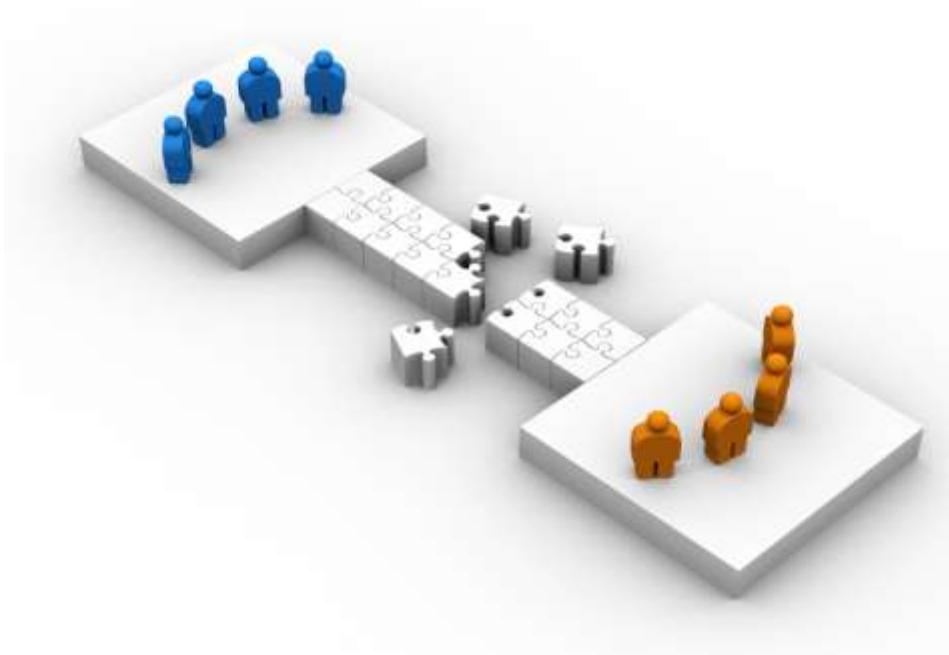# MASTER THESIS

Do M&A in U.S during the Late-2000s Recession create value for the acquirer's shareholders in the short run?

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TABLE OF CONTENTS

Introduction

Over the last two decades, mergers and acquisitions (M&A) in today's corporate society have seen a sharp increase. According to Cools et al (2007), there are certain periods when M&A occur less often than in other periods because of the recessions, industry consolidations, emerging conglomerates, etc. Similarly, Martynova and Renneboog (2005) advocate that M&A activities can drop during the recession, since companies are consolidating their overall company activities to survive the recession. On the other hand, some studies implicate that the best deals are made in downturns (Rhodes and Stelter, 2009). Since the stock prices drop during a recession, it becomes relatively 'cheap', when you have the available cash, to acquire targets. However the majority of academics find out that merger activity is procyclical meaning that economic booms coincide with merger peaks, and recessions with merger troughs (Golbe and White 1993, Martynova and Renneboog 2005, Fumagalli and Vasconcelos 2006). From the perspective of different economic status, the question arising here is how the market reacts to M&A announcements and if the bidder shareholders benefit in a recession period compared to a non-recession one.

Specifically, in this paper I am going to find out what influence the late-2000 recession has on the M&A activity in U.S. This study compares the short-term benefits to acquirers, measured by the abnormal announcement returns to acquirers' shareholders, during both in the non-recession period and in the last-2000s recession in U.S. I focus on M&A on the U.S. stock market, because this market's statistics are well covered and its data is largely available.

To examine the bidder shareholders returns the following research question is formulated:

"What impact does the Late-2000s Recession have on the Mergers and Acquisitions (M&A) activity in the U.S?"

To answer this question, I follow the event-study methodology, which is a statistical method to assess the impact of an announcement of a merger on the value of the bidder firm. In other words, the announcement of a merger is analyzed to find out whether the merger will create or destroy bidder shareholder's value. So, the main idea is to find the abnormal return attributable to the event being studied by adjusting for the return that stems from the price fluctuation of the market as a whole. The event window surrounding M&A announcements, typically is a small number of days starting at least one day before, and ends at least one day after the deal announcement. In this way the most of the announcement reaction is measured. In general, a relatively small event window is used in this thesis, in order to keep the announcement returns as pure as possible. The longer the period used, the greater the chance that other events than the pure M&A statement influence the announcement returns.

Research objective

Various researches have been conducted on merger waves, motives, and types of M&A. Many of them focused on short term wealth effects for bidding firm shareholders indicating quite small abnormal returns (Jensen and Ruback, 1983). But, little attention in the financial literature has been paid to the value effect of acquisitions in periods of economic downturn and the factors of value creation. When we look at M&A in U.S, it has been observed that there have been few studies executed regarding the short term returns to bidder shareholders during recession periods (Bouwman et al. 2009). However, the above mentioned studies do not separate between the late-2000s recession period and a non-recession period in U.S and also they do not compare the short-term benefits to acquirers.

As U.S is a really 'big' player in all over the world in terms of M&A, it is interesting to investigate the impact of the late-2000s recession and try to make a contribution to the existing literature. Therefore, in compliance with the research questions this thesis aims to observe which deal and firm characteristics influence or not, the performance of acquirers' shareholders in both a recession and a non-recession period. I explore four independent variables which are commonly used in the literature as basic determinants of M&A: mood of acquisition, method of payment, industrial relatedness and relative firm size.

Therefore, except for the main research question, the sub-objectives of this paper are to examine and compare if, and if so how the abnormal returns are influenced by these four firm and deal characteristics.

So, the sub-question is formulated as following:

Which of the independent variables significantly influence the cumulative abnormal returns of the acquirer's shareholders?

Structure

The rest of the paper is organized as follows. Section 2 presents a detailed overview of the existing literature in the field. Section 3 develops the hypotheses. Section 4 describes the data and the methodology used. Section 5 sets the main findings of this research providing an interpretation of these. Finally, Section 6 concludes the main results, discusses their practical implications, analyses the limitations, and outlines recommendations for future research.

1. Literature Review

The performance of M&A during recessions relative to M&A in non-recession periods

Ang and Mauck (2010), who distinguish between distressed and non-distressed targets, provide empirical evidence that acquirers do not benefit from the acquisition of distressed firms in crisis periods as the short-term returns are typically negative and significant. They also state that distressed firms in crisis periods receive higher offer premium than distressed firms in normal periods. Baker et al. (2009) documents a behavioral explanation for the higher premiums observed in the acquisition of distressed firms and acquisitions taking place during crisis periods. Based on the 52-week high in merger valuation, they find that acquirers are getting a ''bargain'' when comparing the price paid to the 52-week high. This is because they regard current price as temporarily depressed and believe it will be corrected later. However, this perceived discount in the case of firm distress does not lead to superior long-term acquirer performance.

Using the 52-week high as a reference point, Ang and Mauck (2010) find a perceived fire sale discount for both distressed firms and crisis period acquisitions in terms of price paid. They also document a positive relation between the magnitude of traditional premium paid and the perceived discount based on the 52-week high, lending support to the notion that acquirers do use the previous high as a reference for fundamental value.

In accordance with the findings of Ang and Mauck (2010) is the paper of Bouwman, Fuller and Nain (2009). In their study, they focus on the difference between mergers taking place in times of high valuation and those taking place during times of low valuation. Based on the variation in P/E and the M/B ratios they measure the market's valuation, identifying periods with high, low, and medium market valuation, while Ang and Mauck studied normal and recession periods following the National Bureau of Economic Research (NBER) classification. They conclude that although firms that acquire during high-valuation markets produce significantly higher announcement returns for their shareholders than do firms that acquire during low-valuation markets, they generate significantly lower long-run abnormal stock performance for their shareholders.

