



**The effect of Anti-takeover Provisions on
Acquirers' return**
An empirical study on the US market

Konstantinos Gallis

474246

Supervisor: Prof. Dr. I. Dittmann

Second Assessor: Dr. Daniel Urban

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ABSTRACT

This thesis investigates the influence of corporate governance provisions on the M&A performance of bidder firms for completed deals in the United States after the financial crisis. Using the period 2008-2018, the results show that the anti-takeover provisions (ATPs) have a positive relation with acquirers' returns, which is in contradiction with previous studies. However, this outcome is not significant. On the other side, I find evidence that the entrenchment indices of Bebchuk et al. (2004) and Bebchuk & Cohen (2005) have an inverse association with bidders' profitability. In addition, this research studies whether CEOs who possess the position of chairman of the board proceed to value destruction acquisitions, although findings show an insignificant relationship between them. Finally, this paper reports no conclusive evidence that firms with CEO duality proceed to more valuable acquisitions.

Keywords: corporate governance, M&A, anti-takeover provisions, bidder performance, financial crisis

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1. INTRODUCTION

Nowadays, mergers and acquisitions (M&As) consist an outbreak phenomenon in modern markets due to the need for capital concentration. The basic idea behind a merger or an acquisition is that two or more companies combined as one can perform better than separately. Although the definitions of *merger* and *acquisition* differ semantically, in fact, they represent two not so divergent concepts and so they are used together (M&A) to specify a union of two or more companies under the same management, monitoring, economic targets, and interests. The main difference is the way of their union¹.

Firms can take action in various business sectors, become more competitive and establish their current position in continuous mutative markets. More specifically, the aim of every company is to increase profits and this can be done not only by selling products or services, but by their external policies. In particular, this is feasible through buying shares or creating strategic alliances, taking the shape of mergers and acquisitions (Hagedoorn & Duysters, 2002). Consequently, the sharing knowledge that comes from the synergy can improve the operational processes, reduce the costs and yield to higher profits.

On other side, managers who own low percentages of the firm's capital pursue their personal wealth and not the shareholders' one (Eichholtz et, al. 2008). As a result, they aim to an increase in their compensation, because the firm after the merger or acquisition demands more workload. In addition, CEOs can proceed to deals in order to intensify the position of the company in the market, making its acquisition more difficult.

It is clear that the interest around the effectiveness of these deals -create or destroy firm value- attracts more and more researchers due to the huge amount of capital and its risk. Firm entities adopt this type of investment to reach a lot of potential benefits, which overcome the ones arising from internal organic growth (Larsson & Finkelstein, 1999). However, M&A actions do not always respond positively.

More precisely, hostile takeovers are connected to higher performances for the shares of the target (Walkling & Edmister 1985, Datta, Pinches and Narayanan 1992). This confirms the hypothesis of Morck et, al. (1988) regarding the existence of a disciplined instrument in the market for the inefficient managers, which restricts the principal-agent problem due to the disciplinary mechanism of hostile takeovers.

¹ Acquisition is the process that one firm (acquirer) buys a part or even the whole entity of another company (target). With this way, the target continues existing as an individual legal entity, becoming a subsidiary of the acquirer. On the other hand, merger is the union of two or more companies, in which the assets of the absorbed company are being transferred to the main company. Therefore, the absorbed company stops existing as a legal entity (Sing 1971, Hampton 1989).

This study investigates the relationship between corporate governance mechanisms and the bidder firms' M&A performance using the Cumulative Abnormal Returns (CAR) and Returns on Assets (ROA) of the acquirers. More precisely, it examines whether the entrenchment indices -BCF & BC- designed by Bebchuk et al. (2004) and Bebchuk & Cohen (2005) incentivize managers to act in favor of the shareholders' interest and make better acquisitions. Therefore, this formulates the major research question:

How does the corporate governance indices of Bebchuk et al. (2004) and Bebchuk & Cohen (2005) affect the M&A performance of the acquirer firms?

Our intent to check whether the past empirical results about the corporate governance mechanisms still hold for the period after the financial crisis led us to use a sample of 3,624 bidder firms from the United States of America that completed an M&A transaction between 2008 and 2018. Generally, in the bibliography, there are two basic methods of testing if the takeovers add value or not. The first one is the use of accounting indices such as earnings or cash flows to investigate the impact of the merge, comparing the values before and after. Nonetheless, we will follow the second approach that became popular after the acceptance of the Efficient Market Hypothesis by Fama (1970 & 1976). This method is called *Abnormal Returns* and it was used in the innovative study of Fama, Fisher, Jensen & Roll (1969) for the effect of the public announcements of stock splits in the share prices and it is explained more analytically in the methodology part. Cumulative abnormal returns have been estimated using the market and the 3-factors Fama-French model. Several explanatory variables along with control variables are regressed in order to determine the key drivers for the obtained CARs.

The first two hypotheses are focused on the impact of the BCF and BC indices on the acquirers' performance after an M&A deal. They incorporate poison pills; staggered boards; golden parachutes; supermajority requirements; limits to shareholder bylaw amendments; and limits to shareholder charter amendments, constructing two government indices that represent the power that the shareholders of the bidder firm have in the decisions making. This can also be translated as the "freedom" of the CEO when he decides about a potential acquisition of a target firm.

The rest of the hypotheses tested are based on CEO duality, which takes place when the CEO of a firm is also the chairman of the board (COB). The Troubled Asset Relief Program (TARP) in 2008 suggested firms to split these titles. According to Yang and Zhao (2014), there is mixed empirical evidence on whether CEO duality is beneficial for firm performance. So, we examined if the dual leadership makes the CEOs to not act in the best interest of shareholders and proceed to value-destroying M&A transactions.

The empirical results do not confirm the past literature since we find a positive relationship between the cumulative abnormal returns of the bidder firms with both entrenchment indices, which is not significant. Using as a robustness test a subsample keeping only the first M&A deal for every acquirer makes the relationship significant. Furthermore, it is found that there is a negative and significant relation between takeover defenses and acquirer firms' profitability, measured by ROA. This means that bidders with better governance make more profitable acquisitions. The regression results for the CEO duality showed no evidence for its relation with the M&A performance of the acquiring firm. Lastly, an interesting finding was that there is a positive relationship between bidders with CEO duality and the deal value, meaning that firms with a high score on BCF and BC index spend more money on an M&A transaction.

The main contribution of this thesis is that it extends the current M&A and corporate governance literature. Besides, the outcomes of this research answer the question of whether the corporate governance can always handle and tackle the agency problem and provide enough orientation and guidance to improve the performance of the M&As through its mechanisms. Furthermore, the relatively recent data that the thesis is based on, aim to help us understand the effect of the financial crisis in 2008 in the M&A market and also benefit the future private equity decisions and their accuracy.

The remainder of this thesis is organized as follows. Section 2 introduces the theoretical background based on the mergers & acquisitions and corporate governance literature. Section 3 describes the hypotheses tested in our research. In Section 4, we present the details about the sample selection process and the data sources. Section 5 provides a brief explanation of the research methods and the regression models that were used. Section 6 presents and discusses the empirical findings. Conclusion and discussion arising from the research are cited in Section 7.

2. LITERATURE REVIEW

2.1 Motivation behind M&As

Alchian (1950), Friedman (1953) and Becker (1962) were the first who discussed about the optimization of the shareholders' value. They stated that companies in order to survive in a competitive environment, they need to promote targets for profit maximization, which is translated in maximization of the shareholders' wealth. Based on this hypothesis, the management board of the company considers M&As as an investment plan, which will be implemented only if the gross present value is positive and adds value to its shareholders (Halpern, 1983).

The information asymmetry hypothesis consists a second economic theory. In specific, mergers and acquisitions are triggered by the fact of non-symmetrical information across the market. According to this theory, bidders' valuations about targets can vary due to the information they have or lack. Therefore, the management of the bidder might have the belief that the target is undervalued and under different governance, it can capitalize its real potential in the market. The empirical studies of Dodd & Ruback (1977) and Bradley, Desai & Kim (1983) confirm the relation between the information asymmetry and M&A action.

A third theory is a managerial theory known as *Agency problem*. The theory was formulated by Jensen & Meckling (1976), while Fama & Jensen (1983) extended this theory, highlighting that there can be different interests between agents. In particular, managers might not completely aim to the maximization of the value of the shareholders. Mueller (1980) argues that this phenomenon is more observable when the executives and especially the CEO does not own shares of the company that works for. For instance, managers can increase their salaries, bonuses and their prestige against the firm's profit-seeking. The existence of free cash flows encourages managers to take part in M&As instead of distributing them in dividends. As a result, these decisions lead to a decline in the total value of the company.

Moreover, the finance theory that our research will investigate is the *Market for corporate control*. Manne (1965) introduced that there is an instrument of firm control, which is conspicuous especially in competitive markets. Based on the above mechanism, Jensen & Ruback (1983) defined the "market for corporate control" as an instrument of the market that intervenes when managers take decisions, which cause damage to the value of the firm.

