The Predicament of Excess Cash and M&A in an Agency Conflict Context

Evidence from the U.S

BIANCA MERCKLING & ELLEN BÖRJESSON

Bachelor Thesis in Finance

Stockholm School of Economics

May 2017

ABSTRACT

This study aims to establish the relationship between cash levels (Opler et al. 1999), shareholder rights (Gompers, Ishii & Metrick 2003) and stock performance focusing on agency conflicts and the free cash flow problem in an M&A context. The data used covers M&A transactions in the U.S between the years 1990 and 2016. The results show a significant impact on the acquisition announcement on the stock performance for firms holding negative excess cash and firms with positive excess cash ratios. However, the difference is more significant on the negative excess cash sample, implying that the market incorporates firms' financials in its pricing and forecasts acquisitions for firms holding excess cash. Moreover, there is an indicative significance in the difference in market reaction around the announcement date depending on high or low shareholder rights when excess cash is positive but not when negative. Firms with positive excess cash and high shareholder rights generally experience higher levels of returns than those with low shareholder rights since these firms avoid the underinvestment problem, and enjoy the other benefits of holding cash, while the risk of overinvestment is limited. On the contrary, the insignificant result regarding negative excess cash shows that companies holding negative excess cash benefit from low shareholder rights since it decreases the risk of underinvestment as managers become less risk averse if the risk of being replaced is low.

Keywords: M&A, Excess Cash, Corporate Governance, Agency Conflicts, Governance Index

---

Acknowledgments: We would like to express great gratitude to our supervisor, Profesor Jungsuk Han at the Finance Institution at the Stockholm School of Economics, for his valuable guidance, insightful input and contribution to this thesis. We are also grateful to Professor Per-Olov Edlund at the Statistics Institution at the Stockholm School of Economics, for his appreciated support and help.

Correspondence: to: Bianca Merckling: 23402@student.hhs.se; Ellen Börjesson: 23413@student.hhs.se

Table of Content

I. Introduction

The recent development in capital structure following years of financial turmoil is that firms stockpile cash more than ever before. Only a few years ago, holding vast cash reserves was considered perilous. However, recent research shows that financially slack firms are proved to be more competitive than industry rivals. (Fresard 2010) This rapid development and the ambiguous research results in the area underscore the importance of research on the effects of cash reserves and whether it is possible to limit the incentive problems related to it.

Together with the rising need for research on the effects of excess cash, there is a general void concerning the effects of excess cash in an M&A context. To find excess cash as a factor of explanatory power in mergers provides highly relevant information concerning market expectations following mergers useful for both potential investors and current owners; Naturally, this provides investors with useful indications on stock price movements and helps to provide understanding for market reactions. For current active investors it gives guidance on how to include cash holdings in the corporate strategy.

In previous research, it has been shown that managers invest less than preferred by the firm's owners in times of negative cash flows as a result of the personal risk associated with investing in less financially slack times leading to underinvestment. Reversly, more cash increases the financial flexibility and reduces the personal risk, giving incentives to take on investments. However, more cash might also induce overinvestment which causes value-destroying projects to be taken on. This predicament captures both the complexity and the importance of the discussion regarding cash holdings. (Harford 1999)

The Governance Index is interesting in the context of excess cash because it presents a "solution" to the agency conflicts generated from excess cash by assuming to neutralise the adverse effects presented in the free cash flow hypothesis (1986). In this thesis, the Governance Index will be referred to as high or low shareholder rights where high shareholder rights indicate that the management could easily be replaced by the owners. Namely, the risk of being replaced should give the management incentives to work in the interest of the owners although at the cost of an increased underinvestment risks. It is fair to presume that the level of shareholder rights should have varying effects on agency conflicts depending on the level of cash holdings and that this effect should be particularily visible in times of investments.

In this paper, an event study has been conducted on U.S publicly traded companies that have been involved in an M&A transaction in the years 1990-2016 to test the correlation between the acquirers' level of excess cash and M&A performance. To delve deeper into the topic of excess cash in corporate transactions, and to further develop the theory about the free cash flow problem, the research has included the Governance Index to examine how shareholder rights affect the free cash flow problem.

The results of this paper suggest that on the announcement date, firms that hold negative levels of excess cash outperform those firms that hold vast cash reserves. The combined results of positive excess cash and high shareholder rights show an indicatively significant outperformance in stock returns compared to positive excess cash and low shareholder rights on

the announcement date. Lastly, the stock returns from firms with negative excess cash and low shareholder rights insignificantly outperform firms with negative excess cash and high shareholder rights.

This paper complements previous research in the sense that it highlights excess cash levels as an explanatory factor for post-transaction stock performance in today's changing market. Additionally, it supplements existing research exploring a yet untested link between the Gompers' Governance Index and M&A performance. Unlike existing research in the field, this study sets a clear focus on further examining the effects on the outcome of the merger depending on the cash holdings and level of agency conflicts rather than solely looking at the likelihood of a merger with cash holdings as an explanatory factor.

II. Theory and Previous Literature

There is a myriad of papers raising several of the central elements of this paper such as papers about capital structure, agency conflicts, corporate governance and M&A performance. However, this thesis fills the void connecting these central corporate finance topics together. Hence, there is substantial previous research in the surrounding fields that is useful for structuring this paper. This section presents the theoretical framework for this paper in the following structure: 1. Background and motives for holding large cash reserves, 2. Agency conflicts resulting from excess cash. 3. Outline and definition of normal versus excess cash reserves, 4. Agency conflicts and corporate governance, and lastly 5. Excess cash in M&A.

1. Background and motives for holding large cash reserves

To set the scene for this paper, it is paramount to establish an understanding of the underlying motives for firms to attain large cash reserves and it serves its purpose of providing a theoretical framework for the discussion part of this essay. From previous finance literature, four categories of motives of holding cash can be identified (Bates & Stulz 2009, Harford 1999, Baumol 1952 and Miller & Orr 1966). These factors have been discussed together with the evolution of cash holdings in the U.S in recent year.

i. The transaction economy motives to hold an optimal level of cash

Since converting non-cash assets incurs transaction costs for firms, there are motives from a transaction economic perspective for a firm to hold sufficient levels of cash. (Baumol 1952, Miller & Orr 1966)

ii. The precautionary benefits of holding cash

Fresard's recent research from 2010 sheds light on the positive effects of holding cash to complement research in the area prior to the financial crisis. The paper outlines that holding large cash balances leads to a systematic outperformance of industry rivals due to strategic enablement. That is, firms are less exposed to taking non-voluntary decisions when they have a war chest, which leads to strategic outperformance. Moreover, the result

shows that this occurs at the expense of the competitors by gaining market share. (Fresard 2010)

iii. The tax avoidance motives

Foley et al. (2007) outline an additional motive for multinational firms to hold more cash to exploit by holding cash reserves as a means of not having to repatriate foreign earnings. Thus, they point out that by holding cash reserves in foreign subsidiaries, the companies avoid the tax costs associated with repatriating the earnings.

iv. Decreased underinvestment problems

In the research paper "Corporate Cash Reserves and Acquisitions" written by Harford (1999), it is presented how excess cash increases the investment flexibility and benefits equity holders by reducing the underinvestment problem resulting from negative cash flow. The underinvestment problem occurs when equity holders want managers to take on more risk by investing, whereas managers are reluctant to invest as it is associated with the personal risk of losing their job and defiling their personal reputation. When cash reduces this risk, the managers will take on investments such as acquisitions; actions that are aligned with the shareholders' interests.

2. Agency conflicts resulting from excess cash

From a pecking order theory perspective, internal funds, i.e. cash, is preferred as it reveals less information. That is, the information asymmetry is optimized from the firm's perspective as internal funds rank the highest according to the pecking order theory. The theory assumes asymmetric information, which translates to the fact that the firm itself has greater knowledge about the firm's prospects and risks compared to the market. If the company would have to issue equity, that would signal to external stakeholders that the firm is overvalued. (Myers 1984)

Jensen (1986) develops the free cash flow hypothesis, which postulates that cash-rich firms are more likely to invest in low return projects than cash-poor firm are. Jensen (1986) attributes this to agency conflicts suggesting that cash-rich firms are more inclined to engage in empire-building, overinvestment, and other value-decreasing activities. The theory originates from the idea that as companies stockpile cash to secure a buffer, that level of the buffer should be maintained over time as unforeseen circumstances eventually traverse. Thus, cash beyond that level should be distributed to shareholders. If kept within the firm, excess cash will ultimately leave room for managerial discretion. In line with the pecking order theory, internally generated funds allow managers the liberty to spend without the level of due diligence and monitoring as with external funds. Hence, the probability of mistakes is greater among investments from internal funds as they are less scrutinised. (Myers 1984)

Harford (1999) makes a clear distinction of how the underinvestment problem is not the only incentive effect of the excess cash holdings. Instead, it might cause an overinvestment problem where managers waste cash on negative net present value projects that are beneficial neither to the company nor the shareholders. Thus, it presents an overinvestment agency conflict.