To clearly explain the link between periods of high and low valuation and the economic cycle, we should just think that valuation analysis is a bit trickier during a recession because earnings are at depressed levels. The key is to understand that a stock price is supposed to equate to the present value of expected future cash flows in perpetuity. As a result, corporate profits for any given single year are not always indicative of value, meaning that valuations using earnings during a recession will likely underestimate a company's fair market

value and vice versa during boom times (Chad Brand, 2008). Also, as Chuck Carnevale (2012) states the precipitous drop in stock prices during the recent recession has yet to be forgotten.

In a similar way, Rhodes-Kropf et al. (2005) examine the impact of misvaluation on the merger market finding strong empirical evidence that market (mis-)valuation affects merger activity. They show that mergers are more likely to occur during times of overvaluation, and that both firms involved are usually overvalued. This would suggest decreased merger activity during times of financial crises, thinking that Jovanovic and Rousseau (2001) explain in their paper the positive relation between mergers and stock prices. Specifically, they show that periods of high merger activity are correlated with high market valuations.

The reason for the underperformance of the high-market acquirers in the long-run according to Ang and Mauck (2010) is explained by managerial herding behavior during merger waves that accompany booming stock markets. As Rhodes-Kropf and Viswanathan (2004) support merger waves end only after the market learns from the bad experience of previous acquirers. Furthermore, existing models of herding suggest that firms who move later in a merger wave are likely to perform poorly relative to firms that move earlier.

Bringing a different behavioral explanation, Thakor and Goel (2008) develop a model in which CEOs envy each other based on their compensation. It is stated in their paper that the quality of bull-market acquisitions is lower than that of bear-market acquisitions since an envy-generated merger wave is more likely in a bull stock market than in a bear market.

Clustered and cyclical pattern of M&A activity

Golbe and White (1993) were among the first to empirically observe the cyclical pattern of M&A activity while Gort (1969) was among the first to link M&A activity with economic disturbances. Fumagalli and Vasconcelos (2006) have also found similar results stating that whenever mergers occur in equilibrium, they occur in waves and the merger wave comprises at least one cross-border merger.

In their research Martynova and Renneboog (2005) have also shown that the pattern of takeover activity and its profitability significantly vary across the various takeover waves. But despite such diversity, they state that all waves have similarities. M&A clustering overlaps with periods of rapid credit expansions and booming stock markets caused by industrial, technological, regulatory and other shocks that can lead to conditions for the creation of merger waves. However, Harford (2005) states that except from regulatory and technological shocks, industry merger waves depend on whether there is sufficient overall capital liquidity to accommodate the asset reallocation. To explain further this, the increase in capital liquidity and reduction in financing constraints that is correlated with high asset values must be present for the shock to propagate a wave. Thus, the explanation for merger waves is intuitive: merger waves require both an economic motivation for transactions and relatively low transaction costs to generate a large volume of transactions.

After Town (1992), who firstly tested the merger wave hypothesis by modeling aggregate merger activity as a two-state Markov-switching-regime model, Barkoulas et al. (2006) offered a number of possible explanations to capture the apparent wave-like behavior in aggregate U.S. merger and acquisition (M&A) activity. Modeling merger activity as a long-range dependent process provides insights into the persistence of shocks, giving thus an alternative characterization of U.S. M&A activity as a strongly autocorrelated process. Persistence in merger activity is also consistent with Gort's (1969) ''economic disturbance'' theory and, at the empirical level, may reflect the statistical properties of the fundamental factors driving the series' dynamic behavior.

Komlenovic et al. (2009) find robust evidence that both related and unrelated industry-level mergers are pro-cyclical, using panel tests that allow them to control for macro-economic and industry-level determinants of merger activity. In accordance to these findings, Shleifer and Vishny (1992) conjecture that firms are credit constrained during recessions and are thus unable to pay fundamental value to targets, and vice versa, during a boom. These arguments together imply that mergers can be pro-cyclical. However, there is a paucity of empirical studies on the pro-cyclicality of aggregate merger activities—exceptions are early merger studies that provide inconclusive evidence since other ignore industry-level factors (Gort 1969) and other the role of economic activity (macroeconomic factors) in general.

Groot and Franses (2009) state that economies of industrialized countries show cyclical patterns. Recessions since WWII seem to emerge every 8 to 10 years, which is usually associated with the business cycle. They accept that shocks and impulses are necessary to create cyclical behavior and that those shocks and impulses will always exist. Individuals, firms and governments will always act and cause impulses and cause economies to grow and decline. The economy will therefore always oscillate and will never tend towards a static equilibrium in the classical economic sense.

Some acquiring companies are early on in the cycle and maybe looking for their first major deal as a platform for additional acquisitions, while others may be nearing the end of their cycle and are only looking for smaller ''tuck-in'' transactions. Other buyers may now appear to be more like sellers, since they are now in the phase of the cycle where they have digested what they have purchased and are ready to divest themselves of assets which have not been a strong fit or which have failed to meet their strategic objectives (Sherman and Hart).

Finally, what it is well known from the academic literature with respect to a number of characteristics that contribute to the appearance of merger waves is that merger waves have always occurred in times of economic recovery (Martynova and Renneboog, 2008). International mergers come in waves that are highly correlated with business cycles and merger booms coincide with booms in the real sector and in the financial market. In other words periods of intense merger activity have been followed by intervening periods of fewer mergers.

Optimal Timing of M&A

As presented previously, the twentieth century has seen merger activity clusters in time and industry during economic expansions while slows down during economic recessions. It becomes clear that markets are more favorable in some periods towards acquisitions than in other periods. Thus, analyzing the optimal market timing of M&A or the acquisition decisions characterized by substantial uncertainty is a really relevant subject. The decision is not only whether to invest, but also when to invest in order to make value.

Lambrecht (2004) analyzes the timing of mergers that are motivated by economies of scale. He shows that the merger synergies are an increasing function of product market demand and therefore firms have an incentive to merge in periods of economic expansion. It is also shown that mergers can be optimal even if synergies are negative (Thijssen 2007). Coackley and Thomas (2004) examine the links between hot markets and momentum stating that mergers announced in hot markets have higher announcement period abnormal returns than mergers announced in cold markets consistent with momentum. Dixit (1992) presents three features which are common to most investment decisions, sunk costs, economic environment and that an investment opportunity does not generally disappear if not taken immediately. He supports that when these three conditions are present, waiting has positive value. Information arrives gradually about future prospects of a possible acquisition, therefore as long as the opportunity to acquire remains, a later decision can be a better one. Also Schonlau (2009) advocated that timing of acquisitions within merger waves is explained by the market reaction to recent acquisition announcements as well as by specific firm and CEO characteristics associated with inter-organizational learning.

The short-term bidder shareholder wealth creation of M&A

Over the last three decades researchers have been interested in the effects of mergers and acquisitions. As a result, a lot of research has been done in terms of value creation of M&A's for the acquirer. There are two types of wealth effects experienced by shareholders: short-term, which appear around the M&A deal announcement date and long-term, which concern the returns experienced by the shareholders on the long-term after the deal has been consumed. My thesis is interested in investigating the first type (i.e. the short-term wealth effects) and leaves the more complex long-term effects to future research. The performance in the long term is harder to measure. Barber and Lyon (1997) noticed a few statistical problems with measuring the abnormal return based on reference portfolios in the long run since it is more difficult to isolate an effect from other events that makes it more difficult to make conclusions.

The literature is quite united when describing the value creation for shareholders of target firms. Consensus has been reached that target's shareholders gain heavily at the notification of a takeover bid, receiving large

premiums; average abnormal returns in the range of 20-40% (Goergen and Renneboog, 2004, Jarrell and Poulsen, 1989, Datta et al. 1992). Also Bruner (2002) shows that M&A activity creates abnormal returns for both target and acquiring firm shareholder, with the majority of gains obtained by the target firm shareholders. Due to this unanimity concerning target shareholders' benefits, I decided to focus only on bidder wealth creation accrued from M&A announcements, where academics have found mixed results discussed later.

