car_120</i>	-0.050**	-0,031**	-0,053	-0,060	0,146**	0,175***

***, **, * denote significance respectively at 1%,5%,10%. T-student test was used for the means.

Wilcoxon Ranks Sum test was used for the medians.

Table 10 – Correlation matrix

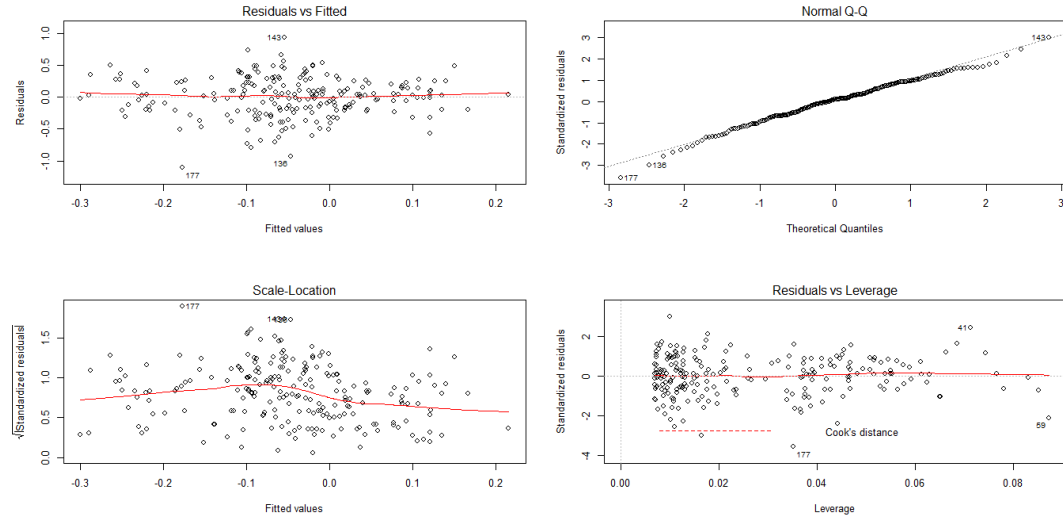
(1) <i>acq_id_in_ratio</i>	7,8	-2,8	-2,5	12,6	3,1	-19,5	-10,6	6,9	22,5	-8,8	16,2	100
(2) <i>acq_margin</i>	27,1	-4,4	-1,9	10,9	-12,4	-8,6	-15,5	-1,4	5,5	20,8	100	16,2
(3) <i>log_acq_cash</i>	54,8	-10,4	-3,5	19,5	-16,5	-9,2	-17,4	-13,9	57,8	100	20,8	-8,8
(4) <i>log_acq_rev</i>	57,9	-14,6	-0,3	8,3	-10,4	-28,5	-17,9	-10,5	100	57,8	5,5	22,5
(5) <i>int_mon</i>	-15,3	-5,8	9,8	5,7	1,0	35,7	39,8	100	-10,5	-13,9	-1,4	6,9
(6) <i>largest_sh_type</i>	-17,7	0,5	14,8	-3,5	11,3	43,0	100	39,8	-17,9	-17,4	-15,5	-10,6
(7) <i>ceo_ow</i>	-22,0	-3,6	10,8	-11,9	4,3	100	43,0	35,7	-28,5	-9,2	-8,6	-19,5
(8) <i>geography</i>	0,3	17,2	-12,4	-6,2	100	4,3	11,3	1,0	-10,4	-16,5	-12,4	3,1
(9) <i>industry_match</i>	15,4	7,5	-5,8	100	-6,2	-11,9	-3,5	5,7	8,3	19,5	10,9	12,6
(10) <i>consideration_details</i>	-32,3	-55,2	100	-5,8	-12,4	10,8	14,8	9,8	-0,3	-3,5	-1,9	-2,5
(11) <i>deal_size_ratio</i>	43,6	100	-55,2	7,5	17,2	-3,6	0,5	-5,8	-14,6	-10,4	-4,4	-2,8
(12) <i>log_TCS</i>	100	43,6	-32,3	15,4	0,3	-22,0	-17,7	-15,3	57,9	54,8	27,1	7,8
	12	11	10	9	8	7	6	5	4	3	2	1