More precise, this market process takes place to either remove the ineffective management board or allow managers to improve the performance of the company, in order to avoid the buyout from another company. Hostile takeovers work as a disciplinary market method, known as "disciplinary control

method". Also, the argument that firms with low performance are a common target of M&As has been backed up by the empirical studies of Morck et, al (1988); and Holl & Kyriazis (1997).

2.2 PRINCIPAL AGENT PROBLEM

Jensen (1986) argues that the agency problem is one of the determinants that cause negative returns on the side of the acquirer after the merger. Morck et, al. (1988) confirms the above explaining that the division between ownership and control² in a company automatically generates interest misalignment. Consequently, managers can act in self-interest, gaining more power -empire building³- and trying to maximize their wealth (Khorana & Zenner, 1998). Thus, they proceed to acquisitions that destroy the shareholders' value and at the same time, they increase their compensation, justifying for the extra effort that they have to put in order to manage the merged firm as well (Jensen & Meckling, 1976).

Moreover, Khorana & Zenner (1998) state that the CEO compensation is impervious and it cannot be affected even though the performance after the M&A is negative. According to Harford & Li (2007), there is evidence demonstrating that the sensitivity of the CEO compensation regards the firm's performance after the merge shrinks. In other words, Chief Executive Officers can have an increased salary after the completion of the merge, without being always penalized even if the company performs not positively in the close future. As a result, mergers and acquisitions can be faced as a quick and risk-free way for the manager to raise his salary; expand the magnitude of his firm; and extend its risk exposure in multiple markets (Khorana & Zenner, 1998).

2.3 OVERPAYMENT

The acquirer company is willing to dispose of a high premium bid to the shareholders of the target company to persuade them to accept the offer (Christensen et, al., 2011). So, the price of shares of the target company increases during the negotiations of the deal (Sirower & Sahni, 2006). As a consequence, the acquirer company might seek unorthodox financing -such as junk bonds- and spend wealth sources that were aimed to be used for other operations to match the price.

Additionally, Andrade et, al. (1988) finds that the merged company has a positive change in value comparing the period before and after the M&A. However, this variation derives from the target's return. The acquirer yields either negatively or zero returns around the announcement date of the merger and acquisition (Jensen & Ruback, 1983 and Agrawal & Walking, 1994). The argumentation behind it is that there might be a market mispricing because the target firm has overvalued the possible synergy

² Principal is the shareholders or otherwise owners of the firm, while the agent, who is taking action on behalf of the principal, is the board of directors.

³ According to the "Free cash flow theory" the executives use the free cash flow to over-invest without an act in favor of the shareholders' value and thus form "empire-building" (Jensen, 1986).

(Dong et al., 2006). In short, the acquirer firm pays more than the real value of the target. This outcome might arise because of “management hubris”. More specifically, the acquirer notices that a firm is managed poorly and decides to make an offer because the CEO has detected a potential profit, which can be achieved if this business will be managed under his manner (Roll, 1986).

Hence, the takeover is sometimes not profitable for the acquirer, because the CEO has overestimated his capability to efficiently manage the target firm. For example, abnormal acculturation can be caused by either employee resistance or difference in business culture (Shraeder, 2001). Consequently, the procedure of inspection of target firms can be proved insufficient, since a severe number of companies after their participation in an M&A deal reveal that overestimated the benefits or underestimated the costs (Draper & Paudyal, 2008).

2.4 CORPORATE GOVERNANCE MECHANISMS

The last years, *Corporate Governance Control* gains more ground due to its vital importance, because the markets by themselves are not always capable of solving sufficiently any problem of interest representation. In order to minimize the number of mergers and acquisitions which failed to add value to the shareholders of the target firm, corporate governance is crucial. In further detail, Bodolica & Spraggon (2009) support that corporate governance is extremely necessary in order to create and maintain an alignment between the principal (shareholders) and agent (CEO), trying to mitigate their interest conflict. Also, its mechanisms can resolve issues such as the overpayment of the target, eliminating managers to undertake risky decisions, including M&As.

Dennis & McConnel (2003) have pointed out that some of these instruments that corporate governance adopts to avoid misalignments, are the CEO compensation and the board of directors. More specifically, the CEO compensation should provide incentives to the manager, so the direction of his decisions to be aligned with the long-run performance of the firm. Likewise, the board of directors should be independent⁴, so the shareholders can achieve direct monitoring on the company (Baysinger & Butler, 1985).

According to Ang et al. (2009), the CEO compensation is significantly and positively correlated to the firm’s market capitalization, inducing managers to undertake acquisitions in order to increase their salary. However, the research of Bliss and Rosen (2001) finds that a manager limits the number of his takeover actions when his compensation is stock-based. This is backed up by Rajgopal & Shevlin (2002) and Coles et al. (2006) who confirm that the executives become more sensitive when they own shares of the company; and thus they reduce their risky behavior, such as an M&A deal, which does not add

⁴ The structure of an independent board contains non-executive directors, who do not have a material interest in a firm and they are independent, so they can judge the management without bias (Fuji et al., 2016).

any incremental value to the shareholders. Although equity-based compensation does not motivate the executives to undertake risky decisions overinvesting, managers can proceed to mergers in order to diversify their portfolios (Williams et, al., 2006).

Along with, there should be members in the board that are not executive directors, so they can enact the audit and remuneration committees. Dennis & McConnel (2003) point out that the members of the board who mainly focus on auditing have an equity portion of the company they monitor because this minimizes the agency problem since it closes the gap between control and ownership. Thus, the higher percentage of equity increases the firm value, because there is less irritation between ownership and control; and there is more severe motivation to be active in the decision-making process and monitor the firm's operation effectively (Dennis & McConell, 2003). So, we can affirm the huge importance of the presence of outside directors inside of a board, and hence accounting scandals as Enron and WorldCom might be prevented or even avoided in the future.

Although the Sarbanes-Oxley Acts requires the involvement of independent directors in the board to mainly monitor the company, there are still cases where the manager proceeds to M&A deals, which are not valuable for the shareholders. A takeover decision can be affected by the corporate governance of the acquirer because firms desire to increase their market power without aiming for any beneficial synergies (Jensen & Ruback, 1983).

The establishment of the junk bond market in the 1980s empowered hostile bids, leading a big wave of firms to implement defenses against hostile takeover offers (Taggart, 1987). Gompers et, al. (2003) attempted to investigate the corporate governance of a firm in order to explain its performance. In particular, they composed a Governance (G) Index which is consisted of 24 provisions listed by the Investor Responsibility Research Center (IRRC) and this index proxies the degree of shareholder rights. The G-index was used to construct portfolios, which buys Low-Index companies (strongest shareholder rights) and sells High-Index companies (weakest shareholder rights).

The investment strategy followed generated abnormal returns of 8.5% per year from 1990 to 1999. It is important to mention that both value and equal-weighting implemented on the construction of the portfolios. According to Gompers et, al. (2003), firms with higher value, profits, sales growth, and capital expenditures have stronger shareholder rights, taking part in fewer M&A deals. However, they note that firms' characteristics such as institutional ownership or industry create a correlation between the index and the abnormal returns because the selection of governance provisions was not random.

⁵ SOX is a United States federal law that took place in 2002 and its purpose of establishing SOX was to improve the information accuracy to the shareholders through some required provisions for the corporates (Dennis & McConnel, 2003).

2.5 INTERNAL AND EXTERNAL GOVERNANCE

Going further, it is important to discuss the distinction between external and internal mechanisms of corporate governance. The first category consists of the market for corporate control and the second consists of the shareholder activism. These governance divisions have a complementary interaction, which is stronger for low leverage firms and are correlated with long-term abnormal returns according to the finding of Cremers & Nair (2005).

In detail, the research of Cremers & Nair (2005) is based on the index of Gomperts et. al. (2003) constructing the EXT index, which is a linear transformation ($24 - G$) of the G-Index. It represents the degree of takeover vulnerability for a firm. However, they argue that the equal weighting in all 24 provisions in EXT can create nuisance due to their differences on effectiveness. Therefore, Cremers & Nair (2005) created an Alternative Takeover Protection Index (ATI), which was a more parsimonious way to count takeover defense since it is based on 3 key antitakeover provisions⁶. Using the ATI index, they implement an investment portfolio strategy that goes long on high takeover vulnerable firms and sells low vulnerable firms take place and the outcome of abnormal returns equals to 10% annually.

The study of Masulis et. al, (2007) was mainly focused on whether the external corporate governance mechanism of the market for corporate control, which can prevent Empire building providing managers the appropriate incentives, has an impact to the acquirer's post-merger profits. They used the governance index of Gompers et. al, (2003) GIM⁷ and Bebchuk et. al, (2004) BCF⁸ or also known as Entrenchment index. Comparing these two indices, they state that BCF is more related to the long-run firm performance than the GIM, since the E-index seems to largely lead the correlation with Tobin'Q, while the additional eighteen provisions do not appear to be associated with firm valuation (Bebchuk et. al, 2004 and Masulis et. al, 2007). According to Bebchuk et. al, (2004) the many provisions in the GIM index underweight the provisions that signify the measurement of corporate governance quality.