The majority of the studies, on shareholder wealth effects of mergers and acquisitions, are based on a standard event study methodology, where a cumulative abnormal return is measured over a specific time horizon. They use abnormal returns to bidder's shareholders as the primary measure of value creation since abnormal returns indicate the difference between the actual returns of the bidders attributable to the M&A announcement over a fixed event window, and the expected return, that stems from the price fluctuation of the market as a whole. The expected return is computed using a historical data, the estimation period that is a period preceding and not overlapping the chosen event window. The event study will also be used in this thesis and regression analyses are used in order to investigate the potential influence of the M&A deal characteristics presented below.

As already mentioned, when the literature comes to the wealth creation of bidding (acquiring) companies, there is a lot more diversity and mixed results. Datta et al. (1992) shown that bidders, on average, land no or practically insignificant gains from M&A announcement while similarly Loderer at al. (1990) found a drop in the bidders' value around the announcement date.

Same findings were came into light by a numerous other researches. Datta and Puia (1995) examined 112 international acquisitions undertaken by US firms for the period from 1978 to 1990 and observed that cross-border acquisitions on average destroy value for shareholders of US bidding firms aligning the results with those of the domestic M&As. Also Brealy et al. (1998) confirmed these findings by studying a world-wide sample of 74 cross-border mergers from 1987 to 1992; they found that there are negligible abnormal returns for acquirers. Finally, Mulherin and Boone (2000), as well as Bruner (2005) find negative statistically significant abnormal returns, studying US-based acquirers.

On the other hand, there are a few studies that find statistically significant positive abnormal returns (Moeller, Schlingemann & Stulz 2003). Conn and Connell (1990) examined a sample of international mergers involving US and UK firms from 1971 to 1980 and reported abnormal returns of about 2% for the bidding firms. Goergen and Renneboog (2002) analyzed the short-term wealth effects of large European takeover bids. They observed a significant positive bidder announcement effect of 0.7%. Finally, Martynova and Renneboog (2006) have also found a significantly positive effect around the 10-day period surrounding the announcement date of the M&A transactions studying cross border acquisitions within Europe.

Table 1 provides an overview of the results of recent empirical event studies for M&A deals contacted in US. The following studies focus on wealth effects for bidding firm shareholders in the short run.

Table 1: Event studies empirical results for M&A in U.S based on bidder's shareholders value creation in the short run.

Authors	Country	Periof of Study	Event Window	Overall Outcome
Moeller & Schlingemann (2004)	US	1985-1995	[- 1 ; + 1]	+
Mulherin & Boone (2000)	US	1990-1999	[- 1 ; + 1]	-
Moeller, Schlingemann & Stulz (2003)	US	1980-2001	[- 1 ; + 1]	+
Bruner (2005)	US	1985-2000	[-5 ; +5]	-
Moeller & Schlingemann (2003)	US	1985-1996	[- 1 ; + 1]	+
Mitchell and Lehn (1990)	US	1982–1986	[- 1 ; + 1]	-
Lang et al. (1991)	US	1968–1986	[- 5 ; + 5]	-
Smith and Kim (1994)	US	1980–1986	[- 5 ; + 5]	+
Walker (2000)	US	1980–1996	[- 2 ; + 2]	-
Fuller (2002)	US	1990-2000	[- 2 ; + 2]	+
Moeller et al. (2004)	US	1980-2001	[- 1 ; + 1]	+
Song and Walking (2004)	US	1985–2001	[- 1 ; + 0]	-
Bouman et al. (2006)	US	1979-2002	[- 1 ; + 1]	-
Savor and Lu (2009)	US	1962-2000	[- 1 ; + 1]	-

In total, the majority of the studies indicate quite small abnormal returns for bidders, summing up negative or null reaction on the bidder's part (Jensen and Ruback, 1983).

The Impact of Bid Characteristics on Performance/ Determinants for value creation in M&As

Apart from economical conditions potentially affecting shareholder wealth creation gained from M&A declarations, clearly some other variables could affect the wealth effect on bidder shareholders. I investigate a number of bid characteristics in an attempt to see whether announcement returns are sensitive to different types of takeovers. My research has focused on analyzing characteristics such as: the impact of the mood of the bid, the method of payment used by the acquirer, the relative size of acquirer and target and the industrial relatedness of the two companies on subsequent performance.

The Mood of the Acquisition

Takeovers are typically categorized as being either friendly or hostile. In friendly (agreed) acquisitions, the board of the target company agrees to recommend the acceptance of the bid to the shareholders. Contrary, hostile bids arise when such a recommendation does not happen, and the bidder still seeks to win shareholder approval in the presence of managerial opposition (Christian Tuch and Noel O'Sullivan, 2007). A hostile takeover attempt may attract new bidders, who otherwise may not have been interested in the target. Such an outcome often is referred to as putting the target in play (Donald. M.2010).

History shows that hostile bids rebound sharply after equity markets collapse in an economic recession, as acquirers seek to take advantage of the relatively depressed market value of takeover targets. For example, after the 2001-2002 recession, the volume of hostile mergers and acquisitions surged dramatically in all regions, according to Citi, rising from $32 billion in 2002 to $743 billion in 2007. This is why a recession does two things that increase the likelihood of hostile takeover attempts: It dramatically lowers the valuation of companies and it creates a surplus of workers, making fewer people willing to take job risk (Rob Enderle, 2008). Concerning the first thing, it is a common view that in a recession the values of most assets go down. The fair market value of a business is determined by the price someone is willing to pay in a bona fide arm's length transaction. But in a recession there is a lack of faith in the economy overall, so even if the business is sound, it may be valued substantially lower during a recession than its value during good economic times. As far as the second thing is concerned, companies and businesses are being forced to cut back in all areas, making people redundant, lowering prices and freezing wages in an attempt just to survive the next few years. If the employees feel they are not able to leave, which is often the case in a recession, they are both more likely to stay with the company and cooperate with the merger because they don't want to be seen as a problem and fired in a hostile job market. As highly liquid firms begin to understand this, expect many more to attempt hostile acquisitions as these markets go though consolidations that are typical of a recessionary environment. In other words for many strong organizations, this is a period of opportunity when they can capture large swathes of market share.

When referring to hostility in connection to M&A deals, we usually think of offers that are strongly opposed by the management of the target firm. Schwert (2000), however, points out that according to theory both hostile and friendly deals can positively affect shareholder value creation. In the case of hostility, it is possible that inefficient management of the target is removed from the firm and the overall value of the deal can thus increase, whereas offers seen as friendly, are perceived to generate synergies that benefit both target and acquirer company. There is evidence in the paper that offers identified as hostile by pre-bid events are associated with reductions in the bidder's stock price. Nevertheless, the lack of a strong relation between hostility and bidders' stock returns, according to Schwert (2000) suggests that the choice of whether to pursue a hostile offer is ambiguous and it depends on the circumstances of each case.

But in his research Chao Chen (2002), confirmed the rejection of the inefficient target management hypothesis, using the market performance as the benchmark. He pointed out that in general; over the five years prior to the announcement year, the mean of the average abnormal returns of target firms is significantly higher than zero for both hostile and friendly offers. So, there is no value generated for the bidder shareholders due to the fact that they expect higher profits with a more efficient management. It worth mention that the main finding concerning the takeover attempt is that hostility is significantly related to sales. This means that the higher the target sales (or the target size), the higher the probability for the target to be acquired in a hostile takeover than in a friendly offer. In other words, Chen supports that bidders launch proportionally more hostile bids when the target firm is a large firm. This may be due to the fact that, as larger targets have easier accesses to financial expert help in building defenses against hostile offers.

Method of payment

One important element in corporate acquisition is the method of payment used to settle the transaction. The most commonly used methods of payment are cash, equity or a combination of both. It is exiting to study whether recession periods have an effect on the way how bidder shareholders value a method of payment. We should refer that at the height of the bull market in 2000, equity was the preferred method of payment in six out of every ten American mergers in contrast to early last year when share prices have fallen from the highs they reached. However, it is interesting to investigate its potential relation to recession or non-recession periods.