Table 13 – Plots of residuals

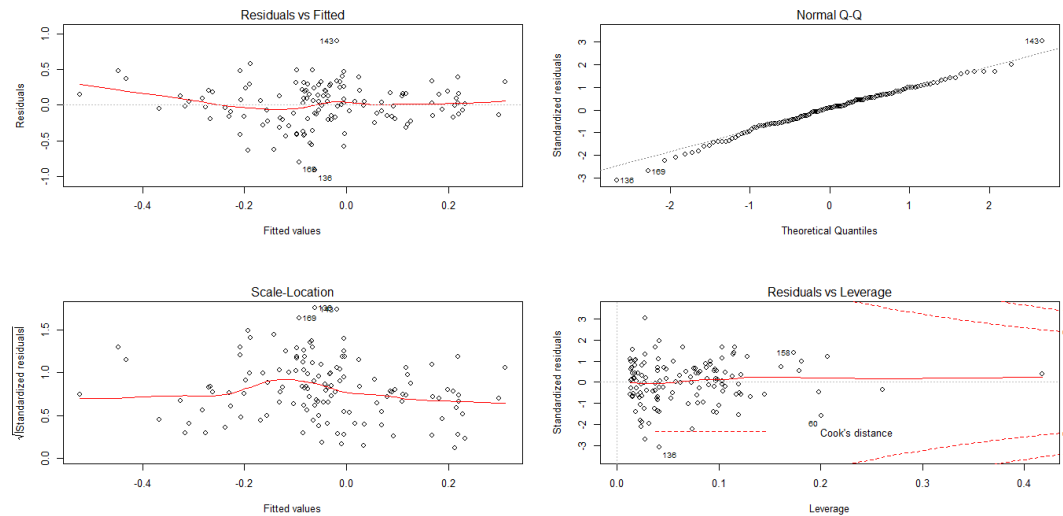
Original model used to build regressions I, II, III and IV:

$Y \sim \text{inte_mon} + \text{second_sh} + \text{percent_sold} + \log(\text{TCtS}) + \text{deal_size_ratio} + \text{consideration_details} + \text{industry_match} + \text{geography} + \text{largest_sh_type} + \log(\text{acq_rev}) + \log(\text{acq_cash}) + \text{acq_margin} + \text{acq_size} + \text{acq_nd_ebitda} + \text{acq_td_ta_ratio}$

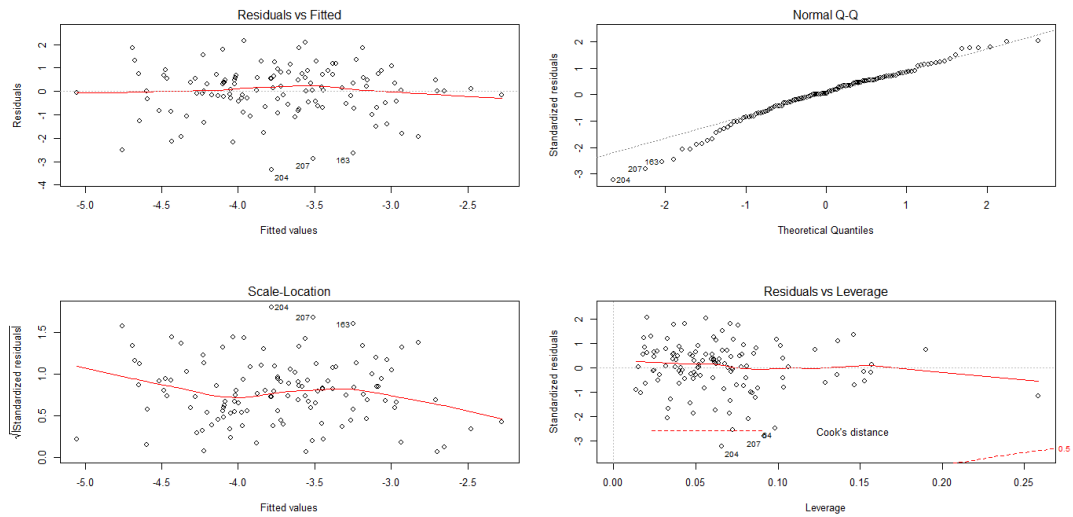
The variables *acq_ebitda*, *acq_ta*, *acq_td*, *acq_mc*, *sum_sh*, were excluded from the original model during the preliminary analysis, because they showed Pearson correlation > 70% with other predictors included in the original model, therefore subject to collinearity problems. I use a logarithmic transformation of the variable *tcts*, *acq_size*, *acq_cash* to obtain easily interpretable coefficients.