In line with this paper, Maloney, McCormick & Mitchell (1993), look at the agency conflicts in connection with M&A from a financial slack perspective. However, they lift leverage as an explanatory factor instead of excess cash. The research shows that more leveraged firms indeed outperform those firms that are less leveraged and this is explained by the discipline that comes with interest payments for more leveraged firms which decreases the cash inflow and limits the agency conflicts.

3. Outline and definition of normal versus excess cash reserves

To be able to gauge the correlation between excess cash and post-transaction performance, it is key to properly distinguish excess cash levels versus normal cash levels. Opler et al. (1999) stipulate a method to measure the expected cash level in a given industry by normalising the cash balances and thereby differentiating excess cash levels in relation to the norm.

Opler et al. (1999) construct a model of distinguishing excess cash levels from normal cash levels. In the model, a firm's cash holdings are defined as a cash ratio consisting of cash and short-term investments in relation to book value of net assets. The normal cash holdings are determined by using a regression of different factors affecting the cash a company normally holds. The methodology of how this method has been used in this thesis to calculated the normal cash holdings will be further discussed in IV. Data & Methodology. In this section, the focus lies on how these factors have been discussed by Opler et al. (1999) and employed in other previous research.

1 Industry sigma – Industry sigma shows the volatility in the industry. Companies that are in an industry that experiences large volatility, buffer by holding more cash and short-term investments. Opler et al. (1999) prove this coefficient to be both statistically and economically significant in increasing the normal cash ratio. They explain this with the transaction costs model, which implies that the liquid assets of a company increase with the volatility of cash flows divided by total assets.
2 Market-to-book ratio – Opler et al. (1999) describe how it in previous research has been shown that the market-to-book ratio is a good proxy for high cash flow firms which are thought to be profitable in the future. Opler finds that the market-to-book ratio has a significant positive impact on excess cash. They comment on the result saying it is consistent with the static tradeoff theory as well as the financing hierarchy model.
3 Real Size – Opler et al. (1999) find that the cash holdings decrease as companies increase in size. This coefficient is significant, both statistically and economically, which is consistent with the static tradeoff model.
4 Cash flow/Assets – Additonally, Opler et al. (1999) show that the cash holdings increase significantly, both statistically and economically, as Cash flow/Assets increases. This can be explained by the fact that companies with high cash flow generate more cash and therefore can spare larger cash reserves. Contrarily, there might be less need for companies generating

positive cash flows to hold cash indicating that companies with higher cash flow to assets should have lower cash (Pinkowitz, Stulz & Williamson 2013).

5 Net Working Capital/Assets – Furthermore, Opler et al. (1999) show that the cash ratio decreases as the net working capital increases. The coefficient is significant, both statistically and economically.

6 Capital expenditure/Assets – Also, cash holdings are shown to increase significantly, both statistically and economically, as Capital expenditure/Assets increases.

7 R&D/Sales – This is a measure of potential distress cost because it is an investment type where there are large information asymmetries and according to Opler & Titman (1994), this means that a cash flow shortfall forces companies to contract investments, which results in higher costs. The results show that R&D increases the cash holdings significantly, both statistically and economically.

8 Dividend Dummy – The transaction costs model referred to by Opler et al. (1999) shows that the liquid assets increase with the company's dividend. On the other hand, the company that currently pays dividends could easily, if needed, find financing simply by cutting off dividends which would imply that companies that pay dividends do not need as large cash reserves. Opler et al. (1999) find that cash holdings are less for companies that pay dividends.

4. Agency Conflicts and the Corporate Governance Index

Bates, Kahle & Stulz (2009) delve deeper into the agency conflict motive of holding cash by testing the evolution of cash holdings against the Governance Index over time. However, they find no correlation between corporate governance and cash holdings over time.

To test shareholder rights, the Governance Index developed by Gompers, Ishii & Metrick (2003) serves as an acknowledged proxy of estimating shareholder rights in corporate finance contexts. The index describes the level of shareholder rights by evaluating 24 factors:

Anti-greenmail, Blank Check preferred stocks, Business Combination laws, Cash-out laws, Classified Board, Compensation Plans with changes-in-control provisions, Director indemnification contracts, Control-share Acquisition laws, Cumulative voting, Directors' duties provisions, Fair-Price provisions, Golden Parachutes, Director Indemnification, Limitations on director Liability, Pension Parachutes, Poison pills, Secret Ballot, Executive Severance agreements, Silver Parachutes, Special Meetings limitations, supermajority requirements, Control-Share Acquisition laws, Unequal Voting rights and Written Consent.

A low number on the index indicates that the shareholders' power is high and that management can be replaced fast and easily. If the number is high, the power of the company is mainly held by management and the shareholders cannot easily replace them, which might result in agency conflicts. The hypothesis presented by Gompers, Ishii & Metrick (2003) states that the operative performance is better in companies with high shareholder power and that a strategy where you buy stocks in companies with a low governance index and sell stocks in companies with a high governance index will create abnormal returns.

In their abstract, Gompers, Ishii & Metrick (2003) write: ”We find that companies with stronger shareholder rights had higher firm value, higher profits, higher sales growth, lower capital expenditures, and made fewer corporate acquisitions.” Later in the report, the authors show that companies with a high governance index do not only make more acquisitions; the acquisitions they make are also less profitable. They comment on the result, saying that this might not be an evidence of empire-building but as likely one way to avoid an ”empire collapse”.

Another interesting article discussing the same subject is Lang, Stulz & Walkling's paper "A test of the free cash flow hypothesis: The case of bidder returns", from 1991, which examines the effects of free cash flow and the possibilities to find positive net present value projects (measured by Tobin's q) on bidder returns. Lang, Stulz & Walkling (1991) conclude that bidder returns are significantly negatively correlated to free cash flow when the possibilities to find positive net present value opportunities are low but not when they are high.

An interesting finding by Dittmar & Mahrt-Smith (2007) is that companies with poor governance index dissipate more cash than well-governed firms. They test this on several measures of governance level, for example, Gompers' governance index, and get the same result for all estimates. What is even more interesting in the findings by Dittmar & Mahrt (2007) is that this is not a result of the assumption that companies with poor governance tend to accumulate more cash but a result of the fact that that the governance index rate affects how the cash is spent.

5. The Effects of Excess cash in M&A

The research by Harford (1999) sets its focus on the probability rather than the performance of mergers involving acquirers with excess cash. In his paper, Harford (1999) finds that on average, bids by cash-rich firms are both more probable and value decreasing. He calculates the normal cash holding for a company by using the model presented by Opler et al. (1999) and identifies cash-rich firms as companies whose cash holdings deviate by more than 1.5 standard deviations from the predicted level.

Further, Harford stresses that the important thing for the short-term stock return is not how successful the acquisition is, but how successful it is in relation to the expectations of the market. He stresses that companies with positive excess cash tend to make more acquisitions; thus the market expects cash-rich firms to engage in acquisitions. Hence, this effect is already taken into account in the market's pricing of the stock before the actual announcement of the acquisition. Bechert & Schwarz (2016), tests similar hypotheses as Harford (1999) on the European market. The results confirm the findings from earlier presented work.

III. Test logic and general hypotheses

The theory and previous research presented establish the context from which this paper will take its starting-point. That is, it provides a theoretical framework needed to formulate well-informed and relevant hypotheses based on the following presented economic intuition.