Generally, the conflict of interest between shareholders and managers has a positive relationship with the number of anti-takeover provisions (ATPs). For instance, firms which have more ATPs assure and do not incentivize properly their managers to seek for value maximization tend to proceed to more value-destroying mergers and acquisitions (Masulis et. al, 2007). In other words, multiple findings show that acquirers with less antitakeover provisions have higher abnormal returns during the period of the announcement.

⁶ Staggered boards; poison pills and; constraint on shareholder voting to call special meetings.

⁷ GIM contains 24 unique antitakeover provisions based on IRRC.

⁸ BCF is based on six provisions that are considered as the most important, comparing to all 24 of the GIM index. This is called *Entrenchment index* (E-index) and encompasses staggered boards; limits to shareholder bylaw amendments; limits to shareholder charter amendments; supermajority requirement for mergers; poison pills and golden parachutes.

3. HYPOTHESES DEVELOPMENT

In this section, I present the hypotheses that I constructed following the prior study of Masulis et al. (2007). The last hypothesis is innovative to the best of my knowledge since it has not been investigated in the past.

Under Kirkpatrick (2009), the financial crisis in 2008 highlighted some breakdowns and deficiencies in the adjustment of corporate governance. He argued that the regulation and accounting standards seemed to be not enough adequate to provide clear guidance, creating a lack of monitoring in the board of directors. As a result, this forced the economic and financial world to retest the corporate governance foundations. In particular, the Steering Group on Corporate Governance took place for the OECD countries to re-judge the validity of corporate governance basis. Hence, each hypothesis is designed that way to evaluate whether the outcomes of previous studies are persistent after the global economic crisis in 2008.

Past empirical research is very clear in the function of ATP provisions in acquirer firms. In particular, acquirers who adopt more ATPs have lower abnormal returns during the announcement period (Masulis et. al, 2007). Therefore, I suppose that anti-takeover provisions will significantly and persistently keep affecting the profitability of acquisition testing the time-period from the start of the crisis and thereafter. This leads to the elaboration of the first hypothesis, as follows:

H1: Do acquirer firms with weak takeover defenses make better acquisitions?

This research will also check for firm profitability using the Return on Assets (ROA) to measure it. ROA indicates the profitability of a company regards to its total assets. Return on Assets is a decent measure of performance taking into account the returns of the shareholders. Thus, it is suggested as an alternative way to address mergers and acquisitions performance. ATPs can be an entrenchment device limiting the acquirer's firm profitability. Therefore, I am expecting ROA to have a negative relation with the corporate governance indices implying that better governance leads to higher profitability for the bidders.

H2: Is there a negative relation between takeover defenses and acquirer firms' profitability?

The following hypothesis is triggered by the fact that the CEO can also possess the position of the chairman of the board. This is considered as a corporate governance characteristic, which affects the interests of the shareholders and thus the merger and acquisition performance. Namely, the separation of these positions from the same person leads to reduced agency costs, because the CEO self-interest

decisions are hard to be implemented if they are against the interest of the shareholders. According to Hayward and Hambrick (1997), in the case of CEO duality, firm monitoring is lower, leading to negative performance. So, this formulates the following hypothesis:

H3: *Does CEO duality decrease the M&A performance of the acquiring firm?*

H4: *Do bidder firms with CEO duality make more valuable acquisitions?*

The last hypothesis has not been investigated to the best of my knowledge. Therefore, I will try to research whether there is a relation between CEO duality and the value of the deal.

4. DATA

In this part I first explain the construction of the dataset, describing the databases from where the data was extracted. Then, I define all the dependent, independent and control variables that I used in this study and how they are measured.

All the data used to construct the variables and investigate the M&A performance were available in the data sources of Thomson One and Wharton Research Data Services (WRDS). First, we extracted data related to completed M&A transactions between January 1st, 2008 and December 31st, 2018 from Thomson One. These were the event dates; bidder firms; and deal value. Then, we collected the bidders' historical market data (stock prices) from the Center of Research in Security Prices (CRSP), so we can estimate the expected returns of acquirers in the announcement period and compare them with their realized returns at the same period, in order to calculate the Abnormal Returns. Afterward, we extracted from the Institutional Shareholder Services (ISS), annual data about the anti-takeover provisions – such as poison pill, classified board- that were applied by my sample of companies in order to construct the governance indices of Bebchuk et al. (2004) and Bebchuck & Cohen (2005). Lastly, we collected bidders' quarterly financial information available in their balance sheets, income, and cash flow statements from the Compustat database, so to design the control variables of my model.

The data availability and the advanced market for corporate control led to the selection of the United States, where also the beginning of the financial crisis was triggered. Our choice to observe the period between January 1st, 2008 until December 31st, 2018 is because we aim to capture the reaction and influence caused by recent economic events.

The merge of Thomson One, CRSP, ISS and Compustat databases was done using the unique identifiers for the U.S. financial securities, the CUSIP codes. So, bidders without CUSIP were removed. Also, missing values of dependent, independent and control variables were excluded and outliers were corrected using winsorizing at 1% since they might create insufficiency and noise in our sample. The regression analysis was performed using STATA.

In my research, I follow the same methodology as Masulis et. al, (2007) to investigate if the results are persistent in time after the financial crisis in 2008. Therefore, I use the same requirements for my sample:

1. Acquirers are in the United States and publicly listed;
2. The acquisition must be completed;
3. The bidder must own less than 50% of the target before the acquisition and 100% after;
4. Transaction value must exceed \$1 million;
5. Corporate governance data is available on the ISS database;

6. The bidder must have available accounting and financial data on Compustat and CRSP, respectively.

The end-up sample contains 3,624 M&As made by 1,540 U.S. firms from 13 industries⁹ during 2008-2018.

VARIABLE DESCRIPTION

This part specifies the dependent, independent and control variables that I employ for this study. The brief overview and description of them are stated in Table A1 in the Appendix A.

4.1 DEPENDENT VARIABLE

CAR

The M&A performance is the first dependent variable and it is measured using the cumulative abnormal return (CAR) of acquirer firm during the announcement. CARs portray almost precisely the reaction of the market before and after the event, in order to capture the effect in the performance of the firm (Hayward & Hambrick, 1997). So, when it is positive, the M&A announcement affected positively the firm profitability; while when it is negative, it is associated with a value-destruction acquisition.

Based on Fama et. al, (1996) and Brown & Warner (1985), this study performs event study methodology in order to calculate cumulative abnormal returns. In particular, consistent with Masulis et al. (2007) CAR is calculated using the market model as a benchmark weighting the daily returns equally. However, I also calculated CAR using the 3-factor Fama-French model for robustness, because it can explain over 90% of the portfolio returns instead of the 70% of CAPM. The estimation window used to compute the expected returns for every firm is 200 trading days, following the past literature (Moeller et. al, 2004, Masulis et. al, 2007). In order to avoid other conditions that could have an impact on the M&A announcement, the event windows to calculate the abnormal returns are 3-days (-1, +1), while Masulis et al. (2007) used the 5-day CAR (-2, +2). However, CAR (-3, +3) using the same estimation window is also calculated to allow for possible rumors about the announcement, information that can be reflected in the financial markets.

RETURN ON ASSETS

According to Barber and Lyon (1996), the return on assets is more dominant than performance measures based on cash. It is preferred over Return on Equity since it takes into consideration leveraging by firms. It is denoted as ROA and is equal to Net Income (Loss) over Total Assets.

⁹ FINANCIALS, INDUSTRIALS, TELECOMMUNICATIONS, CONSUMER PRODUCTS & SERVICES, REAL ESTATE, RETAIL, HIGH TECHNOLOGY, ENERGY & POWER, HEALTHCARE, MATERIALS, CONSUMER STAPLES, GOVERNMENT & AGENCIES, and MEDIA.

DEAL VALUE

The last dependent variable is the deal value, which is measured in million dollars (\$).

4.2 INDEPENDENT VARIABLES

BCF

The primary explanatory variable for testing against firm performance is the corporate governance index designed by Bebchuk et al. (2004). BCF index contains only 6 key provisions based on the GIM index of 24 provisions by Gompers et al. (2003). The reason that the BCF index is preferred in this research over GIM index, is because Bebchuk et al. (2004) in their findings state that there is no correlation between the other 18 GIM provisions and a decline in firm value. Hence, BCF is a more effective and parsimonious proxy for the strength of the shareholder rights and incorporates namely poison pills; staggered boards; golden parachutes; supermajority requirements; limits to shareholder bylaw amendments; and limits to shareholder charter amendments. The definition for each of them is presented in Table 1.