Travlos (1987), Draper and Paudyal (1999), Walker (2000) and Mansor (2010) among a non exhaustive list of academic literature all suggest that cash and mixed deals tend to have more positive effect on short-run bidder performance than equity deals. In contrast, Chang (1998) and Fuller et al. (2002) present results that equity financed acquisitions of private firms do not have smaller bidders' short-term returns than private acquisitions financed with cash.

Philip Vannieuwenhuyze (2010) examines the effects of the means of payment choice for a sample of 304 Continental European public-to-private transactions over the period 2000 to 2007. The evidence indicates that the acquirers of unlisted targets earn a significantly positive cumulative abnormal return for all methods. This confirms that the private firm discount is a universal phenomenon. The abnormal return is significantly positive for both cash and stock offers although it is insignificantly higher for the latter. Regarding the method of payment effects in public-to-public transactions, most researchers agree on a signaling explanation. Travlos (1987), for instance, states that the acquirer prefers stock in case his stocks are overvalued, while he prefers cash when they are undervalued. A stock offer then provides a negative signal to the market and hence the acquirer returns are negative.

Shleifer and Vishny (2002) propose a theory in which transaction waves are triggered by stock market valuations. The main assumption in their study is that financial markets are inefficient and some firms are valued incorrectly, while managers are entirely rational and take advantage of these inefficiencies by performing acquisitions. Cash as a method of payment is only preferred if the targets are extremely undervalued. Thus, a low valuation period is likely to trigger a wave of cash financed deals. Conversely, in an overly optimistic market, acquirers who are relatively overvalued would acquire less overvalued targets using stock.

Consistent with the market misvaluation theory of Shleifer and Vishny (2002) is the study of Mehmet E. Akbulut (2005), stating that overvalued acquirers prefer stock as the method of payment whereas undervalued acquirers prefer cash. Similarly, Bouwman et al (2009) show that there are far more stock acquisitions during high-valuation markets than during low-valuation markets.

Industrial relatedness

The degree of relatedness of the firms involved in the merger is one of the most frequently examined determinants of value creation in M&A transactions. SIC codes can be used to measure the relatedness of the activities of target and acquirer and to determine if there is potential for synergies in a combination of these activities. Relatedness is considered to generate potential synergies arise from economies of scale, economies of scope and market power (Seth 1990).

Acquisition strategies differ essentially with regard to the degree of relatedness of the combining firm (Seth, 1990). Mergers are categorized as conglomerate (unrelated, diversified) and non-conglomerate (related). From the perspective of the wealth effects of related and unrelated mergers are worth reviewing. It is also really interesting to see whether recession periods influence the industry relatedness.

There are mixed findings when it comes to the relatedness of M&A. The literature proposes that related mergers are expected to generate more synergy and so more bidders' value than unrelated mergers (Sirower, 1997). Some studies find that related mergers tend to add value and provide positive announcement effects (Martynova and Renneboog, 2006). On one hand when mergers are related, costs can be minimized due to similar practices and technology, while if the mergers are unrelated, no such advantages exist. Therefore related mergers tend to provide positive returns for bidding firms (Porter, 1985). Other studies indicate a negative links or no relation between the two (Seth, 1990; Singh and Montgomery, 1987). They argue that benefits from unrelated mergers are generally also available to related mergers.

Although it is commonly believed by many authors state that related acquisitions are preferred above unrelated, the conclusions of studies are mixed.

Some studies prove superior wealth effects of related mergers. In their study Scanlon et al. (1989) found that acquisitions of relatively large firms from unrelated industries lead to significant declines in the wealth of

shareholders of acquiring firms, and that this result is most pronounced when the period is extended beyond the announcement through the effective dates. Also, Flanagan (1996) concludes that stockholders of acquiring firm gain more from purely related mergers than purely unrelated mergers at announcement date. In addition, Singh and Montgomery (1987) support that mergers, in which there are target and bidder similarities concerning the product, market or technologies create more value than when no similarities exist. Target and bidding companies in related mergers have significantly higher gains than targets and bidders in unrelated mergers.

On the other hand many support (Elgers and Clark 1980) that conglomerate mergers show superior wealth effects for acquirer shareholders when compared with non conglomerate mergers. So no clear conclusion about the wealth effects of related and unrelated mergers can be made.

In general, relatedness of activities of a company is used to discuss value creation between business units in multi business firms and can also be used as managerial decision making tool because accurate managerial judgment on relatedness is central to decisions regarded to mergers and acquisitions as these decisions have major performance effects (Prahalad and Bettis, 1986).

Relative firm size

A very important component affecting bidder returns is the relative size of target to acquirer. Bidder shareholders might reward relatively small acquisitions in recession periods better than relatively large acquisitions due to the costs involved and valuable opportunities to acquire a competitor relatively cheaply (due to low equity prices).

Asquith and al. (1983) argued that if acquisitions create value for shareholders, such gains should be larger when the size of the acquired firm is large relative to the acquirer. Both Asquith and al. (1983) and Moeller and al. (2003) in the US report a significant positive correlation between bidder returns and the target size relative to bidder one. Jarrell and Poulsen (1989) find a similar trend, whereas Sudarsanam et al. (1996) present evidence that smaller targets lead to higher bidder gains around the deal announcement.

Takeovers of relatively large targets are more likely to achieve sizeable operating and financial synergies and economies of scale than small acquisitions, therefore leading to stronger post-acquisition operating performance and value creation for the acquirer. However, the acquirer of a relatively large target may face difficulties in integrating the target firm, which could lead to a deterioration of performance (Martynova et al. 2006). In general, most of empirical evidence reports no significant relation between the relative target size and post-merger performance (Goergen, M. and L. Renneboog. 2004, Moeller and Schlingemann, 2003 and Healy et al., 1992).

Overall, it is worth to conclude that the majority of academic articles support that gains are positively related with the size of the acquired firm.

2. Hypotheses Development

This section develops the hypotheses regarding the findings and insights that were achieved by reviewing the existing literature. Section two (literature review) presented different studies and results aimed at providing insight into the context of the research scope. Those studies and results enables me to develop my hypotheses as far as concerns the value generated by U.S acquirers through acquisitions of targets during recession periods and the factors of value creation.

The value creation of acquirer firms

The first hypothesis is based on the discussion of the market-timing theory and the misvaluation theory. If during the financial crises most assets are considerably undervalued and access to credit is limited, companies with superior credit and equity positions will be able to purchase assets at depressed prices (Ravichadran, 2009). Thus, mergers motivated purely by market-timing would destroy rather than create value (Harford 2004). In addition the recent study of Ang and Mauck (2010) show that due to behavioral biases, acquirers might overpay for targets during recession periods as they overestimate the liquidity discount.

In this way, a large part of the mergers during recession periods could be driven by mispricing and lead to negative returns to acquirers' shareholders.

Therefore, the first hypothesis posits:

H1: *During the Late-2000s recession acquirers' shareholders do not create value in the short run.*

The impact of deal characteristics

The mood of the acquisition

Based on the article of Rob Enderle (2008), I am going to hypothesize that the recession increases the likelihood of hostile takeover attempts. As it is stated in the article the recession dramatically lowers the valuation of companies and it creates a surplus of workers, making fewer people willing to take job risk. Also the article of Shleifer and Summers (1988) has reinforced the voices of those seeking to restrict hostile acquisition activity out of concern for job losses. I should notice here that in the USA a number of states have enacted anti-takeover legislation for this purpose. To support broadly this hypothesis, I bring as an example the forth merger wave, which coincides with the deep early 1980 recession. The fourth wave featured many hostile deals as companies, including major corporations, found themselves the target of unwanted suitors.