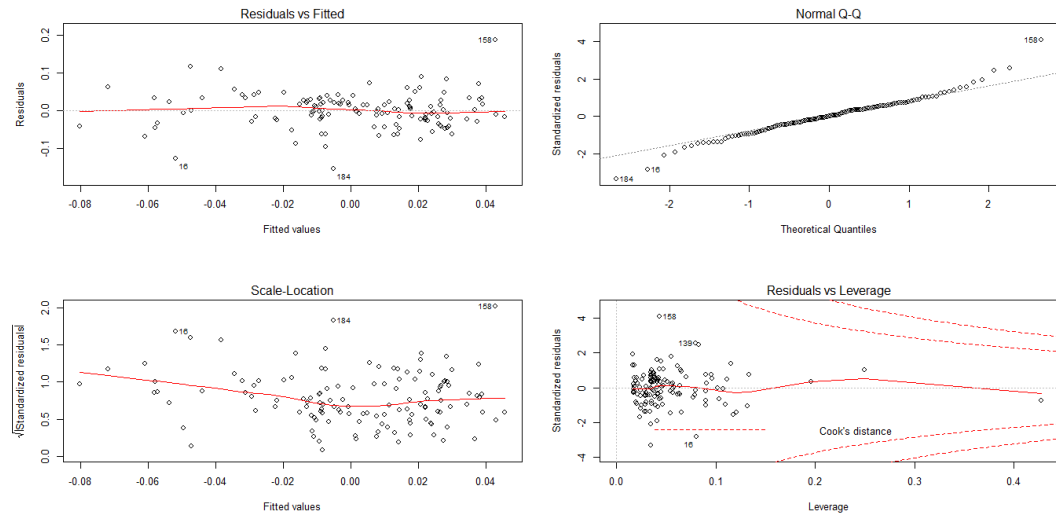
Model I – In model I, the dependent variable is *car_m30_p120*. The variable *acq_size* was excluded from the final model I because showed multicollinearity ($VIF > 5$). The variables *acq_nd_ebitda*, *log(acq_cash)*, *deal_size_ratio*, *geography*, *percent_sold*, *acq_margin*, *industry_match*, *log(TCtS)*, *second_sh* were excluded through backward selection because they showed p-value higher than 10% and, as I removed each of them, the model's Adj. R-squared increased. Finally, I removed one outlier identified with the Bonferroni Test, using the threshold Bonferroni's p-value of 5%. The model does not show heteroscedasticity and the response-predictors relationship is linear.



Model II – In model II the dependent variable is *car_m30_p120*. The model includes the additional variable *ceo_ow*, not included in model I. The introduction of *ceo_ow* produced NAs therefore reducing the number of available observations to 131. The variable *acq_size* was excluded from the final model II because showed multicollinearity ($VIF > 5$). The variables *second_sh*, *acq_nd_ebitda*, *log(acq_cash)*, *deal_size_ratio*, *geography*, *percent_sold*, *acq_margin*, *industry_match*, *log(TCtS)* were excluded through backward selection because they showed p-value higher than 10% and, as I removed each of them, the model's Adj. R-squared increased. Finally, I removed one outlier identified with the Bonferroni Test, using the threshold Bonferroni's p-value of 5%.