The BCF accumulates one point for each provision that a company possesses. So, following Masulis et al. (2007) we construct two portfolios. The first portfolio is called “Democracy” and bidders with BCF index below the median are assigned, while the second portfolio “Dictatorship” consists of bidders, whose index is above the sample median. In other words, high BCF index is translated as “bad” corporate governance, meaning weak shareholder rights.

BOARD CLASSIFIED

The second corporate index - BC - is based on the empirical study of Bebchuck & Cohen (2005) and it is simpler since the only provision it accounts for is staggered or classified board. So, we use a dummy variable which takes a value of 1 if the company has a staggered board, otherwise it takes a value of 0.

Table 1: Definition of the ISS anti-takeover defenses

Poison pills:	The right of the target's shareholders to buy target shares at a lower price making the deal unattractive.
Staggered boards:	A board of directors in which only one-third of directors can be elected every year.
Golden parachute:	An agreement for compensating the target's executives for the termination of their employment after the completed deal.
Supermajority requirements:	A provision that compels a larger than usual majority (typically two-thirds) of shareholders to approve a merger.
Limits to shareholder bylaw amendments	A provision that restricts shareholders the ability to modify the corporate governing documents through the majority vote.
Limits to shareholder charter amendments:	A provision that restricts shareholders to modify the corporate governing documents charter through the majority vote.

CEO DUALITY

We use a dummy variable for CEO duality, which takes a value of 1 when there is CEO coincides with the chairman and a value of 0 otherwise.

4.3 CONTROL VARIABLES

Masulis et. al (2007) pointed out in his research that bidder and deal characteristics might drive the merger and acquisition performance. Therefore, sharing the same sort of thought, we incorporate these two characteristics as control variables. Also, control variables can eliminate potential endogeneity issues.

Bidder Characteristics

FIRM SIZE

Previous studies argue that the size of the bidder has an impact on the abnormal returns of the M&A. More specifically, the fact that small firms pay a lower premium than the larger firms, lead small companies to achieve better performance during the announcement period of the deal (Moeller et al, 2004). Thus, in order to capture its correlation with the M&A performance, we follow the past research of Datta et al. (2001), considering in our control variables the size of every firm, which is calculated using the natural logarithm of the market capitalization.

TOBIN'S Q

The prior literature is ambiguous about the effect of the firm value in the merger and acquisition performance. On the one hand, Lang et, al. (1989) and Servaes (1991) found that companies with high Tobin's q reflect more effective management accomplishing more valuable acquisitions. On the other hand, Moeller et, al (2004) and Kogan & Papanikolaou (2014) showed that Tobin's q is correlated negatively with the abnormal returns because companies with high Tobin's q indicate higher growth opportunities and thus finance the premium payments with stocks. Therefore, we use Tobin's q as a control variable, following Masulis et al. (2007), defined as the bidder market value of assets over the book value of assets, where the market value of assets equals the book value of assets adding the market value of common equity minus book value of common equity.

LEVERAGE

The prior study of Masulis et al. (2007) found that acquirers with higher leverage performed better in the short-run. Carrying a high level of debt works as a disciplinary mechanism for the managers, blocking them from *Empire Building* because the free cash flows are scaled down. Consequently, we

employ bidder's leverage in our control variables, which is calculated as a portion of total firm liabilities to total assets.

FREE CASH FLOW

Jensen (1986) backing up the leverage theory, declares that firms with high free cash flow tend to participate in mergers and acquisitions that do not add any value to the shareholders. So, we include free cash flow to control for bidder characteristics aligned with Masulis et al. (2007), dividing firm operating income before depreciation minus interest expense minus income taxes minus capital expenditures with the book value of total assets.

Deal Characteristics

TARGET OWNERSHIP STATUS

The first control variable for the deal characteristics is the target status. Many prior studies found that when the target is a public firm, then the acquirer will have a poor performance experiencing lower abnormal returns (Carpon & Shen, 2007 and Amar et al, 2011). The reason is that the analysts' valuation of a public firm is more meticulous, generating higher premium payments. Thus, we use a dummy variable indicating whether the target is public (1) or private (0) firm, to deal with this effect.

METHOD OF PAYMENT

The regression model includes the control variable of the method of payment. In accordance with Myers and Majluf (1984), stock issuing in order to finance an M&A deal is at the bottom of the hierarchy of Pecking Order theory. Combined with the market timing theory of Baker and Wurgler (2002) stock issuance signals negatively to the financial markets, because of the perception that the stock is overvalued. The research of Franks et al (1991) and Martin (1996) show that when a merger and acquisition is financed with cash, it yields to positive abnormal returns for the acquirer. Therefore, I use two dummy variables, one if the deal is financed only with cash (*Cash Deal*) and one if the deal is financed only with stock (*Stock Deal*). Thus, when both of them are zero, it means that the deal was financed by a combination of stock and cash (hybrid).

INDUSTRY RELATEDNESS

Berger & Ofek (1995), Moeller et al. (2004) point out the matter of industry relatedness. In other words, when the target belongs to the same industry with the acquirer, the chances for a value destruction merger and acquisition are less, meaning that non-diversifying deals end up with higher returns (Morck et al, 1990). So, we employ a dummy variable to control for the relevancy of the industries, assigning the value of 1 when the acquirer has the same industry TF Macro code with the target and 0 otherwise.

5. METHODOLOGY

This part reports the event-study method containing the specific event windows and estimation period. Then, the econometric models that were used to conduct our empirical research are stated clearly.

The cumulative abnormal return (CAR), which is the dependent variable in half of the hypotheses, is calculated using the event-study methodology. In order to apply this method, it is necessary to establish the event window and the estimation period. This thesis employs two event windows (-1, +1) and (-3, +3). For instance, in the first case, the cumulative return of an acquirer contains the returns of 1 day before the announcement until 1 after the announcement, where 0 is the announcement day. For the estimated period, 200 trading as the estimated window is used, following previous the study of Masulis et al. (2007).

Consistent with MacKinlay (1997) and Fama & French (1992), we calculate acquiring firm expected daily returns using the market model and 3-factors model. Both formulas are stated below:

$$R_{it} = \alpha_i + \beta_{1i}R_{mt} + \varepsilon_{it} \quad (1)$$

$$R_{it} = \alpha_i + \beta_{1i}R_{mt} + \beta_{2i}SMB_t + \beta_{3i}HML_t + \varepsilon_{it} \quad (2)$$

Where

- R_{it} = return on security i during day t,
- α_i = intercept,
- R_{mt} = parameter of the market model,
- SMB_t = the size premium (small minus big),
- HML_t = the value premium (high minus low),
- ε_{it} = zero mean disturbance term

Using the market and the Fama-French model, the acquiring firm's abnormal return is calculated using the below formulas:

$$AR_{it} = R_{it} - \alpha_i - \beta_{1i}R_{mt} \quad (3)$$

$$AR_{it} = R_{it} - \alpha_i - \beta_{1i}R_{mt} - \beta_{2i}SMB_t - \beta_{3i}HML_t \quad (4)$$

Where

AR_{it} = abnormal return to security i for day t

The CAR for each bidder is calculated by the accumulation of the abnormal returns in the event window and is represented by the formula below:

$$CAR_{i(t_1,t_2)} = \sum_{t=t_1}^{t_2} AR_{it}$$

Where t_1 and t_2 are the days between the event window.

The regressions that I perform are with standard errors adjusted for heteroscedasticity (White, 1980). Furthermore, I apply the fixed effects method in order to control for firm characteristics that are constant over time or non-observable, in order to keep the firm's performance metrics undisturbed.

We use the following regression models for each of the hypothesis, namely:

Hypothesis 1:

$$CAR_i = a_i + \beta_1 Governance_i + \beta_2 Bidder + \beta_3 Deal + \varepsilon_i$$

If the entrenchment indices of BCF and BC are high then we expect low CARs and so β_1 to be negative.

Hypothesis 2:

$$ROA_i = a_i + \beta_1 Governance_i + \beta_2 Bidder + \beta_3 Deal + \varepsilon_i$$

We expect a negative β_1 indicating that better governance leads to higher profitability for the acquirer firms.

Hypothesis 3:

$$CAR_i = a_i + \beta_1 Governance_i + \beta_2 DummyDuality + \beta_3 Bidder + \beta_4 Deal + \varepsilon_i$$

If the CEO is also the chairman of the board then I expect low CARs and so β_2 to be negative.

Hypothesis 4:

$$Dealvalue_i = a_i + \beta_1 Governance_i + \beta_2 DummyDuality + \beta_3 Bidder + \beta_4 Deal + \varepsilon_i$$

If the CEO is also the chairman of the board then I expect executives to pay higher premiums, so β_2 to be positive.

In the above models, *Governance_i* stands the government indices (BCF and BC), *Bidder* and *Deal* represent the bidder's and deal's characteristics, respectively.