Firstly, in line with the agency theory and the free cash flow hypothesis, managers at firms that stockpile cash are more inclined to spend money on empire-building and other activities that

do not benefit shareholders. Thus, these factors are likely to affect the market reaction when an acquisition is made. The first hypothesis can with that background be formulated as:

Hypothesis I: Acquirers with positive excess cash ratios experience a smaller increase in the stock return around the announcement date compared to acquirers with negative excess ratios

Secondly, it is believed that companies with high shareholder rights and positive excess cash are more successful than those with low shareholder rights. High levels of shareholder rights combined with high levels of excess cash enable firms to reap the benefits from holding more cash, while still avoiding the risk of overinvestment. That is, they enjoy the benefits from a decreased risk of underinvestment, while the strong corporate governance restrict the adverse effects of overinvestment and empire-building. Thus, the intuition follows that:

Hypothesis II: The overinvestment problem of holding excess cash is reduced if combined with high shareholder rights as the firms then enjoy the benefits from excess cash while still, because of corporate governance, limit the risk of empire-building

Lastly, the intuition behind the third hypothesis stems from the risk aversion associated with the proxy chosen for shareholder rights. Namely, the fact that the Governance Index is a measure of how easily the management can be replaced. That is, low shareholder rights imply a low possibility of the management to be replaced and the opposite holds for high shareholder rights. As outlined earlier, firms with low levels of excess cash are prone to face the negative effects of underinvestment since it implies that management is faced with personal risk. Thus, the logic follows that for a firm with management that is unafraid to be replaced through having low shareholder rights, the problem of underinvestment is also reduced. Hence, the third and last hypothesis is:

Hypothesis III: For firms with negative levels of excess cash, the risk of underinvestment is avoided if firms have less easily replaced management through low shareholder rights, thus leading to less risk aversion among managers resulting in higher returns than for firms with high shareholder rights

IV. Data & Methodology

1. Choice of data sample

The data set consists of data from the U.S. with companies listed on NYSE-AMEX and NASDAQ in order to complement previous research which has also been done in the U.S. As market conditions have changed, it was decided that conducting an analysis on the same market would add the most value since a comparison would be possible to make. The choice was also made since few countries are large enough to contribute with a large enough sample. It was seen as essential to keep the analysis within one country as accounting standards and political risk

largely differ across countries. The research only focuses on listed companies since it we did not have access to extract sufficient data from transactions involving unlisted companies.

Since there is a risk of announcement to cluster around certain announcement dates in the context of M&A, there is a risk of a cross-correlation induced increase in variance if a shorter time period is chosen. Therefore, a longer period of mergers, from the years 1990-2016, was chosen to avoid this to and to assure that cross-correlation would be ruled out. Additionally, cross-sectional data across industries was used to rule out an industry-specific behavior.

To avoid selection bias, both cash-and-equity mergers were included in the sample. For example, Travlos (1987) finds in his research on the method of payment in mergers and acquisitions that equity merger returns are lower. This is because there might be a bias such that cash-mergers are more successful on average than equity mergers since cash is stockpiled free cash flows. Furthermore, the ability to generate large cash flows is considered a performance measure which underscores the fact that only including cash mergers could possibly lead to a bias. Hence, including only cash mergers would overestimate the performance of all transactions.

Since measures of long-term M&A Performance through operative performance are often noisy and less significant it was decided to only focus on short-term stock market reactions. The short-term stock market reaction most of all shows the market expectations about the success of the transaction but has also has been set to be a proxy of future performance.

Firms with SIC codes 6000-6999 were excluded since financial firms have regulations constricting cash reserves (Opler et al. 1999). Including these would add little relevance since the motives from holding cash for financial firms have more to do with regulatory requirements than with economic motives. Additionally, observations with non-sufficient, incomplete data have been excluded.

When it has been considered likely that outliers would affect the result to be misleading, the data has been winsorized. Tests have been considered significant if they are significant at the 5 % level and indicatively significant at the 10% level. Stock returns are not always rational even though there are trends, therefore these significance levels are assumed reasonable. Also, in previous reseach 5 procent and 10 procent has been used (Gompers, Ishii & Metrick 2003).

2. Calculating excess cash

Opler et al. (1999) define excess cash as the difference between the predicted cash ratio and the actual cash ratio. Cash ratio is defined as cash and short-term investments divided by net assets. In the report, several factors that have an impact on the amount of cash that a company holds are presented. In this thesis, these factors have been constructed using data from Compustat, which has been winsorized with 1 % to avoid outliers. The following variables were used by Opler et al. (1999) and also in this thesis:

Industry sigma – Industry sigma is the standard deviation of cash flow to the book value of net assets of all companies in the same industry. The industry is defined using the two-digit SIC code. Cash flow has been

defined the same way as Opler et al. (1999) *do; net income subtracted by common dividend and increased by depreciation and amortisation.*

Market-to-book ratio – The market-to-book ratio is calculated using the market value of net assets divided by the book value of net assets. The market value of net assets is defined as the book value of net assets less the book value of equity and increased with the market value of equity. The market value of equity is calculated at the end of each year using stock price data collected from CRSP.

Real Size – The real size is calculated using data from Compustat and inflation data from The World Bank (2017)*. The inflation data was used to recalculate the book value of net assets to 2016 dollars. The natural logarithm of this value was then used as an estimation of real size.*

Cash flow/Assets – Cash flow is calculated as net earnings subtracted by common dividend and increased by depreciation and amortisation. Net assets are calculated as book value of assets subtracted by cash.

Net Working Capital/Assets – Net working capital divided by the book value of net assets.

Capital expenditure/Assets – Capital expenditure divided by the book value of net assets.

R&D/Sales – Research and development expenses divided by revenue. If R&D was not reported it was assumed that the company did not have any R&D expenses that year.

Dividend Dummy – Is equal to 1 if the company paid a common dividend that year and 0 if they did not.

Opler et al. (1999) also include a regulated industry dummy and a factor of total leverage. In this analysis, these have been excluded; the industry dummy since Opler et al. only present the industries affected up to the year of 1994 and no information for the years within the time period observed in this thesis has been available, leverage because the total debt data for early years is not available in Compustat. A regression not shown in this report but conducted where all observation missing the value of total debt were dropped did not give a more significant result but decreased the observation periods in the study. As has previously been explained, it has been considered important to have data over a long period of time and therefore the total leverage variable has been excluded.

When these variables had been calculated, a regression of them was made to explain the cash ratio. The regression's coefficients were used to formulate an equation that was used to calculate the normal cash ratio for each company. When this was made, this was winsorized at 1 % and subtracted from the actual cash ratio to obtain the excess cash ratio.

3. Measuring Corporate Governance

Gompers' governance index can be calculated using a complex formula consisting of a multitude of factors. Instead of constructing a replicate of this formula specifically for this data set, a secondary source of data constructed by one of the co-authors of the index, Andrew Metrick, himself for the years 1990, 1993, 1995, 1998, 2000, 2002, 2004 and 2006, has been applied (Metrick 2009). The data set includes over 2000 companies each year for the years 1990 to 2006. Using a data set for this limited time period would narrow this study and make the results less reliable. To avoid this, the following assumptions and adjustments have been made to create a full data set for the years 1990 to 2016:

As there is lacking data in the years in between the observed years, assumptions have been made to complement the index. The first assumption was that the index is the average of the two adjacent years to complement if there was only one missing year. The second assumption was that given that there was no new information on a change, the index stayed the same as the previous year or if data was only available the year after, that was included the year before. If there was a general lack of collected data on the governance index, that firm was excluded completely from the data set.

Since the data set ends in 2006, the most significant lack of data is observed for the most recent years; 2007 to 2016. To be able to include recent transactions, an assumption about these years had to be made. It is assumed that every company observed in 2006 also is included in the following years and that it keeps its governance index. This assumption is reasonable since it has been observed in the earlier years that the governance index seems to be relatively constant over time. Since this thesis does not focus on the development of governance index over time, it is not assumed that this will have a significant impact on the reliability of the model.

4. Creating the data set used to test hypotheses: Data sample and data management

To test the first hypothesis, transaction data was downloaded from SDC; the acquirer ticker and the announcement date of the transaction. To create the event and estimation window for the stock reaction around these dates, an extensive data set from CRSP was downloaded consisting of returns without dividends for the companies that figured in the SDC data set and value weighted returns excluding dividends as an index of the normal stock return that day. A variable was created showing how many days after or before the announcement date the stock return related to in order to obtain the market reaction before and after the announcement date. Governance index and excess cash of the company the year the stock return related to were merged to the data set.

In line with similar previous event studies on M&A performance, the event window was defined as [-20, 10]. Similarly, the estimation window was set at [-252, -20] to capture the full financial year.