Model III – In model III the dependent variable is $\log(car_ml_p1)$. The variable acq_size was excluded from the final model III because it showed multicollinearity ($VIF > 5$). Given that the original model III showed heteroscedasticity, I transformed the dependent variable car_ml_p1 using a logarithmic function. The logarithmic transformation of the dependent variable produced NAs, reducing the number of available observations to 123. The variables $second_sh$, $largest_sh_type$, acq_nd_ebitda , $percent_sold$, $consideration_details$, $deal_size_ratio$, $industry_match$ were excluded through backward selection because they showed p-value higher than 10% and, as I removed each of them, the model's Adj. R-squared increased. Finally, I removed one outlier identified with the Bonferroni Test, using the threshold Bonferroni's p-value of 5%. The response-predictors relationship is linear.



Model IV – In model IV the dependent variable is car_ml_p1 . The model also includes the variable ceo_ow , which introduction reduced the number of available observations to 131. The variable acq_size was excluded from the final model IV because it showed multicollinearity ($VIF > 5$). The variables $second_sh$, $deal_size_ratio$, $largest_sh_type$, $acq_td_ta_ratio$, $percent_sold$, acq_nd_ebitda , $\log(acq_cash)$ were excluded through backward selection because they showed p-value higher than 10% and, as I removed each of them, the model's Adj. R-squared increased. Finally, I removed two outliers identified with the Bonferroni Test, using the threshold Bonferroni's p-value of 5%. The model does not show heteroscedasticity and the response-predictors relationship is linear.

References

- Anderson, R., Reeb, D., (2003). Founding-family ownership and firm performance: evidence from the S&P 500. *Journal of Finance*, 58, 1301–1327.
- Andrade, Gregor, and Erik Stafford, (2004). Investigating the economic role of mergers. *Journal of Corporate Finance*, 10, 1–36.
- Andres, C., (2007). Large Shareholders and Firm Performance – An Empirical Examination of Founding-Family Ownership. *Journal of Corporate Finance*, 14, 435-445.
- Asquith, Paul, Robert F. Bruner, and David W. Mullins, (1983). The gains to bidding firms from merger. *Journal of Financial Economics*, 11, 121–139.
- Bao, J., Edmans, A. (2011). Do Investment Banks Matter for M&A Returns? *Oxford University Press*.
- Barber, B.M., & Lyon, J. D. (1997). Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics*, 43, 341–372.
- Barontini, R., & Caprio, L. (2006). The effect of family control on firm value and performance: Evidence from continental Europe. *European Financial Management*, 12, 689–723.
- Basu, N., Dimitrova, L., & Paeglis, I. (2009). Family control and dilution in mergers. *Journal Banking and Finance*, 33, 829–841.
- Bauguess, S., & Stegemoller, M. (2008). Protective governance choices and the value of acquisition activity. *Journal of Corporate Finance*, 14, 550–566.
- Bebchuk, L. and Stole, L. (1993). Do Short-Term Managerial Objectives Lead to Under- or Over-Investment in Long-Term Projects? *Journal of Finance*, 48, 719-729.
- Beltratti, A., Paladino, G. (2013). Is M&A different during a crisis? Evidence from the European banking sector. *Journal of Banking & Finance*, 37, n°12, 5394-5405.
- Berle, Adolf A. and Gardiner C. Means (1932). The Modern Corporation and Private Property. New York, *Macmillan Publishing Co*.
- Bianchini, M., (2019). The rise of the Modern Corporation. Padova, *Lecture material*.
- Bouzgarrou H. and Navatte P. (2013). Ownership structure and buyers' performance: family vs non-family firms. *International Review of Financial Analysis*, 27, 123–134.
- Bradley, Michael D., Anand S. Desai, and E. Han Kim, (1988). Synergistic gains from corporate acquisitions and their division between the stockholders of target and acquiring firms. *Journal of Financial Economics*, 21, 3–40.