6. RESULTS

This chapter starts presenting the sample distribution, and summary statistics of the variables discussed in the previous section and resumes with the empirical results of the regressions, discussing the key outcomes of the analysis.

6.1 Descriptive Statistics

Table 2 shows the sample distribution of acquisition by year. It reports the number of completed mergers and acquisitions between 2008 and 2018; the annual deal value; and mean deal value of the transactions. The total number of M&As is 3,624 and they are spread unevenly through the years. Based on Table 2, the most M&A deals occurred in 2014, while the least in 2009. The deal value of transactions reaches its lowest value of 121 million dollars in 2008 that comes as a consequence of the financial crisis; however, it becomes twofold and even threefold at the end of the crisis.

Table 2: Sample Distribution by Announce Date

The sample consists of 3,624 completed mergers and acquisitions (listed in Thomson One) between 2008 and 2018 by U.S. firms. This data was gathered from the Thomson One database and includes: year of merger announcement, number of acquisitions in this year, percentage of all mergers in the sample, deal value and percentage of deal value in the sample.					
Year	Number of Acquisitions	Percent of Sample	Deal Value of Transactions (\$mil)	Mean Deal Value (\$mil)	Deal Value as Percentage of Total Deal Value
2008	325	9%	121,639	374	5.5%
2009	200	5.5%	129,549	647	5.8%
2010	304	8.4%	140,390	461	6.3%
2011	291	8% %	127,817	439	5.7%
2012	365	10.1%	182,083	498	8.2%
2013	327	9%	128,670	332	4.9%
2014	415	11.5%	211,397	509	9.5%
2015	392	10.8%	361,742	922	16.2%
2016	323	8.9%	261,764	810	11.7%
2017	341	9.4%	282,042	827	12.6%
2018	341	9.4%	304,467	892	13.6%
Total	3,624	100%	2,231,560		100%

Although the mean deal value has some fluctuation, it generally appears to increase over time reaching its peak in 2015 at 922 million dollars. The number of acquisitions is not aligned with the deal value, meaning that the year with the most M&As is not the one with the highest deal value of transactions and vice versa. Therefore, this led us to apply fixed effects in our regression analysis later in the section.

The summary statistics of dependent, independent and control variables are presented in Table 3 in Panel A; B; and C, respectively. In particular, the number of observations, mean, median, minimum & maximum value, and standard deviation for each variable are included. To begin with the cumulative abnormal returns, the mean of CAR (-1, +1) and CAR (-3, +3) equals 0.35% and 0.34%, confirming the empirical research of Masulis et al. (2007), who found similar but smaller mean (0.21%) using CAR (-2, +2).

Table 3: Descriptive Statistics						
The sample consists of 3,624 completed acquisitions between 2008 and 2018 in the United States of America. Information on Anti-takeover provisions and company financial data were available in ISS and Compustat databases. Variable definitions are given in the Appendix.						
<i>Panel A: Dependent Variables</i>						
	N	Mean	Median	Min	Max	Standard Deviation
CAR (-1, +1)	3,624	0.003597	0.002	-0.15668	0.26131	0.0384
CAR (-3, +3)	3,624	0.003425	0.001	-0.21656	0.39981	0.0564
ROA	3,624	0.02425	0.026	-0.58452	0.24289	0.0789
Deal Value	3,624	615.75	64.1	1	67285.7	2673.28
<i>Panel B: Independent Variables</i>						
	N	Mean	Median	Min	Max	Standard Deviation
BCF Index	3,624	3.67467	4	1	6	0.9123
BC Index	3,624	0.41777	0	0	1	0.4178
CEO duality	3,624	0.08251	0	0	1	0.2752
<i>Panel C: Control Variables</i>						
	N	Mean	Median	Min	Max	Standard Deviation
Log Firm Size (\$ml)	3,624	3.28049	3.306	1.38699	5.46401	0.7604
Tobin's q	3,624	1.80369	1.453	0.62175	9.14352	1.0778
Leverage	3,624	0.55166	0.566	0.01311	1.20431	0.2277
Free Cash Flow	3,624	0.01422	0.016	-0.15599	0.11017	0.0235
Public Target	3,624	0.22434	0	0	1	0.4172
Cash Deal	3,624	0.30215	0	0	1	0.4593
Stock Deal	3,624	0.06181	0	0	1	0.2408
Diversification	3,624	0.72875	1	0	1	0.4447

The average BCF index is 3.67, greater than 2.24 of Masulis et al. (2007) during 1990-2003. Therefore, since our sample is between 2008 and 2018, we can conclude that the number of anti-takeover provisions increased after the financial crisis. On the other way, the average BC is lower compared to Bebchuck et al. (2004) and Masulis et al. (2007).

Moving to control variables, we separated in bidder and deal characteristics. Starting from the bidder characteristics, the average bidder log firm size is 3.2 million. Also, the mean of leverage is around 55%, pointing out that the majority of the firms preferred mostly debt over equity for financing. As for the deal characteristics, the variables are dummy variable. From Panel C of Table 3, we inspect that almost 30% of the deals were financed totally with cash and more than 70% of M&As were in-between the same industry.

The correlation between the independent and control variables is shown in Table A2 of the Appendix. The correlation values are low, having the highest value of 0.4432 between BCF and BC index because they share the anti-takeover provision of the staggered board. Thus, I never include both in the same regression in order to check conveniently for the influence of Cumulative Abnormal Return. I also check for multicollinearity using the Variance Inflation Factor (VIF) test in Table A3 of the Appendix, revealing no collinear variables.

6.2 Regression Analysis

Before I proceed with the regression analysis, a test for heteroscedasticity was conducted. In detail, the Breusch-Pagan test inspected heteroscedasticity in our sample with a significance level of 1%, meaning that the residuals have different variance across the sample. Therefore, the standard errors have been adjusted for heteroscedasticity.

The average cumulative abnormal return of bidder firms is plotted in Figure 1. The event window of the CAR plot begins 20-days prior the M&A announcement date and reaches up to 20-days after the announcement. Although during the day of announcement we observe a steep rise in the bidder firms' CAR indicating the positive reaction of the market on the M&A deals, a negative trajectory follows after Day 0.

Figure 1
Average Cumulative Abnormal Return (CAR) of bidder firms

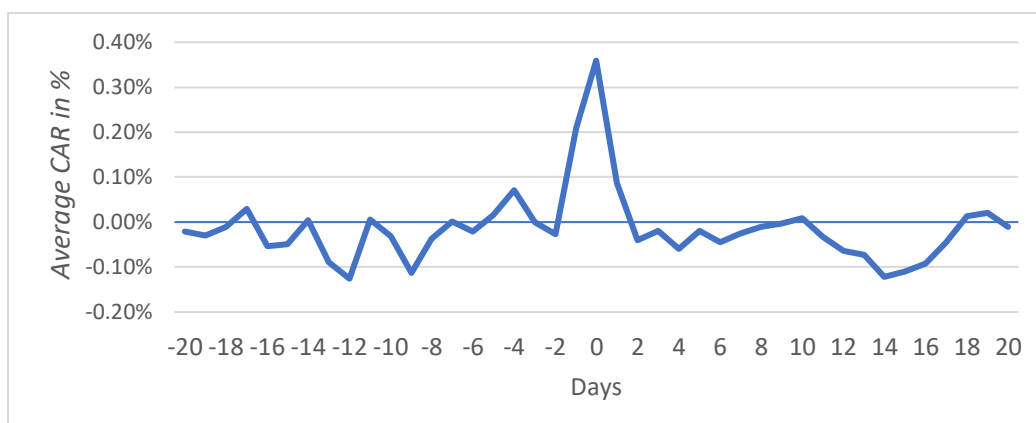


Table 4 reports the regression outcome for the explanation of the relation between the governance indices and bidder cumulative abnormal returns. Both CAR (-1, +1) and CAR (-3, +3) have been estimated using the market model, also known as Capital Asset Pricing Model (CAPM), with an estimation window of 200 days. We cannot end up with any conclusion from the table because both corporate governance indices are not statistically significant. At the same time, the results show a negative and statistically significant relationship between bidder performance and firm size, being in line with the findings of Moeller et al. (2004) and Masulis et al. (2007).