The market model was used to estimate CARs. The choice of CARs as opposed to BHARs (buy and hold average return), was motivated by the fact that primarily, the short-term post-merger effects are of interest in this study. In line with the results of Fama, Fisher, Jensen and Roll (1969), this study was determined to be treated as a short-term event study. Since the horizon is short, the market model popularised for event studies by Fama et al. (1969), was chosen since, in practice, there is little deviation from the Fama-French factors including the Momentum factor.

The model used to estimate the daily normal returns across the estimation window with the market model was:

$$R_{it} = \alpha_i + \beta_i R_{it}^M + \epsilon_{it}$$

To be able to test if the returns differed in the event window, the abnormal returns were calculated in the event window using the following equation:

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{it}^M$$

In this thesis, the impact of excess cash and the level of governance index is tested. In line with the methodology of previous research (Harford 1999), the data set was divided into smaller subsamples depending on excess cash and governance index at the time of the transaction:

Positive excess cash: Acquirer with an excess cash ratio above 0
Negative excess cash: Acquirer with an excess cash ratio below 0
High shareholder rights: Acquirer with governance index below the mean value
Low shareholder rights: Acquirer with governance index above the mean value

The levels of excess cash were also combined with the level of shareholder rights. These variables will be used to test the second and third hypothesis:

Positive excess cash and high shareholder rights
Positive excess cash and low shareholder rights
Negative excess cash and high shareholder rights
Negative excess cash and low shareholder rights

5. Hypothesis testing

Hypothesis I: Acquirers with positive excess cash ratios experience a smaller increase in the stock return around the announcement date compared to acquirers with negative excess cash ratios

Hypothesis II: The overinvestment problem of holding excess cash is reduced if combined with high shareholder rights as the firms then enjoy the benefits from excess cash while still, because of corporate governance, limit the risk of empire-building

Hypothesis III: For firms with negative levels of excess cash, the risk of underinvestment is avoided if firms have less easily replaced management through low shareholder rights, thus leading to less risk aversion among managers resulting in higher returns than for firms with high shareholder rights

The data set previously presented was used to test the hypotheses.

When testing if there is a significant impact from the event on the stock return dependent upon cash holdings, the following test statistic was used:

$$\frac{\overline{\overline{CAR}}(T_2, T_3)}{\sqrt{V(\overline{\overline{CAR}}(T_2, T_3))}} \rightarrow N(0,1)$$

When testing if two samples had significantly different impact on the stock return on the announcement of the acquisition, the event window was set to three days and the following test statistic was used:

$$\frac{\overline{\overline{CAR}}_a(T_2, T_3) - \overline{\overline{CAR}}_b(T_2, T_3)}{\sqrt{V_a(\overline{\overline{CAR}}(T_2, T_3)) + \overline{\overline{CAR}}_b(T_2, T_3)}} \rightarrow N(0,1)$$

It was assumed that the standard error follows a normal distribution because of the relatively large sample. When calculating the variance, two degrees of freedom were used since the market model is based on the CAPM formula.

The variable CAR means for the different excess cash subsamples were also compared in a graph over the full event window. This was made to further illustrate the difference in the stock return performance depending on the level of excess cash.

The first hypothesis was in a first step tested by a t-test determining if there is a significantly different impact on the stock return three days after the announcement date depending on if the excess cash ratio was above or below zero. When this was confirmed, the mean CAR values for the two samples were displayed in a two-way graph over the event window.

To test the second hypothesis, the first test made tested if high or low shareholder rights in combination with positive excess cash had a significantly different impact on the stock return. This was made as a t-test. To be able to overview the full event window, a two-way graph was created showing the mean CARs of high shareholder rights and low shareholder rights in combination with positive excess cash.

Similarly, to test the third hypothesis, the result section in this thesis also includes a t-test and graph constructed in the same way as above showing how the negative excess cash sample can be split into two depending on shareholder rights.

V. Empirical Results

1. Results from calculation of excess cash

In the Data & Methodology section IV, it was described how the variables that would describe the normal cash ratio were obtained. Table 1 presents the multivariate regression used to extract the coefficients used to calculate the respective level of each firm across the sample.

Table 1.

Regression of Cash Holdings

Table 1. This table presents a regression using cash ratio as dependent variable. The cash ratio has been defined as cash and short-term investments divided by net assets. Industry sigma is the standard deviation of cash flow to net assets of all companies in the same industry. The market-to-book ratio is the market value of net assets divided by the book value of net assets. The Real Size is the natural logarithm of the book value of net assets in 2016 dollars. Cash flow/Assets is cash flow/net assets. Net Working Capital/Assets is net working capital/net assets. Capital expenditure is capital expenditure divided by net assets. R&D/Sales is research and development expenses divided by revenue. The dividend dummy is 1 if the company paid common dividend that year and 0 if they did not.

Source	SS	df	MS
Model	4831.64235	8	603.955294
Residual	1298.34185	27600	0.047041371
Total	6129.9842	27608	604.002335371

Number of obs	27609
F(9,27600)	12838.81
Prob > F	0.0000
R-squared	0.7882
Adjusted R-squared	0.7881
Root MSE	0.21689

Cash_R_win	Coef.	Std. Err.	t	P>| t |	{95% Conf.	Interval}
Industry Sigma	-.2054528	.0296571	-6.93	0.000	-.2635823	-.1473233
Market to Book sigma	4.19e-07	1.63e-08	25.80	0.000	3.88e-07	4.51e-07
Real Size	.0100364	.0007398	13.57	0.000	.0085863	.0114865
CF/Assets	-.2045036	.0025007	-81.78	0.000	-.2094052	-.1996021
NWC/Assets	.8132232	.0031256	260.18	0.000	.8070968	.8193495
CAPEX/Assets	.4463217	.0189712	23.53	0.000	.4091372	.4835063
R&D/Assets	.0005568	.00007	7.96	0.000	.0004196	.000694
Dividend Dummy	-.0429923	.0030868	-13.93	0.000	-.0490425	-.0369421
_cons	-.02883464	.0134517	-2.11	0.035	-.0547124	-.0019804

Consequently, using the coefficients from the regression in Table 1, the normal cash holdings were calculated using the following formula:

$$
\begin{aligned}
&Normal\ Cash\ Ratio \\
&\quad = -0.02883464 - 0.2054528 \times Indistry\ Sigma \\
&\quad + 0{,}0.000000419 \times Market - to - Book\ ratio + 0.0100364 \times Real\ Size \\
&\quad - 0.2045036 \times \frac{Cash\ Flow}{Assets} + 0.8132232 \times \frac{Net\ Working\ Capital}{Assets} \\
&\quad + 0.4463217 \times Capital \frac{Expenditure}{Assets} + 0.0005568 \times \frac{R\&D}{Sales} \\
&\quad - 0.0429923 \times Dividend\ Dummy
\end{aligned}
$$

By using the result from the formula for all companies, the following distribution could be found to verify that most firms would be cantered around zero.