Hostile deals certainly occurred before this period, but they were mainly bids by relatively smaller companies for other smaller companies. Before that period, it was unusual to hear of a hostile offer for large companies. Thus the hypothesis is formulated as follows:

H2: *During the Late-2000s recession friendly mergers do not create value for bidders' shareholders in the short run.*

Method of Payment

The method of payment is a deal characteristic that owns an important place within the M&A literature. With regard to the study of Shleifer and Vishny (2002), it is stated that during a low valuation period cash as a method of financing deals, is used more often than in high-valuation periods. In addition, the results of Bouwman et al (2009) and Mehmet E. Akbulut (2005) reinforce this view concluding that acquirers are more likely to buy overvalued targets for stock.

This leads to the formation of the third hypothesis, which states:

H3: *Cash as a method of payment is positively related with acquirers' benefits during the Late-2000s recession period in the short run.*

Industry relatedness between bidder and seller

As indicated in the literature review, researchers have not been agreed to a united conclusion concerning the relatedness of M&A. Also, in the number of articles I have read for this variable, neither of them made a distinction between a recession and a non-recession period. But it is really interesting and informative to show if or not the recession influence the degree of relatedness between the bidder and the target.

I am going to base my hypothesis here to the studies that prove superior wealth effects of related mergers. It seems reasonable that when a buyer and target are in unrelated industries, the buyer may lack access to the target's industry knowledge. Thus, a buyer without that knowledge may face more difficulties acquiring a firm and making value than a buyer with related expertise. In other words, the degree of the relatedness of the two firms, both operationally and culturally, is likely to reduce asymmetric information and therefore uncertainty in the transaction, creating value for the acquirer firm independently of the time period.

As a result of the above-mentioned arguments the hypothesis is stated as:

H4: *Mergers and acquisitions of related businesses generate higher returns to acquirers than conglomerate mergers and acquisitions in the short run.*

The impact of target firm characteristics

Relative size of target to bidder

Several studies indicate the importance of the relative size of the target company. As indicated in the literature review, Asquith et al. (1983) found that the relative size of the target has strong positive effect on acquirers' gains. This means that gains can be larger when the size of the acquired firm becomes larger relative to the acquirer.

However, in order to provide a hypothesis here, taking into consideration the difference between a recession and a non-recession period, I focus on the number and value of large LBOs, which fell off dramatically in the 2001-2002 period. This is not surprising as these years coincided with a recession. Contrary, by 2004 LBO volume, along with merger and acquisition volume, increased significantly and this dramatic growth continued through 2007. I would like to notice that the value and number of LBOs in the United States peaked during the years 2006-2007. The reason for this boom can be found in the combination of a very robust economy, with a rising stock market and low interest rates. This all came to a rapid end when the crisis took hold and the global economy entered to a recession in 2008. Thus, it is easily concluded that in a recession period bidders acquire relatively small targets due to limited credit availability and decreasing stock market.

According to this, the last hypothesis is written as:

H5: *Abnormal returns of the bidder are lower in the Late-2000s recession period as the relative size of the target is relatively small.*

3. Research design

Recession Definition

Before we go on to the data selection section, it is useful to understand what the definition of a recession is and how the periods in my thesis were selected and separated.

There are several explanations around the concept of a recession. In economics, a recession is a business cycle contraction or in other words a general slowdown in economic activity. During recessions, many macroeconomic indicators vary in a similar way and in general there is a widespread drop in spending, often following an adverse supply shock or the bursting of an economic bubble.

In this thesis the definition of the National Bureau of Economic Research (NBER) will be used to clarify this concept. In the United States, the Business Cycle Dating Committee of the NBER, which is generally seen as the authority for dating US recessions, defines an economic recession as: "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. Almost universally, academics, economists, policy makers, and businesses defer to the determination by the NBER for the precise dating of a recession's onset and end.

A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Between trough and peak, the economy is in an expansion. The committee identified December 2007 as the peak month, after determining that the subsequent decline in economic activity was large enough to qualify as a recession in US. Payroll employment, the number of filled jobs in the economy based on the Bureau of Labor Statistics' large survey of employers, reached a peak in December 2007 and has declined in every month since then.

In my thesis I select to investigate this late-2000s recession in US, sometimes referred to as the Great Recession, starting from December 2007 until June 2009. Since the recession period is examined, I thought it would be contributing to compare results with those of a non-recession period in U.S.

Concerning the non-recession period in U.S now, it starts from the early 2000s recession until the late-2000s recession (November 2001 – February 2006). It's the period after the early-2000s recession in U.S until the burst of the housing bubble.

Finally, the housing bubble burst is also tested in my thesis in order to provide a more precise overview, as far as M&A are concerned during the period November 2001 – June 2009. Thus, the housing bubble period covers the period between March 2006 and November 2007.

Data selection and analysis

In order to investigate and compare the bidder value effect of acquisitions performed during the non-recession period, housing bubble burst and the last-2000s recession in U.S, a sample of 1091 completed M&A announcements between 2 November 2001 and 30 June 2009 was obtained from Thompson One Banker (TOB). All acquisitions executed in this period have to satisfy a number of criteria as presented in Table 2.

Table 2: Overview of criteria satisfied by M&A deals

	Deal Criteria
1	The acquirers are public companies traded in the U.S stock market
2	Targets are U.S. public or private firms
3	Financial and utility bidder and target firms are included in the sample
4	The acquirer owns equal to, or larger than 50% of the target company's stock
5	M&A deals are completed
6	The acquiring firm's stock price returns are available on Datastream
7	The acquiring firm's accounting data is available in the TOB database
8	M&A announcements refer to a single acquirer and no consortiums of firms
9	Targets and bidders cannot be the same company
10	The deal is not classified as a repurchase, recapitalization, or self-tender in the TOB database

It is important to note the acquirer public status because all information about stock returns and stock prices is publicly available without any influence of states or other institutions.

Also, the percent of shares owned after the transactions should lie between 50% and 100%, because the companies need equal or more than 50% to have a majority of interest in the acquired company. Furthermore, clustered acquisitions where the bidder acquired more than one target are not included in the sample since it is not possible to isolate accurately the bidder's abnormal return for each of the acquisitions. Finally, only M&A deals are examined in this thesis and not repurchase, recapitalization, or self-tender deals.

Methodology

The purpose of this study is to investigate the market reaction to M&A announcements by determining the Cumulative Abnormal Returns (CARs) in the Late-2000s recession, the housing bubble period and the non-recession period. The use of CAR as an dependent variable is explained in the even study methodology below.

Event Study

Particularly, the most common research method to measure value creation is the so-called standard market model event study. According to MacKinlay (1997), using financial market data an event study measures the impact of a specific event on the value of a firm. Thus security prices observed over a relatively short time period can be used to measure the event's economic impact. The abnormal return of the event being studied is found by adjusting for the return that stems from the price fluctuation of the market as a whole. In this way, the event study method assumes that the present value of expected future cash flows to the shareholder can be extracted from the stock price. Under the assumption that capital markets efficiently incorporate all available public information in securities' prices, the event study allows to establish the effect of a certain announcement immediately.

In general the event study can be split into eight different steps:

Step 1: Identify the event dates

Step 2: Define event window

Step 3: Define estimation period

Step 4: Select sample of company

Step 5: Calculate normal return (R)

Step 6: Calculate abnormal return (AR)

Step 7: Calculate cumulative abnormal return (CAR)

Step 8: Define the statistic significance of the abnormal returns and the cumulative abnormal returns.

The initial task is to define the event of interest. In this step the event date is defined as the date of the announcement where the market first hears about the merger or acquisition. Then, it is defined the period over which the security prices of the firms involved in this event. It is advisable to use the event window to be larger than the specific period of interest in order to examine also periods surrounding the event (MacKinlay 1997). The period of interest includes at least the day of the announcement and the day after the announcement. After that it is often expanded to multiple days.

In this paper the day '0' is defined as the day of the announcement with abnormal return is calculated for a ten day period (-5, 5), a five day period (-2, 2) and a three day period (-1, 1) intervals surrounding the deal announcement dates.