Table 4: Regression outcome of Bidder Returns using the Market model				
The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.				
	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (0.03)		0.000 (0.06)	
BC Index		0.002 (1.32)		0.0001 (0.27)
<i>Bidder Characteristics</i>				
Firms Size	-0.004*** (-4.02)	-0.004*** (-3.77)	-0.007*** (-3.58)	-0.07*** (-3.44)
Tobin's q	-0.002*** (-2.79)	-0.002*** (-2.79)	-0.002* (-1.82)	-0.002* (-1.82)
Leverage	0.004 (1.25)	0.004 (1.24)	0.007 (1.16)	0.007 (1.16)
Free Cash Flow	0.034 (0.94)	0.035 (0.95)	0.108 (1.46)	0.108 (1.46)
<i>Deal Characteristics</i>				
Target Status	0.002 (1.11)	0.002 (1.08)	0.005* (1.93)	0.005* (1.93)
Cash Deal	0.000 (-0.04)	0.000 (-0.05)	0.000 (0.16)	0.000 (0.16)
Stock Deal	-0.004 (-1.55)	-0.004 (-1.51)	-0.007 (-1.53)	-0.007 (-1.53)
Industry Relatedness	-0.003* (-1.76)	-0.003* (-1.70)	-0.004 (-1.47)	-0.004 (-1.45)
Intercept	0.019*** (4.14)	0.018*** (4.42)	0.026*** (3.26)	0.026*** (3.62)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0094	0.0099	0.0079	0.008

Moreover, the target status is negative and significant at 10% in models 3 & 4, confirming the results of Amar et al. (2011). This indicates that acquiring public firms results in worse bidder performance.

Besides, the industry relatedness has a significant negative coefficient in models 1 & 2 at the significance level of 10%, confirming Morck et al. (1988), indicating that diversification leads to value-destruction M&As.

Table 5: Regression outcome of Bidder Returns using the 3-factors model

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the 3-factors Fama-French model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (0.09)		0.000 (0.24)	
BC Index		0.002 (1.28)		0.000 (0.13)
<i>Bidder Characteristics</i>				
Firms Size	-0.004*** (-4.26)	-0.004*** (-4.02)	-0.006*** (-3.68)	-0.006*** (-3.60)
Tobin's q	-0.002** (-2.55)	-0.002** (-2.54)	-0.002* (-1.68)	-0.002* (-1.67)
Leverage	0.003 (0.98)	0.003 (0.97)	0.003 (0.68)	0.003 (0.67)
Free Cash Flow	0.035 (0.99)	0.035 (0.99)	0.083 (1.36)	0.083 (1.36)
<i>Deal Characteristics</i>				
Target Status	0.003* (1.71)	0.003* (1.68)	0.006** (2.47)	0.006** (2.48)
Cash Deal	0.000 (-0.62)	0.000 (-0.64)	0.000 (-0.23)	0.000 (-0.22)
Stock Deal	-0.005** (-2.00)	-0.005** (-1.97)	-0.005 (-1.42)	-0.005 (-1.42)
Industry Relatedness	-0.002 (-1.40)	-0.002 (-1.34)	-0.003 (-1.37)	-0.003 (-1.36)
Intercept	0.020*** (4.30)	0.019*** (4.64)	0.23*** (3.28)	0.024*** (3.83)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0098	0.0103	0.0076	0.0076

Table 5 reports the results of the regression of CAR on the BCF and BC index. This table is considered as a robustness check for the previous table, because its main difference with Table 4 is that both CAR (-1, +1) and CAR (-3, +3) have been estimated using the 3-factors model, also known as Fama-French model, keeping the same estimation window of 200 trading days. Additionally, using the market model

to estimate the cumulative abnormal returns, the stock deal becomes significant at 10% and 5%, confirmed by Franks et al. (1991). At the same time, the target status becomes significant for all 4 models, confirming the findings of Table 4, while the industry relatedness loses its significance.

We classified the initial sample into two different subsamples, based on the BCF index of each firm. The separation is based on the median of the index, which is equal to 3.67. Namely, firms with BCF index lower than 4 belong to the *Democracy* portfolio, while firms having a BCF index of 4 or higher belong to the *Dictatorship* portfolio. The second portfolio has almost double observations 2,228 against 1,396 of the first one, presenting their results in Table 6.

Table 6: Regression outcome of Bidder Returns using subsamples

The regression runs in *Democracy* and *Dictatorship* subsamples consists of 1,396 and 2,228 completed U.S. mergers and acquisitions between 2008 and 2018, respectively. The separation is based on their BCF governance index: Democracy (BCF<4) and Dictatorship (BCF>=4). The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. The regression runs in the Democracy and Dictatorship subsamples. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	Democracy	Dictatorship	Democracy	Dictatorship
<i>Independent Variables</i>				
BCF Index	-0.002 (-0.87)	-0.001 (-0.39)	-0.002 (-0.53)	0.000 (-0.18)
<i>Bidder Characteristics</i>				
Firms Size	-0.003* (-1.88)	-0.005*** (-3.57)	-0.005** (-2.18)	-0.007*** (-3.17)
Tobin's q	0.000 (-0.12)	-0.003*** (-3.23)	0.000 (-0.03)	-0.003*** (-2.66)
Leverage	0.002 (0.40)	0.005 (1.30)	-0.003 (-0.32)	0.012* (1.94)
Free Cash Flow	0.051 (0.83)	0.023 (0.50)	0.085 (0.77)	0.081 (1.12)
<i>Deal Characteristics</i>				
Target Status	0.000 (0.12)	0.003 (1.31)	0.004 (1.15)	0.005 (1.42)
Cash Deal	0.000 (-0.04)	0.000 (-0.15)	0.000 (0.11)	0.000 (0.33)
Stock Deal	0.001 (0.20)	-0.008** (-2.16)	-0.003 (-0.48)	-0.008 (-1.41)
Industry Relatedness	-0.001 (-0.46)	-0.004** (-2.04)	-0.002 (-0.60)	-0.005 (-1.82)
Intercept	0.017** (2.05)	0.028*** (3.07)	0.025** (2.01)	0.30** (2.24)
Observations	1,396	2,228	1,396	2,228
R-squared	0.0046	0.0169	0.0068	0.0127

The coefficient of Leverage is positive and significant in which in line with the previous empirical results of Masulis et al. (2003). Target status becomes insignificant in both *Democracy* and *Dictatorship* subsamples. The explanatory power of the *Democracy* models is lower 50% to the normal, in oppose to *Dictatorship* models with 50% higher R-squared, pointing out that the cumulative abnormal return is a noisy measure.

Table 7: Regression outcome of Bidders returns on their first deal

The sample contains only the first deal of each firm, reaching 1,540 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.002** (2.27)		0.001 (0.66)	
BC Index		0.004* (1.84)		0.001 (0.41)
<i>Bidder Characteristics</i>				
Firms Size	-0.005*** (-3.14)	-0.005*** (-2.87)	-0.009*** (-3.18)	-0.009*** (-3.08)
Tobin's q	0.000 (-0.12)	0.000 (-0.02)	0.000 (-0.11)	0.000 (-0.09)
Leverage	0.006 (0.97)	0.006 (0.92)	0.007 (0.80)	0.007 (0.78)
Free Cash Flow	-0.105* (-1.75)	-0.103* (-1.72)	-0.118 (-1.16)	-0.117 (-1.15)
<i>Deal Characteristics</i>				
Target Status	0.003 (1.04)	0.003 (1.04)	0.004 (1.01)	0.004 (1.01)
Cash Deal	0.001 (0.45)	0.001 (0.53)	0.002 (0.61)	0.002 (0.63)
Stock Deal	-0.008 (-1.56)	-0.008 (-1.52)	-0.013* (-1.86)	-0.013* (-1.85)
Industry Relatedness	-0.001 (-0.41)	-0.001 (-0.27)	0.000 (-0.10)	0.000 (-0.07)
Intercept	0.0112 (1.54)	0.017** (2.42)	0.026** (2.24)	0.029** (2.66)
Observations	1,540	1,540	1,540	1,540
R-squared	0.0166	0.0160	0.0145	0.0143

According to Malesta and Thomson (1985), firms that have announced an M&A in the past tend to have higher cumulative abnormal returns during the announcement period. So, as a robustness check, we remove for each firm the additional announcements, keeping only the first one. Thus, Table 7 presents the regression outcome of our reduced sample of 1,540 acquisitions. BCF and BC indices are positive and statistically significant at 5% and 10%, using CAR (-1, +1). The results indicate that

acquirers that score high on BCF and BC measure have higher abnormal returns during the deal announcement, being opposite to Masulis et al. (2003) and rejecting our first hypothesis that acquirer firms with weak takeover defenses make better acquisitions. Free cash flow becomes negative significant at 10% using CAR (-1, +1). Additionally, Tobin's q which was always negative and significant in the previous tables, loses its significance.