- Brown, S. J., & Warner, J. B. (1985). Using daily stock returns: The case of event studies. *Journal of Financial Economics*, 14, 3–31.
- Bowers, H., Miller, R., (1990). Choice of Investment Banker and Shareholders Wealth of Firms Involved in Acquisitions. *Financial Management* 19, 34-44.
- Campa, J., Hernando, I., (2004). Shareholder value creation in European M&As. *European Financial Management*, 10, 47-81.
- Caprio, L., et al. (2011). Ownership Structure, Family Control and Acquisition Decisions. *Journal of Corporate Finance*, 17, n° 5, 1636-1657.
- Capron, L., Mitchell, W., (2012). Build, Borrow, or Buy: Solving the Growth Dilemma. *Harvard Business Press*.
- Carline, N., F., et al. (2009). Operating performance changes associated with corporate mergers and the role of corporate governance. *Journal of Banking & Finance*, 33, 1829-1841.
- Chang, S., (1998). Takeovers of privately held targets, methods of payment, and bidder returns. *Journal of Finance*, 53, 773-784.
- Chartier, J., Liu, A., Raberger, N. and Silva, R. (2018). Seven rules to crack the code on revenue synergies in M&A. *McKinsey & Company*.
- Claessens, S., Djankov, S., & Lang, L. H. P. (2000). The separation of ownership and control in East Asian corporations. *Journal of Financial Economics*, 58, 81–112.
- Duncan, A., (2004). Speed in M&A Integration: The First 100 Days. *European Management Journal*, 22, 418-430.
- Dutta, S. and Jog, V., (2009). The Long-Term Performance of Acquiring Firms A Re-Examination of an Anomaly. *Journal of Banking & Finance*, 33, 1400-1412.
- Easterbrook, F., Fischel, D., (1991). The Economic Structure of Corporate Law. *Harvard University Press*.
- Edmans, A. (2018). Conflicts of Interest Among M&A Advisors. *London Business School Press*.
- Engert, O. and Rosiello, R. (2010). A McKinsey perspective on value creation and synergies. *McKinsey & Company*.
- Faccio, M., Marchica, M.-T., Mura, R., (2011). Large shareholder diversification and corporate risk-taking. *Review of Financial Studies*.
- Faccio, M., & Lang, L. H. P. (2002). The ultimate ownership of Western European corporations. *Journal of Financial Economics*, 65, 365–395.

- Fama, E., (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, 88, 288 -307.
- Franks, J., Harris, R. and Titman, S. (1991). The post-merger share-price performance of acquiring Firms. *Journal of Financial Economics*, 29, n° 1, 81-96.
- Fuller, Kathleen, Jeffry M. Netter, and Mike Stegemoller, (2002). What do returns to acquiring firms tell us? Evidence from firms that make many acquisitions. *Journal of Finance*, 57, 1763–1794.
- Gorton, G., Kahl, M., & Rosen, R. (2009). Eat or be eaten: A theory of mergers and merger waves. *Journal of Finance*, 64, 1291–1344.
- Gregory, A., (1997). An Examination of the Long Run Performance of UK Acquiring Firms. *Journal of Business Finance and Accounting*, 24, 971-1002.
- Grinstein, Y. and Hribar, P. (2004). CEO compensation and incentives - evidence from M&A bonuses”. *Journal of Financial Economics*, Vol. 73 No. 1, 119-143.
- Grossman, S., Hart, D., (1980). Takeover Bids, the Free-Rider Problem, and the Theory of the Corporation .*The Bell Journal of Economics*, 11, 1. 42-64.
- Harford, Jarrod (1999). Corporate cash reserves and acquisitions. *Journal of Finance* ,54, 1969-97.
- Harford, J. and Li, K., (2007). “Decoupling CEO wealth and firm performance: the case of acquiring CEOs. *Journal of Finance*, Vol. 62 No. 2, 917-949.
- Hart, O., (1991). Firms, Contracts, and Financial Structure. *Clarendon Press*, Oxford.
- Hasbrouck, Joel, (1985). The characteristics of takeover targets: Q and other measures. *Journal of Banking and Finance*, 9, 351-362.
- Healy, P. M., Palepu, K. G., & Ruback, R. (1992). Does corporate performance improve after mergers? *Journal of Financial Economics*. 31, 135–175.
- Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance, and takeovers, *American Economic Review*, Vol. 76 No. 2, 323-329.
- Jensen, Michael C, and Richard S. Ruback, (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics*, 11, 5-50.
- Jensen, M.C. and Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs, and capital structure. *Journal of Financial Economics*, Vol. 3, 305-360.
- Kaplan, S.N. and Weisbach, M.S. (1992). The success of acquisitions: evidence from divestitures. *Journal of Finance*, Vol. 47 No. 1, pp. 107-138.