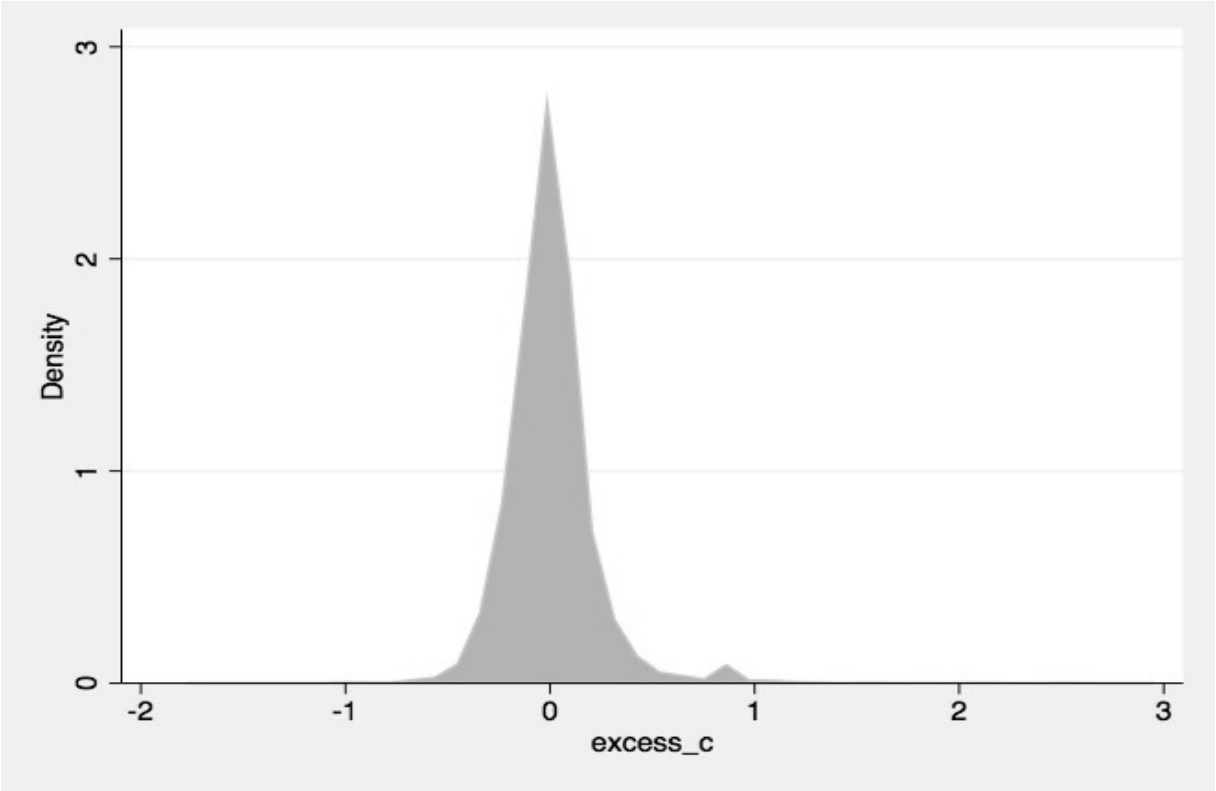

Figure I.
Distribution of Excess Cash in Sample

Figure I. This figure presents the distribution of the level of excess cash in the sample. Excess cash is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. Cash ratio is cash and short-term investments divided by net assets.

Looking at the sample more closely, Table 2 shows that the sample suffers from skewness which is 2.2154 and a kurtosis of 20.7208. The mean excess cash is 0.0044 and the standard deviation is 0.2243 where the sample is normalised over zero.

Table 2

Descriptive Statistics of Excess Cash Levels

Table 2. This table presents descriptive statistics for excess cash levels such as spread, number of observations, mean value, standard deviation, variance, skrewness and kurtosis. Excess cash is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. Cash ratio is cash and short-term investments divided by net assets.

Excess Cash				
	Percentiles	Smallest		
1%	-.4524834	-1.821983		
5%	-.2915459	-1.680763		
10%	-.2194532	-1.597775	Obs	27,609
25%	-.1108994	-1.314107	Sum of Wgt.	27,609
50%	-.0047459		Mean	.0043554
		Largest	Std. Dev.	.2243141
75%	.0837858	2.627961		
90%	.2123368	2.673398	Variance	.0503168
95%	.3231068	2.92747	Skewness	2.215393
99%	.9018298	2.998683	Kurtosis	20.72084

2. Results from measuring the Governance Index

Below, descriptive statistics for the governance index on the announcement dates are presented. The results show a mean slightly above 8 while the lowest value is 2 and the highest 13.

Table 3

Descriptive Statistics of Governance Index

Table 3. This table shows descriptive statistics for the Governance Index on the announcement date for the observed firms. The table presents the number of transactions observed, mean value, standard deviation, lowest value and highest value.

Variable	Obs	Mean	Std. Dev.	Min	Max
Governance Index	743	8.204576	2.451388	2	13

The table below shows how the governance index at announcement date is distributed. As has been stated before, the mean is slightly above 8 which means that 423 transactions were made by an acquirer with high shareholder rights and 320 transactions were made by an acquirer with low

shareholder rights. That is, there is a slight overrepresentation of firms with high shareholder rights in the sample.

Table 4

Distribution of Governance Index Over Sample

Table 4. This table presents the distribution of the Governance Index on the announcement date across the sample. The Index is based on Gompers' Index, is applied to 743 transaction and stretches from 1 to 13.

Governance Index	Freq.	Percent	Cum.
2	2	0.27	0.27
2.5	3	0.40	0.67
3	6	0.81	1.48
3.5	1	0.13	1.62
4	20	2.69	4.31
5	75	10.09	14.40
6	69	9.29	23.69
6.5	3	0.40	24.09
7	160	21.53	45.63
8	84	11.31	56.93
9	110	14.80	71.74
9.5	2	0.27	72.01
10	25	3.36	75.37
10.5	27	3.63	79.00
11	64	8.61	87.62
12	60	8.08	95.69
13	32	4.31	100.00
Total	743	100.00	

3. Results from creating the data set used to test the hypotheses

When calculating the different sample groups, the summary below can be presented. It shows that more companies have positive excess cash (73 %) rather than negative excess cash (27 %) in the sample. 57 % has higher shareholder rights than the mean and 43 % has lower. Within the group with positive excess cash, a larger portion than in the total sample has high shareholder rights (62 %). The subsample with negative excess cash has 57 % observations with low shareholder right and 43 % observations with high. The mean stock return is positive for every sample except for the low shareholder rights in combination with positive excess cash subsample, where the mean is slightly negative. All samples have a positive max value and a negative min value.

Table 5

Table 5. The table presents descriptive statistics for the subsamples created. 'Negative excess cash' represents firms with an excess cash ratio below 0. 'Positive excess' represents firms with an excess cash ratio above 0. 'Excess cash' is the difference between a firm's actual cash ratio and the calculated normal cash ratio for the same company. 'Cash ratio' is cash and short-term investments divided by net assets. 'High shareholder rights' is firms with a Governance Index below the sample mean. Low shareholder rights are firms with a Governance Index above the sample mean. 'Positive High' is firms with positive excess cash and high shareholder rights. 'Positive Low' is firms with positive excess cash and low shareholder rights.

Panel A

Categorisation of Excess Cash and Descriptive Statistics on Returns

Variable	Obs	Mean	Std. Dev.	Min	Max
Negative excess cash	4,266	.0076547	.0105159	-.0052358	.0329101
Positive excess cash	11,691	.0015954	.0018061	-.0048281	.0058949
Excess Cash Total	15,957	.0031408	.0035113	-.0038017	.0107667

Panel B

Categorisation of Shareholder Rights and Descriptive Statistics on Returns

Variable	Obs	Mean	Std. Dev.	Min	Max
High shareholder rights	9087	.0035312	.0025383	-.0019304	.0084496
Low shareholder rights	6870	.0025893	.0056334	-.0089071	.0141602
Shareholder Rights Total	15,957	.0031408	.0035113	-.0038017	.0107667

Panel C

Categorisation of Excess Cash Together With Shareholder Rights and Descriptive Statistics on Returns

Variable	Obs	Mean	Std. Dev.	Min	Max
Positive High	7258	.0037251	.0025168	-.000529	.0085802
Positive Low	4433	-.0019478	.0027178	-.0131166	.0041783
Positive TOTAL	11,691	.0015954	.0018061	-.0048281	.0058949

Panel D

Categorisation of Negative Excess Cash Together With Shareholder Rights and Descriptive Statistics on Returns

Variable	Obs	Mean	Std. Dev.	Min	Max
Negative High	1829	.0027913	.00082626	-.0125884	.0160104
Negative Low	2437	0.0114998	.0152172	-.0055318	.0509586
Negative TOTAL	4266	.0076547	.0105159	-.0052358	.0329101

Table 6 shows that there are more distinguished abnormal stock returns among firms with negative excess cash with a mean of 0.0011119 in the event window compared to positive excess cash where the mean is only 0.0001933. Furthermore, firms with positive excess cash and low shareholder rights have a mean of -0.0001009 which is lower than for positive excess cash and

high shareholder rights, 0.0003729. In the negative excess cash subsample, low shareholder righs has a mean of 0.0013984 which is higher than for high shareholder rights, 0.00073.

Table 6

Summary statistics of abnormal returns in the event window

Table 6. This table shows the summary statistics of the daily average abnormal returns (ARs) over the event window [-20;10]. The subcategorisations of the sample are based on the firms' respective cash ratio and governance index. Using the market model and value-weighted index returns as the market portfolio, daily abnormal returns were deduced.