The three day (-1, 1) event window, including the day of the announcement, one day before and one day after that, is the most commonly tested. Most previous studies (Seth et al., 2000, Ang and Mauck, 2010) show that the new information is fully reflected in the stock price within this event window. To exclude risk of any news

that could be possibly leaked before the announcement date, alternative event windows of five and ten day period will be used in this research in order to test whether the market efficiently incorporates the news about the mergers and acquisitions in the short-term acquirers' shareholders value creation.

It is worth saying that the date of announcement is when either the target or the acquirer makes a public statement which held negotiations or received a formal proposal to acquire. According to the majority of studies, the estimation period is set at 100 trading days prior to the event period.
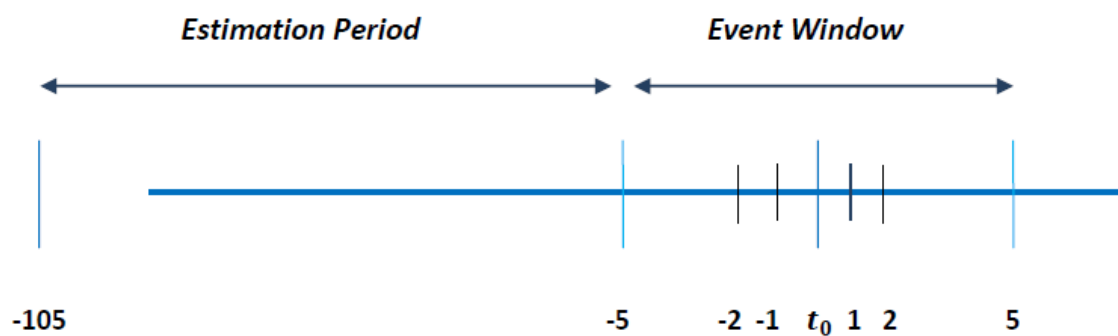
Normal Returns (R)

It is necessary to specify a model generating normal returns before abnormal returns can be measured. The normal return is the expected return as if the event did not take place. Brown and Warner (1980) report three different ways/models of adjusting for normal returns, which are Mean Adjusted Returns, Market Adjusted Returns, and Market and Risk Adjusted Returns. However, I focus on the methodology used on the paper of MacKinlay (1997). Thus, the market model, which relates the return of any given security to the return of the market portfolio, is used to calculate the normal returns for a given security. The model's linear specification stems from the assumed joint normality of asset returns. For any security í the market model is:

$$R_{it} = a_i + \beta_i R_{mt} + \varepsilon_{it}$$

Where:

R_{it} = return for stock í at day t

a_i = measures the return over the period that is not explained by the market for security í

β_i = measures the stock's sensitivity to the market

R_{mt} = return on the market index at day t

ε_{it} = statistical error term with mean zero ($\varepsilon_{it} = 0$)

The estimation period does not include the days of the event window. It is the period in which the market valuation of the firm is expected to change in response to the merger announcement. Subsequently, the market model parameters α and β are used to calculate the expected returns over these days, using an ordinary least squares (OLS) regression.

Once the parameter estimates are available, we are able to calculate the expected return for security i.

$$\hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt}$$

Abnormal Returns (AR)

As a next step, the abnormal return AR_{it} should be calculated for each stock. as the difference between the actual and the expected return.

$$AR_{it} = R_{it} - \hat{R}_{it}$$

As seen, it is calculated by the actual return of stock i over the period of the event window minus the expected normal return of the company over the period of the event window. In other words, it measures the change in value for the firm due to the announcement of the merger or acquisition.

Cumulative Abnormal Returns (CAR)

All abnormal returns over the event window are aggregated and averaged to provide for the average abnormal return across all stock i for the period of the event in order to obtain the cumulative abnormal return (CAR). The average abnormal return $\overline{AR}_t$ is calculated as follows:

$$\overline{AR}_t = \frac{1}{N} \sum_{i=1}^{N} AR_{it}$$

Where N is the number of companies in the sample and t is the beginning and the end of the event window (-5, 5).

Finally, the cumulative abnormal return is calculated as follows:

$$CAR_{(-5,5)} = \sum_{t=-5}^{5} \overline{AR}_t$$

The result of this equation reflects the average total effect of events across all firms in the sample over the period of the event window.

Statistic significance of the AR

Each stock may have different degree of event impact. So, the first task is to justify this by weighting its abnormal return by its standard deviation. In this way, the standardized abnormal return (SAR) is obtained. The process of standardization aims to ensure that each abnormal return will have the same variance.

A t-test then can be used to examine the significance of these results. The measurements are relevant, when the p-value of the CAR is significant.

Regression Analysis

In order to study how the value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held fixed, a regression analysis is used. In this research mood of the acquisition, industry relatedness, method of payment and relative firm size are used as independent variables while CAR is used as dependent variable.

The cumulative abnormal returns are regressed on a set of all explanatory variables. Therefore the following regression is composed:

$$CAR_i = \alpha + \beta_1(friendly) + \beta_2(cash) + \beta_3(related) + \beta_4(size) + \varepsilon$$

Alpha (α) and epsilon (ε) are the intercept and error term respectively. And the independent variables are multiplied by the corresponding Beta (β).

Explanatory variables

In this section, an overview of the explanatory variables and the proxies employed is presented in Table 3. This set of explanatory variables includes the best studied factors of value creation which turned out significant in the majority of studies.

Table 3: Explanation of independent variables

Hypothesis	Variable	Symbol	Proxy
	Deal characteristics		
H2	Mood of acquisition (dummy)	*FRIENDLY*	Takes the value 1 if the attitude is friendly and 0 otherwise
H3	Method of payment (dummy)	*CASH*	Takes the value 1 if the method of payment is cash only and 0 otherwise (or if method is not known)
H4	Nature of the merger: related vs unrelated (dummy)	*RELATED*	Takes the value 1 if the industries of the bidder and target are related and 0 otherwise
	Firm characteristics		
H5	Size ratio	*SIZE*	Target sales/Acquiror sales (in the fiscal year preceding the deal)

It is noted that when the amount percentage of cash is higher than 50%, then the variable CASH takes also the value 1.

The industry relatedness is based on the four digit SIC code. Industries are classified as being related when their SIC codes match and will be classified as unrelated in all other cases.

With regard to the targets' characteristics, Relative Size is the ratio of the size of the target to the size of the acquirer (in terms of sales). SIZE is the natural log of the target's sales in the year of the acquisition. Relative size of the company is a value that is usually between zero and one and not often above one. Only for those acquirers that buy the target shares based on leverage buyout or other forms of loans, the ratio can be more than one.

Descriptive Statistics

As I mentioned, the sample is composed of 1091 M&A deals in U.S. The highest deal value in my sample is estimated in $72.671 million, taking place on 5 March 2006 between AT&T Inc (acquirer) and BellSouth Corporation (target). The biggest target firm in the sample in terms of the total net sales is Wachovia

Corporation, which was a diversified financial services company with the net sales of $48.439 million. In contrast, the smallest target firm in the sample is Illumina, Inc., which is a company activated in the Biotechnology Industry, with negative net sales of $ 0.32 million.

Table 4 presents a summary of the full sample during the period November 2001 – June 2009 separated by year. The largest number of M&A deals performed during 2003 while during 2005 the highest deal value of $404.852 million (21,57 % of total deal value) is observed. This is not a surprising result as merger and acquisition waves seem to correspond with market tides, cresting with bull markets.

Table 4: Sample Distribution by Announcement Year (N=1091). The sample consists of 1091 completed U.S mergers and acquisitions between Nov 2001 and June 2009.