- Kengelbach, J., Berberich, U. and Keienburg, G. (2015). Why Deals Fail. *The Boston Consulting Group*.
- Khorana, A. and Zenner, M. (1998). Executive compensation of large buyers in the 1980s. *Journal of Corporate Finance*, Vol. 4 No. 3, 209-240.
- Khotari, S. P., & Warner, J. B. (1997). Measuring long-horizon security price performance. *Journal of Financial Economics*, 43, 301–339.
- Krouskos, S., et al. (2019). Global Capital Confidence Barometer. *Ernst & Young*. 20^o ed.
- Steiner, J., Strauss, J., Cardoso, K. and Szwaja, J. (2018). Driving transaction value through focus on human capital. *Ernst & Young*.
- La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (1999). Corporate ownership around the world. *Journal of Finance*, 54, 471–517.
- Lewellen, Wilbur, Claudio Loderer, and Ahron Rosenfeld, (1985). Merger decisions and executive stock ownership in acquiring firms. *Journal of Accounting and Economics*, 7, 209–231.
- MacKinlay, A. C. (1997). Event studies in economics and finance. *Journal of Economic Literature*. 35(1), 13-39
- Malmendier, U., Tate, G., (2003). CEO Overconfidence and Corporate Investment. AFA 2003 Washington, *DC Meetings*.
- Maloney, Michael T., Robert E. McCormick, and Mark L. Mitchell, (1993). Managerial decision making and capital structure. *Journal of Business*, 66, 189–217.
- Masulis, R.W., Wang, C. and Xie, F. (2007). Corporate governance and acquirer returns. *Journal of Finance*, 62, n°4, 1851-1889.
- Mitchell, M.L. and Kenneth, L. (1990). Do bad bidders become good targets? *Journal of Political Economy*. Vol. 98 No. 2, pp. 372-398.
- Moeller, Sara B., Frederik P. Schlingemann, and Rene´ M. Stulz, (2004). Firm size and the gains from acquisitions. *Journal of Financial Economics*, 73, 201–228.
- Moeller, S.B., Schlingemann, F.P. and Stulz, R.M. (2005). Wealth destruction on a massive scale? A study of acquiring firm returns in the recent merger wave. *Journal of Finance*, Vol. 60 No. 2, 757-782.
- Morck, Randall, Andrei Shleifer, and Robert W Vishny, (1990). Do managerial objectives acquisitions? *Journal of Finance*, Vol 45, 31-48.
- Narayanan, M., (1985). Managerial Incentives for Short-Term Results. *The Journal of Finance*, 40, n°5, 1469-1484.

- Oler, D., Harrison, J., Allen, M., (2006). Over-Interpretation of Short-Window Event Study Findings in Management Research: An Empirical Illustration. *Elsevier*.
- Palepu, Krishna G., (1986). Predicting takeover targets: A methodological and empirical. *Journal of Accounting and Economics*.
- Roll, R. (1986). The hubris hypothesis of corporate takeovers. *Journal of Business*, Vol. 59 No. 1, 197-216.
- Servaes, H., Zenner, M., (1996). The Role of Investment Banks in Acquisitions. *The Review of Financial Studies*, Vol. 9, n° 3, 787-815.
- Schwert, G. William, (2000). Hostility in takeovers: In the eyes of the beholder? *Journal of Finance*, 55, 2599–2640.
- Shleifer, A. and Vishny, R. (1989). Management entrenchment. *Journal of Financial Economics*, Vol. 25, 123-39.
- Teti, E., Dell’Acqua, A., Etro, L., Volpe, M., (2017). The impact of board independency, CEO duality and CEO fixed compensation on M&A performance. *Emerald Publishing Limited*, 17, 947 971.
- Travlos, Nicolas G., (1987). Corporate takeover bids, methods of payment, and bidding firms’ stock returns. *Journal of Finance*, 42, 943–963.
- Villalonga, B., Amit, R., (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics*, 80, 385–417.