	Count	Mean	Variance	St. Dev.	Min	Max
All observations	15956	.0004389	.0003191	.0178629	-.2327583	.2739273
Positive Excess Cash	11690	.0001933	.0002223	.0149098	-.226386	.2739273
Negative Excess Cash	4266	.0011119	.0005838	.0241615	-.2327583	.2089573
Positive Excess Cash, Low Shareholder	4432	-.0001009	.000249	.0157792	-.1134445	.1982807
Positive Excess Cash, High Shareholder	7258	.0003729	.000206	.0143512	-.226386	.2739273
Negative Excess Cash, Low Shareholder	2437	.0013984	.0005277	.0229711	-.2327583	.1969358
Negative Excess Cash, High Shareholder	1829	.00073	.0006586	.0256634	-.1796931	.2089573

4. Results from Hypothesis I

Acquirers with positive excess cash ratios experience a smaller increase in the stock return around the announcement date compared to acquirers with negative excess cash ratios

Firstly, it was essential to understand if positive and negative excess cash have a significant impact on stock returns:

Table 7

Significance of Excess Cash on Stock Returns

Table 7. This table presents a t-test to test if the CARs in different sub-samples are affected by the announcement of the acquisition. 'Excess cash' is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. 'Cash ratio' is cash and short-term investments divided by net assets. Companies in the 'negative excess cash'-sample have an excess cash ratio below 0. Companies in the 'positive excess cash'-sample have an excess cash ratio above 0. Moreover, the table presents a t-test testing if there is a significant difference between companies with negative excess cash and positive excess cash.

	Average	T-value
Negative excess cash holdings has a significant impact on stock returns	0,02148383	7,9894178
Positive excess cash holdings has a significant impact on stock returns	-0,00205562	-1,6163097
Negative excess cash has a significantly different impact on stock returns relative to positive excess cash	0,02353945	7,9118012

At the 5 % significance level, the sample shows that negative excess cash levels affect the stock returns three days after the announcement date. The sample with excess cash is also significantly affected by the event but the effect is less significant than for negative excess cash. A t-test was also made to prove that there are different effects on the stock return depending on whether the company has a positive or negative excess cash ratio. The table shows that this result is significant at the 5 % level.

Alternatively, this difference can be shown in a graph as below:

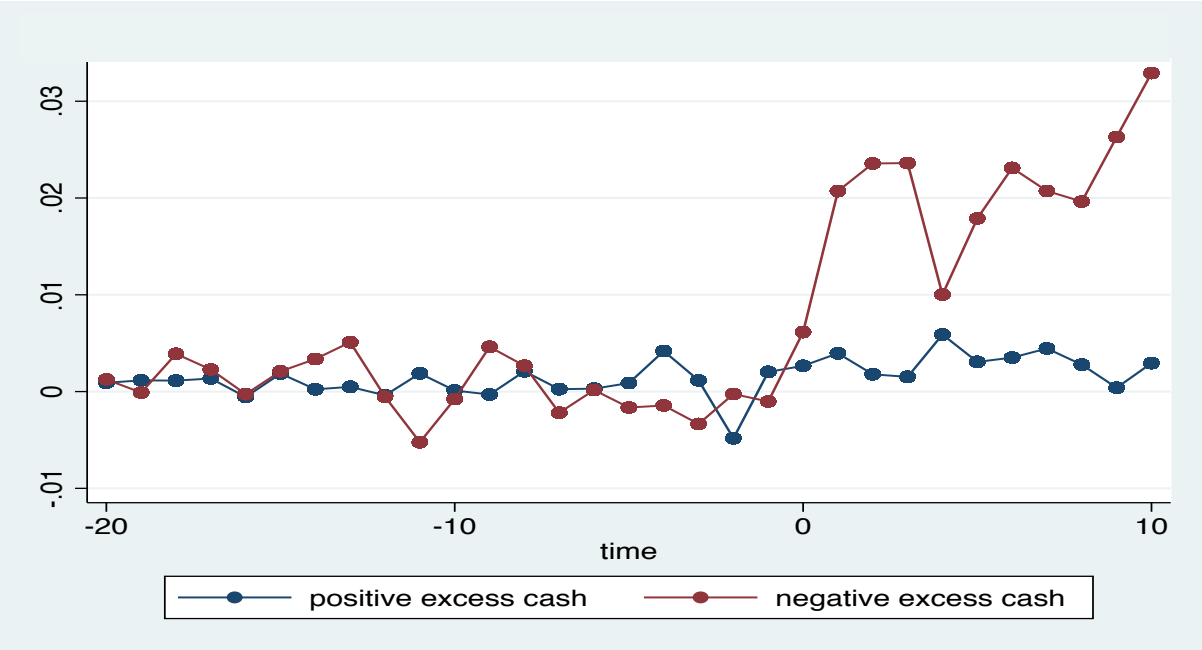

Figure 2
The Effect of Excess Cash Ratio on Cumulative Average Returns

Figure 2. This figure plots the Cumulated Averages Returns (CARs) over the event window {-20;10} for two subsamples. The positive excess cash subsample consists of companies with an excess cash ratio above 0. The negative excess cash subsample consists of firms with an excess cash ratio below 0. 'Excess cash' is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. 'Cash ratio' is cash and short-term investments divided by net assets.

Relative to the after announcement difference, the returns of the two samples are similar before the announcement date. Afterward, the movement for the positive excess cash level remains nearly the same while the negative excess cash levels increase to a higher level. It is previously shown that the event has a larger effect on the negative excess cash sample and the graph supports this statement. No matter if the acquirer has a positive or negative cash ratio, the acquiring firm experiences a positive reaction in the stock returns after the announcement.

5. Results from Hypothesis II

Hypothesis II: The overinvestment problem of holding excess cash is reduced if combined with high shareholder rights as the firms then enjoy the benefits from excess cash while still, because of corporate governance, limit the risk of empire-building

A t-test was made in order to determine whether the sample shows a significant difference in stock return performance three days after the announcement date depending on if the company with positive excess cash had high or low shareholder rights. The t-value for the test was – 1.71, which is not significant at the 5 % level but at the 10 % level and therefore indicates that there is a significantly different reaction from the event on the two subsamples.

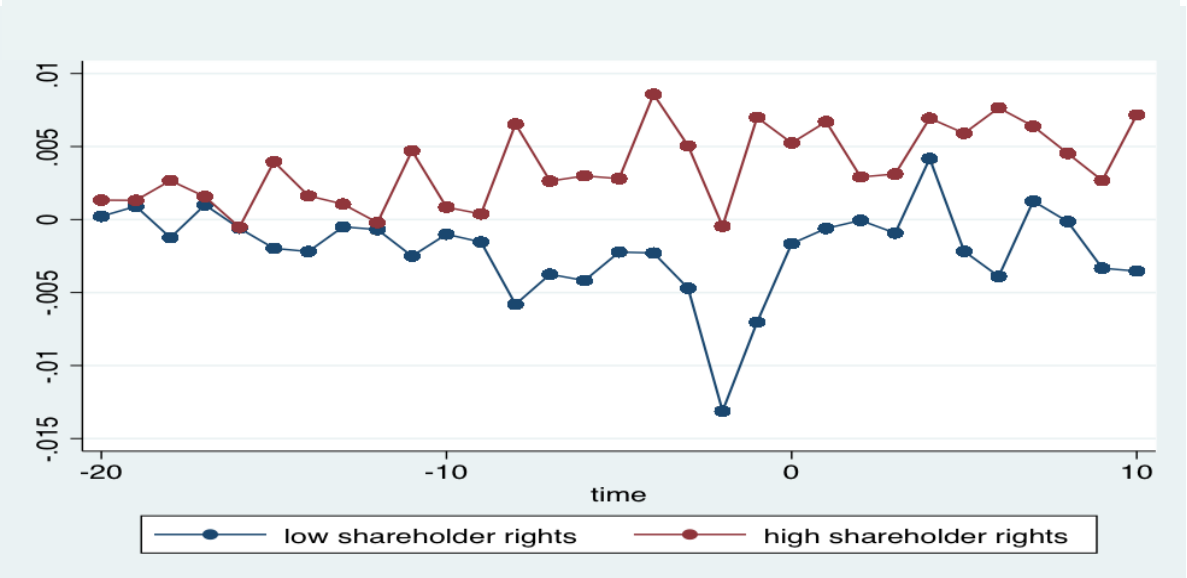

Figure 3

The Effect of Shareholder Rights on Cumulative Average Returns given Positive Excess Cash

Figure 3. This figure plots the Cumulated Averages Returns (CARs) over the event window {-20;10} for two subsamples. The low shareholder rights subsample consists of companies with higher Governance Index than the total sample average. The high shareholder rights subsample consists of companies with lower Governance Index than the total sample average.