Year	Number of acquisitions	% of total number of acquisitions	Deal value ($ million)	% of total deal value	Mean acquiror market value ($ million)	Mean transaction value ($ million)	Median acquiror market value ($ million)	Median transaction value ($ million)
2001	31	2,84%	44.671	2,38%	10.177	1.441	1.688	152
2002	139	12,74%	119.286	6,36%	16.385	858	1.488	126
2003	173	15,86%	179.439	9,56%	12.162	1.037	1.070	142
2004	159	14,57%	233.016	12,42%	9.339	1.466	1.809	268
2005	155	14,21%	404.852	21,57%	23.624	2.612	4.153	387
2006	151	13,84%	366.650	19,54%	24.361	2.428	3.559	461
2007	156	14,30%	186.902	9,96%	20.154	1.198	2.683	455
2008	88	8,07%	179.763	9,58%	20.726	2.043	2.926	228
2009	39	3,57%	162.229	8,64%	18.951	4.160	1.604	474
Total Deals	1091	100,00%	1.876.807	100,00%	17.625	1.720	2.222	256

Table 5 illustrates the acquisition frequency distributed in the three periods (Recession, Housing Bubble and Non-Recession).

In accordance with Table 4, Table 5 displays 672 deals during the non-recession period, with a total deal value of $996.549 million. Also, concerning the years 2006 and 2007, which coincide with the housing bubble period, it seems to have similar results with the non-recession period as regards the number of acquisitions and the deal value. It is worth noting, however, that during the recession period the number of deals equals to 138, which arrives only the amount of 13% of the total number of acquisitions and 19% of total deal value. It indicates limited M&A activity during the recession period. But it seems that the transaction value is not influenced by a recession since the mean during the recession period is higher than in a non-recession and the housing bubble period. This may be explained by the fact that during periods of economic downturn acquirers prefer large deals.

Table 5: Acquisition Frequency Distribution Separated in Three Periods:
Recession = Dec 2007- June 2009, Housing Bubble = March 2006-Nov 2007,
Non-Recession = Nov 2001- Feb 2006

Period	Number of acquisitions	% of total number of acquisitions	Deal value ($ million)	% of total deal value	Mean acquiror market value in $ million (median)	Mean transaction value in $ million (median)
Recession	138	13%	364,066	19%	19.291 (2.471)	2.638 (241)
Housing Bubble	281	26%	516,192	28%	23.240 (3.229)	1.837 (468)
Non-Recession	672	62%	996,549	53%	14.935 (1.791)	1.483 (193)

Table 6 presents the descriptive statistics of CAR over three event windows for the three periods. It becomes clear that acquisitions during all three periods appear to generate negative average CAR. Furthermore it can be observed that after the 1-day event window the returns are increasing and maybe end up positive in a long term period. In addition, we have compared CARs for significant differences between the two subsamples of recession and non-recession period. The mean differences were tested using the two-sample T-test and found significant difference at 95% confidence level, for (-1, +1) and (-2, +2) event window as indicated in Table 6.

Table 6: Summary statistics of CAR of bidders' shareholders over the three event windows, separated in the three periods. The sample consists of 1091 completed U.S mergers and acquisitions between Nov 2001 and June 2009. Statistical significance is examined using the two-sample t-test and displayed ** significant at 5%.

Period	Event Window	Mean	Median	Std.Deviation	T-test	Q1	Q3
				Summary Statistics of CAR			
Recession	(-1,+1)	-0.032	-0.015	0.008	p=0.03**	-0.070	0.013
	(-2,+2)	-0.032	-0.013	0.009	p=0.04**	-0.070	0.019
	(-5,+5)	-0.025	-0.016	0.013	p=0.2	-0.096	0.028
Housing Bubble	(-1,+1)	-0.010	-0.008	0.004		-0.039	0.010
	(-2,+2)	-0.007	-0.008	0.005		-0.040	0.016
	(-5,+5)	-0.009	-0.014	0.008		-0.046	0.021
Non-Recession	(-1,+1)	-0.014	-0.008	0.006		-0.039	0.017
	(-2,+2)	-0.014	-0.008	0.006		-0.039	0.020
	(-5,+5)	-0.011	-0.003	0.011		-0.053	0.033

Finally, Table 7 provides an overview of descriptive statistics of deal and target characteristics over the three event windows for the three periods. Again a t-test is used to compare the variables between the crisis and the non-crisis period. The dummy variables ''Friendly'' and ''Related'' are displayed statistical significant at 1% and 5% respectively. Unfortunately, no statistical difference exists for ''Cash'' and ''Size'' between the two periods.

Table 7: Descriptive Statistics of Deal and Target Characteristics over the three event windows, separated in the three periods. The sample consists of 1091 completed U.S mergers and acquisitions between Nov 2001 and June 2009. Statistical significance is examined using the two-sample t-test and displayed **significant at 5%, ***significant at 1%.

Period	Variables	Mean	Median	Std.Deviation	T-test	Q1	Q3
Summary Statistics of Deal and Target FirmCharacteristics							
Recession	Friendly (dummy)	0.877	1	0.330	p=0.001***	1	1
	Cash (dummy)	0.485	0	0.502	p=0.32	0	1
	Related (dummy)	0.478	0	0.501	p=0.03**	0	1
	Size	0.588	0.224	1.598	p=0.13	0.046	0.583
Housing Bubble	Friendly (dummy)	0.950	1	0.218		1	1
	Cash (dummy)	0.577	1	0.495		0	1
	Related (dummy)	0.370	1	0.484		0	1
	Size	0.365	0.134	0.613		0.030	0.451
Non-Recession	Friendly (dummy)	0.978	1	0.148		1	1
	Cash (dummy)	0.439	0	0.497		0	1
	Related (dummy)	0.381	0	0.486		0	1
	Size	0.378	0.160	0.660		0.047	0.456
Total Sample	Friendly (dummy)	0.958	1	0.201		1	1
	Cash (dummy)	0.480	0	0.500		0	1
	Related (dummy)	0.390	0	0.488		0	1
	Size	0.401	0.161	0.831		0.043	0.472

Robustness Correlation Test

Prior to the empirical findings and regression analysis, it would be informative to test the overall fit of the model, which means to test the correlation between the variables. The reason behind it is to find out how well the regression equation truly represents the set of data. Whenever two independent variables are highly correlated, it will be difficult to assess their relative importance in determining the dependent variable. In general, the higher the correlation between the independent variables, the greater the sampling error of the partials.

A value near zero means that there is a random, nonlinear relationship between the variables. A correlation greater than 0.8 is generally described as strong, whereas correlation less than 0.5 is generally described as weak.

Based on the results of this paper, most of the variables are weakly correlated except for variables cash and related, which are strongly correlated presenting a correlation of 0.9. Furthermore, the dependent variable CAR presents a weak correlation with all the independent variables.

To conclude, in average it is revealed that the variables are not strongly correlated which allows the results to be more reliable.

4. Results from empirical research

Cumulative Abnormal Returns (CAR)

In this section the results of the event study are presented and explained. First the Abnormal Average Return (AAR) and the Cumulative Abnormal Return (CAR) have been calculated for all the three periods based on the eight different steps discussed in the methodology part.

In each of the three examined periods three different event windows were measured to exclude risk of any news that could possibly leaked before the announcement date. Furthermore, these event windows provide a more realistic picture of the short term wealth effects of U.S merger and acquisition deals allowing an easier comparison among the selected periods.

Three different significance levels are used in order to explain the level of relationship between the dependent and independent variables. A p-value smaller than 1 % signifies that the coefficient is highly significant, a p-value between 1% and 5% indicates a medium level of significance, and an outcome between 5% and 10% demonstrates a weak level of significance. The tests are done with the statistical program STATA.

Table 8 exhibits the CAR of acquirers of the three different event windows with the corresponding t-values in each of the three examined periods.

As can been seen in the Table 10, the average CAR is found to be negative during all periods and for all event windows. It worth mentioning that overall the recession period presents the most negative CAR while the non-recession period the most significant ones.