Table 8: Controlling for firm level clustering

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. Robust standard errors adjusted for 1,540 clusters in firm level are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (0.16)		0.000 (0.03)	
BC Index		0.002 (1.25)		0.000 (0.02)
<i>Bidder Characteristics</i>				
Firms Size	-0.006*** (-3.62)	-0.004*** (-3.55)	-0.004*** (-3.79)	-0.006*** (-3.57)
Tobin's q	-0.002** (-2.05)	-0.002*** (-2.89)	-0.002*** (-2.90)	-0.002** (-2.05)
Leverage	0.006 (1.27)	0.004 (1.19)	0.004 (1.20)	0.006 (1.26)
Free Cash Flow	0.085 (1.29)	0.035 (0.91)	0.034 (0.91)	0.084 (1.29)
<i>Deal Characteristics</i>				
Target Status	0.004* (1.79)	0.002 (1.08)	0.002 (1.11)	0.004* (1.79)
Cash Deal	0.001 (0.39)	0.000 (-0.05)	0.000 (-0.04)	0.001 (0.40)
Stock Deal	-0.006 (-1.53)	-0.004 (-1.51)	-0.004 (-1.55)	-0.006 (-1.54)
Industry Relatedness	-0.004* (-1.73)	-0.003* (-1.64)	-0.003* (-1.69)	-0.004* (-1.72)
Intercept	0.024*** (3.33)	0.018*** (4.16)	0.020*** (3.88)	0.025*** (3.76)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0086	0.0099	0.0094	0.0086

Based on Table A2 and A3 there is correlation across bidder firms, however, there might be some correlation between the returns of the same firm (Cameron and Millier, 2015). Consequently, we control

for clustering in firm-level as a robustness check, trying to eliminate any possible correlation between the clusters. The results are shown in Table 8.

Both governance indices lose their significance, not letting us draw any conclusions on whether acquirer firms with weak takeover defenses make better acquisitions or not. Also, Industry relatedness turns to be significant at 10% and negative in all the models of the table. For further reference, regressions with alternative CAR specifications are presented in Table A4 in the Appendix.

Table 9: Regression outcome of Bidder Return on Assets

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the Returns on Assets (ROA). Variable definitions are in the Appendix. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	ROA	ROA
<i>Independent Variables</i>		
BCF Index	-0.003*** (-3.36)	
BC Index		0.002 (1.07)
<i>Bidder Characteristics</i>		
Firms Size	0.016*** (11.01)	0.016*** (11.18)
Tobin's q	0.001 (0.45)	0.000 (0.40)
Leverage	0.005 (0.86)	0.005 (0.92)
Free Cash Flow	2.158*** (24.43)	2.158*** (24.50)
<i>Deal Characteristics</i>		
Target Status	-0.013*** (-4.84)	-0.014*** (-4.95)
Cash Deal	-0.001 (-0.63)	-0.002 (-0.71)
Stock Deal	0.000 (0.04)	.0001 (0.17)
Industry Relatedness	-0.006*** (-2.68)	-0.006*** (-2.71)
Intercept	-0.042*** (-6.49)	-0.057*** (-9.06)
Observations	3,624	3,624
R-squared	0.4636	0.4622

Going further, we aimed to check for the relation between bidder's profitability and takeover defenses. So, the dependent variable is the firm's profitability measured using the Return on Assets

(ROA), which is an indicator of a company's profitability. The regression outcomes are presented in Table 9. The coefficient of the BCF is significant at 1% and negative, confirming our second hypothesis, that there is a negative relation between takeover defenses and acquirer firm's profitability. Moreover, ROA has a positive relation with firm size, meaning that larger firms are more profitable during the deal announcement. On the other way, target status becomes negative implying that bidders have higher profitability when they acquire private targets. Also, Free Cash Flow is significant and positive confirming that acquirers with high free cash flows are more profitable.

Morck et al. (1988) mention that when the CEO of the bidder firm is also the board chairman, the M&A performance is lower. So, we include CEO duality as the main independent variable in Table 10.

Table 10: Regression outcome of Bidder Returns with CEO duality

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (0.02)		0.000 (0.17)	
BC Index		0.001 (1.33)		0.000 (0.02)
CEO duality	-0.002 (-0.91)	-0.002 (-0.94)	0.000 (0.34)	0.001 (0.34)
<i>Bidder Characteristics</i>				
Firms Size	-0.004*** (-3.91)	-0.004*** (-3.65)	-0.006*** (-3.86)	-0.006*** (-3.78)
Tobin's q	-0.002*** (-2.77)	-0.002*** (-2.77)	-0.002** (-2.07)	-0.002** (-2.07)
Leverage	0.004 (1.21)	0.004 (1.20)	0.006 (1.28)	0.006 (1.27)
Free Cash Flow	0.035 (0.96)	0.035 (0.97)	0.084 (1.38)	0.084 (1.38)
<i>Deal Characteristics</i>				
Target Status	0.002 (1.11)	0.002 (1.08)	0.004* (1.82)	0.004* (1.83)
Cash Deal	0.000 (-0.02)	0.000 (-0.04)	0.000 (0.40)	0.001 (0.40)
Stock Deal	-0.004 (-1.55)	-0.004 (-1.51)	-0.006 (-1.52)	-0.006 (-1.53)
Industry Relatedness	-0.003* (-1.76)	-0.003* (-1.70)	-0.004* (-1.76)	-0.004* (-1.75)
Intercept	0.02*** (4.11)	0.018*** (4.37)	0.024*** (3.41)	0.025*** (3.96)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0095	0.0100	0.0086	0.0086

Our outcome cannot answer the third hypothesis since the CEO duality coefficient is statistically insignificant, without adding severe explanatory power to the models. Thus, we cannot reject the third hypothesis that CEO duality decreases the M&A performance of the acquiring firm.

Table 11 states the regression outcomes of deal value on CEO duality and the rest of the independent variables in order to capture if there is any relation between CEO duality and the money spent on acquisition, expecting firms with CEO duality to make more valuable acquisitions.

Table 11: Regression outcome of Deal Value

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the Deal Value in millions of dollars (\$). Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	Deal Value	Deal Value
<i>Independent Variables</i>		
BCF Index	0.051** (2.25)	
BC Index		-0.049 (-1.14)
CEO Duality	0.041 (0.49)	0.039 (0.47)
<i>Bidder Characteristics</i>		
Firms Size	1.3953*** (40.77)	1.3883*** (40.26)
Tobin's q	0.2193*** (10.45)	0.2204*** (10.55)
Leverage	-0.8313*** (-7.97)	-0.8369*** (-8.01)
Free Cash Flow	2.8448*** (2.87)	2.8456*** (2.87)
<i>Deal Characteristics</i>		
Target Status	1.4137*** (22.88)	1.4188*** (22.91)
Cash Deal	-0.0665 (-1.37)	-0.0634 (-1.30)
Stock Deal	-0.2284** (-2.21)	-0.2364** (-2.28)
Industry Relatedness	0.0320 (0.67)	0.0322 (0.67)
Intercept	-0.7085*** (-5.12)	-0.4790*** (-4.11)
Observations	3,624	3,624
R-squared	0.517	0.5167

The coefficient of the CEO duality is statistically insignificant; therefore, we are not able to conclude about our fourth hypothesis. Table 11 indicates that firms with more anti-takeover provisions proceed

to more costly deals, disposing a higher premium bid to shareholders of the target company, confirming Christensen et al. (2011). Furthermore, firm size has a positive and significant relationship with the deal value, meaning that larger firms spend more financing in M&As, which is economically valid since they possess more assets. Also, the coefficients of the free cash flow and target are positive statistically significant at 1%, indicating that bidders with more free cash flows spend more money on acquisitions. The same is valid when bidders buy public targets. On the other side, leverage and stock deal are related negatively to the deal value implying that bidders spend less when they have high leverage and/or paying fully with stocks.

We performed regressions that did not consider Tobin's q, leverage, free cash flow, target status, stock deal, cash deal, and industry relatedness for robustness purposes in order to prevent for any possible multicollinearity to affects our results. Thus, based on (Moeller et al. (2004), we run a regression using the BCF index and only the firm size as a control variable, in case the size can explain the cumulative abnormal returns of the bidder firms. The reduced-form is presented in Table 12, suggesting that the omitted control variables do not block our BCF index to reach statistical significance.

Table 12: Regression outcome of Bidder Returns using Reduced form model

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the market model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (-0.07)		0.000 (0.12)	
BC Index		0.002 (1.44)		0.000 (0.17)
<i>Bidder Characteristics</i>				
Firms Size	-0.003*** (-3.67)	-0.003*** (-3.37)	-0.004*** (-3.18)	-0.004*** (-3.08)
Intercept	0.015*** (3.48)	0.013*** (3.66)	0.017*** (2.70)	0.018*** (3.26)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0044	0.0050	0.0036	0.0036

Finally, we apply the yearly fixed effects in our models to count for the difference in the mergers and acquisitions that happened during 2008 and 2018 because the year with the most acquisitions does not

coincide with the year with the highest deal value. However, the main results remained the same, being in line with our previous regressions ensuring robustness, apart from the rise in the explanatory power of the models. The regression outcomes are presented in Table 13.

Table 13: Regression outcome of Bidder Returns using yearly Fixed Effects

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's 3-day and 7-day cumulative abnormal return in percentage points (%), calculated by using the Market model. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix. All regressions control for year fixed effects.