Figure 3 is created using the variables described in earlier sections. It shows the stock returns around the announcement date for companies with positive excess cash ratios divided into two variables depending on the level of shareholder rights. The graph shows that the level of stock returns is higher for companies with higher shareholder rights but that the reaction around the announcement date is limited.

The result from the table above has also been set in relation to the negative excess cash variable which is shown in the graph below:

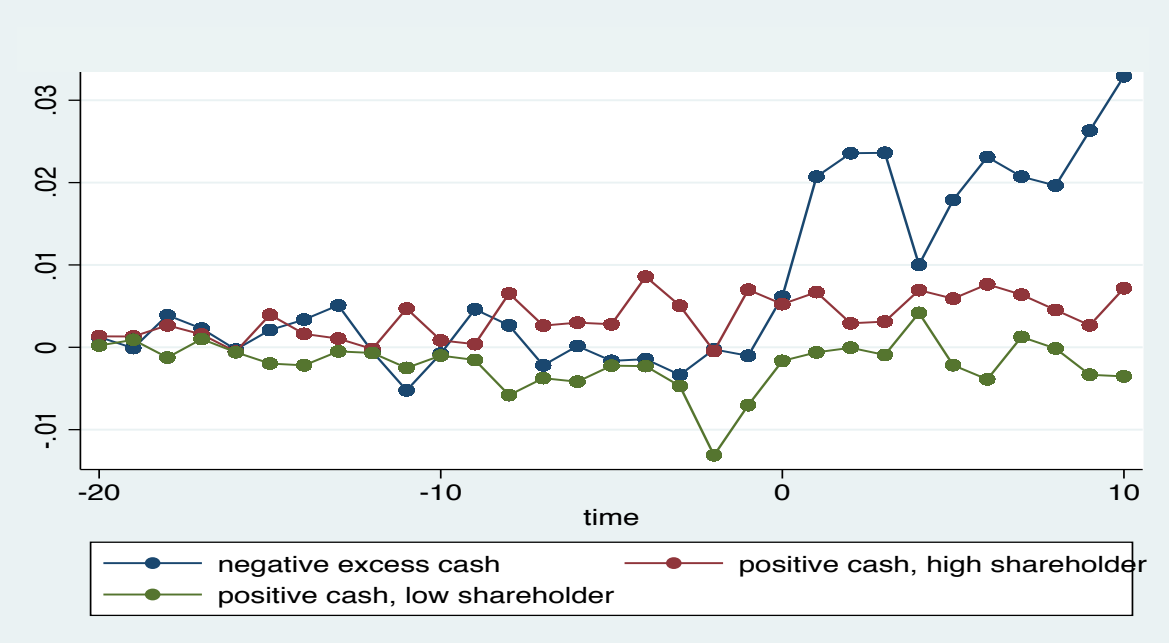

Figure 4

The Effect of Shareholder Rights and Excess Cash Combined

Figure 4. This figure plots the Cumulated Averages Returns (CARs) over the event window {-20;10} for three subsamples. Positive excess cash is companies with excess cash ratio above 0. The positive excess cash subsample is divided into two; high and low shareholder rights. High shareholder rights has a Governance Index below average. Low shareholder rights has a Governance Index above average. Negative excess cash subsample consists of companies with lower excess cash ratio below 0. Excess cash is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. Cash ratio is cash and short-term investments divided by net assets.

The graph shows that companies with positive excess cash and high shareholder rights tend to perform better than companies with negative excess cash before the announcement date. The eventual leakage of information before the announcement date also seems to be similar. The large difference is identified after the announcement date where companies with negative excess cash experience increased stock returns while the effect is more modest on the subsamples with positive excess cash. The findings from the graph are presented in detail below. Table 8 shows that the difference between abnormal stock returns around the announcement date depending on the level of shareholder rights on a sample with positive excess cash, has a t-value of-1.71. Thus the result is significant at the 10 % level, indicating that there is a significant difference depending on the level of shareholder rights.

Table 8

Significance of Level of Shareholder Rights on Stock Returns

Table 8. This table presents a t-test to test if the CARs in different sub-samples are affected by the announcement event. Companies with high shareholder rights have a Governance Index below average. Companies with low shareholder rights have a Governance Index above average. The table also presents a t-test testing if there is a significant difference between companies with high and low levels of shareholder rights. Excess cash is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. Cash ratio is cash and short-term investments divided by net assets. Companies in the sample of negative excess cash have an excess cash ratio below 0

	T-value
Difference High Shareholder Rights minus Low Shareholder rights	-2.9887757**
Difference Positive Excess Cash High Shareholder Rights minus Positive Excess Cash Low Shareholder rights	-1.7132147*

Where significant levels are indicated as: ** p<0.05, * p<0.1.

6. Results from Hypothesis III

Hypothesis III: For firms with negative levels of excess cash, the risk of underinvestment is avoided if firms have less easily replaced management through low shareholder rights, thus leading to less risk aversion among managers resulting in higher returns than for firms with high shareholder rights

Below is a graph showing the difference between high and low shareholder rights when the excess cash holdings are negative. After the announcement, the subsample with low shareholder rights experiences higher abnormal returns than the subsample with high shareholder rights.

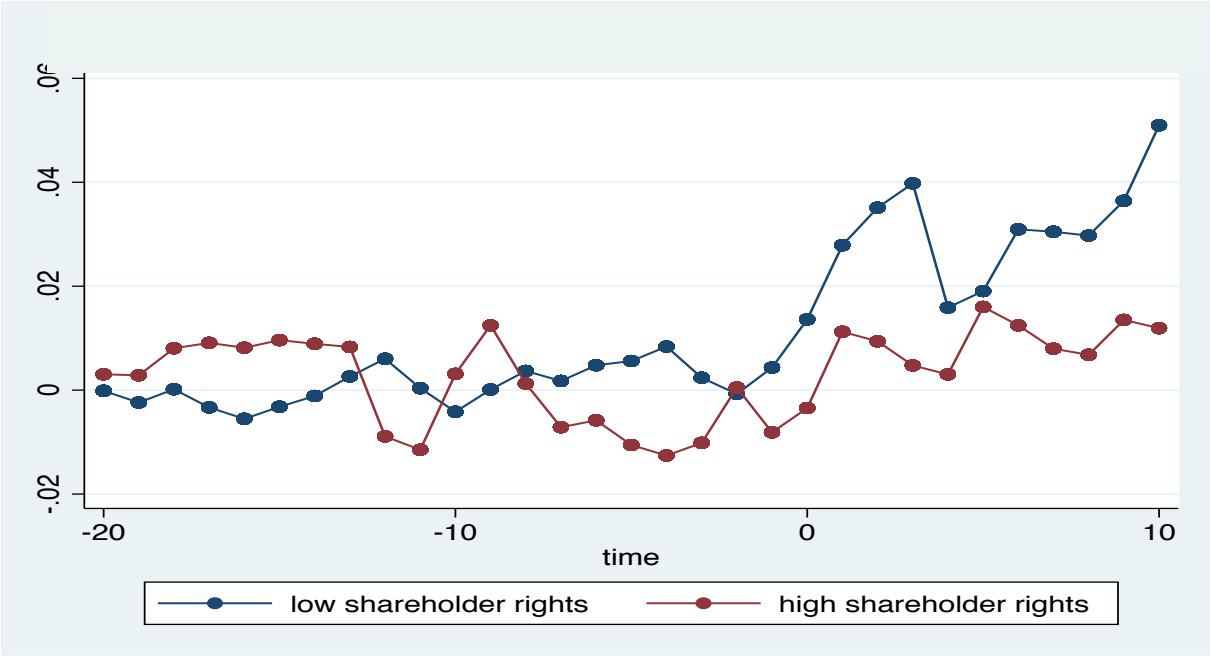

Figure 5

The Effect of Shareholder Rights on Cumulative Average Returns given Negative Excess Cash

Figure 5. This figure plots the Cumulated Averages Returns (CARs) over the event window {-20;10} for two subsamples. The low shareholder rights subsample consists of companies with higher Governance Index than the total sample average. The high shareholder rights subsample consists of companies with lower Governance Index than the total sample average.