It becomes obvious that acquisitions during the non-recession period in the event window (-2, +2) generated the most significant average CAR, highly significant (at 1%). For housing bubble and recession period, the highest significant of CAR is reached in the event window encompassing one day before and one after the announcement. In general, the less significant results observed during the housing bubble period, as indicated in table 8. Also, statistical significance of the CAR becomes higher when approaching the announcement date, mainly for housing bubble and recession period. Furthermore it can be observed that as the time periods increases the returns are decreasing.

On the basis of the data analyzed before, the first hypothesis, stating that during the Late-2000s recession acquirers' shareholders do not create value in the short run, can be answered.

Overall, the significant negative CAR for the recession period indicates that M&A deals in United States do not create benefits for acquirer's shareholders. Thus, there is enough evidence to ground this hypothesis. It should be noted also that the situation does not differ to the other two periods. CAR is still negative, which means that acquirers earn neither to a non-recession period.

These findings come to add to the existing literature, supporting that short term acquirers returns seem to be negative (Ang and Mauck (2010), Harford (2004)).

Table 8: Cumulative Abnormal Returns (CAR) of acquires for all event windows separated in three periods. The sample consists of 1091 completed U.S mergers and acquisitions between Nov 2001 and June 2009. In column t-value, we demonstrate the t-statistics as calculated by STATA statistical model. *, ** and * represent the statistical significance at the 10%, 5% and 1% respectively.**

Intervals	CAR	t-value	N
Panel A: Recession Period			
(-5,+5)	-0.032	-2.44**	138
(-2,+2)	-0.030	-3.89***	138
(-1,+1)	-0.025	-4.18***	138
Panel B: Housing Bubble Period			
(-5,+5)	-0.010	-1.63	281
(-2,+2)	-0.009	-1.75*	281
(-1,+1)	-0.007	-2.45**	281
Panel C: Non-Recession Period			
(-5,+5)	-0.014	-2.72***	672
(-2,+2)	-0.013	-4.57***	672
(-1,+1)	-0.011	-4.48***	672

Regression Analysis Results

The other hypotheses are answered in a regression analysis in which the deal characteristics are analyzed. The cumulative abnormal returns are related to both bidder and target characteristics, which are based on the hypotheses that have already been formulated. Table 9 displays the outcomes of the regression analysis of the deals of sample for the three selected periods. The column ''expected signs'' summarizes what effects do we already know from the literature of each deal characteristic.

Starting with the second Hypothesis that during the Late-2000s recession friendly mergers create more value for bidders' shareholders than hostile takeovers in the short run, the first thing to notice in the Table 9 is that the variable friendly does not yield any significant results both for the non-recession and the housing bubble period. Getting a closer look at the data it reveals that the vast majority of firms, especially in the non-recession period, acquired their target in a friendly way. But no evidence found here to confirm whether value is created or destroyed by doing so.

Table 9: Regression Analysis results of deal characteristics for all event windows during the three periods. The sample consists of 1091 completed U.S mergers and acquisitions between Nov 2001 and June 2009. The dependent variable is the acquirer's cumulative abnormal return in each event window. In parentheses, the t-statistics as calculated by STATA statistical model is demonstrated and *, ** and *** represent the statistical significance at the 10%, 5% and 1% respectively.

	Expected Signs	Event windows		
		(-5,+5)	(-2,+2)	(-1,+1)
Panel A: Recession Period				
Friendly	-	-0.024	-0.039	-0.021
		(-1.66)*	(-1.68)*	(-0.46)
Cash	+	0.003	0.008	0.013
		(-0.05)	(-0.17)	(-0.29)
Related	+	0.01	0.007	0.006
		(-0.17)	(-0.14)	(-0.12)
Size	+	-0.003	-0.001	0.004
		(-0.5)	(-0.27)	(-0.76)
R-squared		0.007	0.015	0.016
N		138	138	138
Panel B: Housing Bubble Period				
Friendly	-	-0.072	-0.061	-0.053
		(-1.61)	(-1.69)	(-1.54)
Cash	+	0.001	0.01	0.002
		(-0.02)	(-0.29)	(-0.07)
Related	+	0.018	0.008	0.015
		(-0.4)	(-0.23)	(-0.44)
Size	+	-0.001	0.007	0.003
		(-0.12)	(-0.97)	(-0.39)
R-squared		0.046	0.05	0.049
N		281	281	281
Panel C: Non-Recession Period				
Friendly	+	0.018	0.009	0.008
		(-0.67)	(-0.48)	(-0.36)
Cash	-	-0.01	-0.008	-0.012
		(-0.38)	(-0.39)	(-0.59)
Related	+	0.012	0.035	0.04
		(-0.43)	(-1.71)*	(-1.9)*
Size	-	-0.005	-0.001	0.007
		(-0.81)	(-0.18)	(-1.58)
R-squared		0.014	0.03	0.031
N		672	672	672

The most significant finding is that the variable friendly is negative and statistically significant at the 10% level concerning the recession period. In other words, acquirers do not expect value creation from friendly acquisitions during a recession period. So, this hypothesis is maintained, because there is significant statistical evidence for this statement. Furthermore, the variable friendly has a positive effect on the CAR for the non-recession period in all the event windows but none of the t-values are significant. In total, our results contradicts the findings of Schwert (2000),who supports that friendly deals can positively affect shareholder value creation, since friendly offers, are perceived to generate synergies that benefit both target and acquirer company.

Taking into consideration the Hypothesis that cash as a method of payment is positively related with acquirers' benefits during the Late-2000s recession period, it is obvious that it is not confirmed in my thesis. However, this hypothesis is approved in many papers about M&A, but my calculations did not show this. Although during the recession period the coefficient between the variable cash and the dependent variable CAR indicates a positive relation, none of the t-values are significant. Similarly, in the non-recession period the relation is negative but there are no statistical significant t-values. This means that the hypothesis should not be accepted since none of the t-values described in table 9 are statistically significant. Thus, no conclusion can be drawn from these results.

Concerning Hypothesis 4 it can be observed that in all periods the variable "related" do have a positive effect on the CAR but only in the non-recession period the t-values are significant at 10%. This means that in the non-recession period when a takeover is done in the same industry will generate positive returns for the bidders. However, our results do not prove the same for the recession period. Thus, the hypothesis is partially accepted which means that I should reject it.

Finally, as far as the last Hypothesis is concerned all results have shown to be statistically insignificant. Despite the fact that table 9 provides negative relatedness influences in some of the event windows for the recession period, no meaningful conclusion can be drawn about the short-term bidders' value creation and the relative size of the target, which means that hypothesis five, has been rejected.

5. Conclusion

This paper examines the short-term cumulative abnormal returns (CARs) on U.S acquirers during the late-2000s recession period and also reflects on the differences between a non-recession period. Furthermore, this thesis aims to observe which deal and firm characteristics influence or not, the performance of acquirers' shareholders in both a recession and a non-recession period. The independent variables chosen are the method of payment, industry relatedness, mood of acquisition and the relative size of the target. The event study methodology was used to measure the short-term value creation of bidders' shareholders in a sample consisting of 1091 completed U.S mergers and acquisitions between November 2001 and June 2009.

The main finding of this research is that acquirers generate significant negative returns both in the recession and non-recession period. The value destruction for the acquirers contributes to the existing literature supporting that M&A in U.S during a recession period do not create benefits for acquirer's shareholders.

Concerning the determinants of value creation now, the variable "friendly" was found negative and statistically significant at the 10% level concerning the recession period. It states that acquirers do not create value from friendly acquisitions during a recession period.

Unfortunately, the other three variables used in this study have no significant effect on the value creation of M&A during the recession period and as a result the hypotheses should be rejected.

For future studies, adding other determinant variables is another possibility and also it would be interesting to define the value created for the acquiring shareholders situated in U.S while the target in Europe. Furthermore, it is suggested to observe the M&A activity after the recession, during the recovery period. This might be possible when someone separates the recession from the recovery period and examine whether or not there are any differences in the M&A activity and M&A characteristics.

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