	CAR (-1, +1)	CAR (-1, +1)	CAR (-3, +3)	CAR (-3, +3)
<i>Independent Variables</i>				
BCF Index	0.000 (-0.10)		0.000 (0.33)	
BC Index		0.002 (1.37)		0.000 (0.13)
<i>Bidder Characteristics</i>				
Firms Size	-0.004*** (-3.93)	-0.004*** (-3.67)	-0.006*** (-3.89)	-0.006*** (-3.80)
Tobin's q	-0.002*** (-2.63)	-0.002*** (-2.63)	-0.002** (-1.97)	-0.002** (-1.96)
Leverage	0.004 (1.07)	0.004 (1.06)	0.006 (1.23)	0.006 (1.21)
Free Cash Flow	0.036 (1.00)	0.038 (1.01)	0.089 (1.45)	0.089 (1.46)
<i>Deal Characteristics</i>				
Target Status	0.001 (0.90)	0.001 (0.86)	0.004* (1.72)	0.004* (1.73)
Cash Deal	0.000 (-0.02)	0.000 (-0.03)	0.001 (0.53)	0.001 (0.54)
Stock Deal	-0.004 (-1.45)	-0.004 (-1.41)	-0.006 (-1.50)	-0.006 (-1.51)
Industry Relatedness	-0.003* (-1.80)	-0.003* (-1.73)	0.004* (-1.76)	-0.004* (-1.74)
Intercept	0.025*** (4.08)	0.023*** (4.25)	0.022*** (2.59)	0.023*** (3.03)
Observations	3,624	3,624	3,624	3,624
R-squared	0.0140	0.0146	0.0130	0.0130

7. CONCLUSION

7.1 Discussion

The past literature is conflicting on whether mergers and acquisitions add any value to the acquirer firm creating a dilemma in the private equity market. The role of corporate governance is essential since its presence weakens the principal-agent conflict, leading managers to take actions in favor of shareholders proceeding to value-adding acquisitions. So, the consensus in the previous studies is that the takeover defenses are negatively correlated with the bidder performance.

Our study reports positive cumulative abnormal returns for the bidder firms during the M&A announcement using recent data to incorporate for the financial crisis effect. Also, we do not find in our main analysis that their relation with acquirers' returns is significant. After some robustness checks, we find a positive outcome between ATPs and the acquirer's return which holds only when we keep in our sample the first M&A deal for every company. Further, we measured the bidder performance using ROA and the results indicate that anti-takeover provisions have harm firm performance, consistent with Bebchuk et al. (2005) and Masulis (2007). Therefore, Hypothesis 2 is confirmed.

Additionally, we examined whether a CEO who is also chairman of the same company makes value-destruction M&As, following the previous study Hayward and Hambrick (1997). They considered CEO duality as a corporate governance characteristic and provided evidence that in this case the firm monitoring is lower and leading to a negative M&A performance. This consists our third hypothesis, which was missing sufficient evidence to prove in favor or against it since our coefficients were lacking statistical significance. Our last hypothesis was synthesized in order to find a positive association between deal value and firms with CEO duality, expecting bidders with this governance characteristic to spend more financial resources disposing a higher premium bid to the target firm. The results presented cannot support this hypothesis because the evidence is not enough and thus, we cannot make a clear statement. Lastly, an interesting finding was there is a positive relationship between the entrenchment indices with the value of the deal, meaning that bidders who scored high on BCF and BC index spent more money on an M&A transaction.

7.2 Limitations and Suggestions

This research has also some limitations which may be a motivation for future study. More particularly, our analysis incorporates several control variables that can influence the M&A performance of the bidder. However, we might have missed to include some variables that also have explanatory power on acquirer performance. In other words, omitted variables create a bias, because

they are captured by the error term that we assumed to be uncorrelated with our dependent variable. For instance, *Competition Bidder* which could capture the number of acquirers participating in the M&A deal. Hayward and Hambrick (1997) state that the premium that the bidders receive is related to the number of bidders, leading to higher bidder's returns. Moreover, the Liquidity factor by Pastor and Stambaugh (2003) and Momentum factor by Carhart (1997) could be used in order to estimate more accurately the abnormal returns of the bidders during the announcement period.

The use of many databases led us to drop a lot of observations because we were missing sufficient data. Therefore, an improved dataset containing more observations might allow for different findings.

Finally, this study along with the majority of existing literature assigns equal weight to each provision when they compose the corporate governance indices. Although this is useful especially when we adopt indices with few provisions like the one by Bebchuck et al. (2005), we can improve the validity of findings creating a weighted corporate governance index. Also, future studies can concentrate more on geographical locations outside the United States such as Europe or Japan because their legal framework will differ. In detail, the rights of the shareholder and generally the corporate governance will not be the same and thus this can influence the M&A performance of the bidder firm differently.

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APPENDIX A

Table A1: Variables description

<i>Dependent Variables</i>	
CAR	3-day and 7-day cumulative abnormal return in percentage, calculated using the Fama-French 3-factors model with the estimation window of (-210, -11).
ROA	Net income over Total assets.
Deal Value	Natural logarithm of the deal value measured in million US dollars (\$)
<i>Independent Variables</i>	
BCF	Entrenchment index by Bebchuk et al. (2004), which contains the following corporate governance provisions: poison pills, classified board, golden parachute, supermajority requirement, limits to shareholders bylaw amendments, limits to shareholders charter amendments.
BC	Dummy variable: 1 if the bidder has a classified board and 0 otherwise.
CEO duality	Dummy variable: 1 if the bidder's CEO possess also the title of chairman.
<i>Bidder Characteristics</i>	
Firm Size	Natural logarithm of total assets
Tobin's q	Total firm market value over total firm asset value.
Leverage	Total firm liabilities over total assets.
Free Cash Flow (FCF)	Firm Operating Income before depreciation and amortization minus interest expense minus income taxes minus capital expenditures over the book value of total assets.
<i>Deal Characteristics</i>	
Target Status	Dummy variable: 1 if the target company is public, 0 otherwise.
Cash deal	Dummy variable: 1 for deals financed with cash only, 0 otherwise.
Stock deal	Dummy variable: 1 for deals financed with stock only, 0 otherwise.
Industry Relatedness	Dummy variable: 1 if acquirer and target belong to the same industry.

Table A2: Pearson Correlation matrix

The table reports Pearson pair-wise correlation for the sample of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. * denotes statistical significance at a 5% level using a two-tailed test. Variable definitions are in the Appendix.

<i>Variable</i>	BCF	BC	CEO DUALITY	Firm Size	Tobin's q	Leverage	Free Cash Flow	Public Target	Cash deal	Stock Deal	Diversification
BCF	1										
BC	0.4432*	1									
CEO Duality	-0.0173	-0.0039	1								
Firm Size	-0.0298	0.1589*	0.1553*	1							
Tobin's q	0.0351*	0.0216	0.252	0.1242*	1						
Leverage	0.0454*	0.0561*	-0.0055	0.3626*	0.2319*	1					
Free Cash Flow	0.0110	-0.0195	0.0773*	0.1233*	0.1682*	-0.1235*	1				
Public Target	0.0098	0.0438*	0.0527*	0.3567*	0.0951*	0.2438*	0.0003	1			
Cash Deal	0.0338*	0.0006	0.0517*	0.1176*	0.0642*	-0.0657*	0.1190*	0.1215*	1		
Stock Deal	-0.0316	0.0408*	-0.0020	0.1040*	0.0904*	0.2139*	-0.0907*	0.3042*	0.1689*	1	
Diversification	0.0185	0.0646*	0.0138	0.1448*	-0.0146	0.1407*	-0.0528*	0.1793*	0.0108	0.1154*	1

Table A3: Variance Inflation Factor (VIF) test

Variable	VIF	1/VIF
BCF	1.01	0.994
Firm Size	1.33	0.750
Tobin's q	1.09	0.917
Leverage	1.28	0.778
FCF	1.09	0.918
Target status	1.31	0.766
Cash deal	1.09	0.915
Stock deal	1.19	0.843
Diversification	1.06	0.947
Mean VIF	1.16	

Table A4: Regression outcome of Bidder Returns for rumors

The sample consists of 3,624 completed U.S. mergers and acquisitions between 2008 and 2018. The dependent variable is the bidder's CAR (-2, +2), CAR (-2, +1), CAR (-3, +1) and CAR (-5, +1), calculated by using the Market model. The independent variables that are also considered but not appeared on the table are Firm size; Tobin's q; Leverage; Free Cash Flow; Target Status; Cash Deal; Stock Deal and Industry Relatedness. Robust standard errors are used and t-Statistics are shown in parentheses. ***, **, and * stand for statistical significance at a 1%, 5%, 10% level, respectively. Variable definitions are in the Appendix.

	BCF	BC
CAR (-2, +2)	0.001 (0.65)	0.002 (1.02)
CAR (-2, +1)	0.001* (1.73)	0.003* (1.92)
CAR (-3, +1)	0.002** (2.51)	0.004** (2.13)
CAR (-5, +1)	0.002** (2.51)	0.003 (1.38)