To go into details on what is presented above, Table 9 below describes the results of a t-test done to test the effects of the event on the abnormal stock returns three days after the announcement. The difference between negative excess cash with high shareholder rights and negative excess cash with low shareholder rights shows a t-value of -0.99, which is not significant at either 5 % or 10 %. Thus, the stock reaction on a sample with negative excess cash levels is not differently affected depending on the level of shareholder rights.

Table 9
Significance of Level of Shareholder Rights on Stock Returns

Table 9. This table presents a t-test to test if the CAR in different sub-samples are affected by the announcement event. High shareholder rights has a Governance Index below average. Low shareholder rights has a Governance Index above average. The table also presents a t-test testing if there is a significant difference between companies with high and low levels of shareholder rights. Excess cash is the difference between a company's actual cash ratio and the calculated normal cash ratio for the same company. Cash ratio is cash and short-term investments divided by net assets. Companies in the sample of negative excess cash have an excess cash ratio below 0.

	T-value
Difference High Shareholder Rights minus Low Shareholder rights	-2.9887757**
Difference Negative Excess Cash High Shareholder Rights minus Negative Excess Cash Low Shareholder rights	-0.99149209

Where significant levels are indicated as: ** p<0.05, * p<0.1.

VI. Discussion

1. Discussion of excess cash

The calculation of the normal cash ratio was made using variables also used by Opler et al. (1999). All eight variables used in this thesis were significant at a lower level than 5 %. The market-to-book ratio, the capital expenditure/Assets and the R&D/Sales were all shown to have a positive effect on the cash holdings which is consistent with the expectations from previous research. Similarily, the dividend dummy was shown by Opler et al. (1999) to have a negative effect on the cash holdings, which is also true for this sample. The Cash flow/Assets is instead consistent with the results of Pinkowitz, Stulz & Williamson (2013), which shows that cash flow decreases the cash holdings. The results of the industry sigma, the real size and the Net Working Capital/Assets are not consistent with the findings of Opler et al. (1999).

The skewness and kurtosis of the excess cash distribution show that the sample is not normally distributed but positively skewed. As discussed in previous research, this shows that many companies could be plagued by overinvestments driven by agency conflicts and proves why the analysis in this thesis is important.

2. Discussion of hypothesis I

Acquirers with positive excess cash ratios experience a smaller increase in the stock return around the announcement date compared to acquirers with negative excess cash ratios

The results from this study show that companies that hold negative excess cash experience abnormal stock returns around the announcement date of an acquisition. Firms with positive levels of excess cash are also affected by the announcement but not to the same extent.

What is interesting about the result is that the sample with positive excess cash does not experience any value-decreasing effect, which could have been the expected result given previous research about the overinvestment problem associated with excess cash. Instead, the market reacts positively to the investment; an acquisition means more risk and risk is awarded with higher average returns. That the reaction is smaller than for negative excess cash indicates that the market expected the company with positive excess cash to make acquisitions and that it was already incorporated in the price to some extent. This is in accordance with Harford's previous research from 1999, which suggests that cash-rich firms make more acquisitions and that this is therefore accounted for by the market already before the announcement day.

3. Discussion of hypothesis II

Hypothesis II: The overinvestment problem of holding excess cash is reduced if combined with high shareholder rights as the firms then enjoy the benefits from excess cash while still, because of corporate governance, limit the risk of empire-building

From the second hypothesis there are three main findings: i) Companies with positive excess cash and high shareholder rights experience significantly higher abnormal returns around the announcement date, and before, compared to those with positive excess cash and low shareholder rights ii) Before the announcement date, the sample with positive excess cash and high shareholder rights performs better than companies with negative excess cash iii) The reaction from the announcement is not as significant as for the negative excess cash sample independent of the level of Governance Index.

To go back to the discussions by Harford (1999) and Gompers, Ishii & Metrick (2003), Harford suggests that companies with positive excess cash have an increased risk of overinvestment due to agency conflicts. Gompers, Ishii & Metrick (2003), find that companies with higher shareholder rights engage in fewer acquisitions and that the stock returns of those companies are higher than those with low shareholder rights. This provides the foundation for the first main finding.

Like Harford (1999) suggests, it is likely that the sample with positive excess cash struggles with overinvestment agency problems. For example, this is shown by the fact that the total sample includes 11,691 observations with positive excess cash and only 4,266 with negative excess cash as indicated in Table 5. Thus, there is an indication that among the total number of acquisitions completed, there is an overrepresentation of cash-rich firms. Since Gompers, Ishii & Metrick (2003) show that companies with higher shareholder rights engage less in acquisitions, it is fair to assume that the agency conflicts are less pronounced in cash-rich firms with high shareholder rights in relation to those with low shareholder rights. The results from the research presented in this thesis show that the market prices the difference in shareholder rights. It is not possible to determine if this is an irrational market reaction or if these managers actually make poor strategic decisions. However, the previous research presented reinforces that this type of agency conflicts results in management behaviour that is not favourable for the company in the long term. Hence, a plausible conclusion is that the lower stock returns are a result of poor management and poor strategic decisions.

Moving on to the second finding, Figure 4 shows that companies with positive excess cash and high shareholder rights actually perform better than the negative excess cash subsample before the announcement. Companies with positive excess cash are able to enjoy benefits from holding more cash; strategic enablement (Fresard 2010), avoidance of underinvestment problems from agency conflicts (Harford 1999) and avoidance of transaction costs (Bates, Kahle & Stulz 2009). The argument against excess cash is the risk of overinvestment problems from agency conflicts. If the shareholder rights are high, however, Gompers, Ishii & Metrick (2003) have previously shown that companies tend to make fewer investments which reinforces that the agency conflicts from holding more cash are reduced if combined with higher shareholder rights.

Given the discussion above on how companies with positive excess cash and high shareholder rights get the best of both worlds, it might be seen as surprising that the third finding is that the stock market reaction around the announcement is conspicuously depressed for positive excess cash with high shareholder rights compared to negative excess cash holdings. Here again, the discussion from Hypothesis I repeats; what is important is not the announcement itself but the announcement in relation to the market's expectations (Harford 1999). There is a significantly positive reaction from the announcement also on companies with positive excess cash and shareholder rights. The difference from the negative excess cash subsample is that the market expects companies with more cash to make acquisitions and to some extent, this insight is already priced.

4. Discussion of hypothesis III

Hypothesis III: For firms with negative levels of excess cash, the risk of underinvestment is avoided if firms have less easily replaced management through low shareholder rights, thus leading to less risk aversion among managers resulting in higher returns than for firms with high shareholder rights

Hypothesis III focuses on the effect of the level of Governance Index when cash holdings are negative. In Hypothesis I, it was discussed that companies with negative excess cash experience prominent abnormal returns after the announcement of an acquisition. Do shareholder rights affect this? The main findings from Hypothesis III are: i) Companies with low shareholder rights are overrepresented in the negative excess cash subsample (Table 5, Panel D) ii) There is no significant difference between high and low shareholder rights combined with negative excess cash (Table 9) iii) The insignificant result shows that, given negative excess cash holdings, companies with low shareholder rights perform better than companies with high shareholder rights (Table 9).

Companies with negative excess cash avoid the risk of overinvesting but could instead have an underinvestment problem. This underinvestment problem comes from owners wanting the managers to take on more risk than they do. The reason for this agency conflict is that there are no personal gains that compensate for the additional personal risk investments create for the managers. (Harford 1999)

As has already been discussed, Gompers, Ishii & Metrick (2003) suggest that companies with high shareholder rights make fewer acquisitions than companies with low shareholder rights. The first main conclusion also presents a result showing that low shareholder rights are overrepresented among the transactions observed in the negative excess cash sample. This result indicates that companies with negative excess cash actually benefit from having lower shareholder rights because of avoidance of the underinvestment agency conflict.

How does the market react to this underinvestment? As has been discussed in connection to Hypothesis I, the market reacts strongly to an acquisition announcement when the acquirer holds negative excess cash. This is because the announcement is neither expected, nor seen upon as an expression of agency conflicts and an attempt to empire-building. The second main finding, on the other hand, shows that there is no significant difference between cash-poor firms with

different levels of shareholder rights. If the sample would also include companies that have not made acquisitions, the underinvestment problem would probably be more visible. Since the companies included in this sample have all made acquisitions, they are probably less affected by underinvestment problems than many other cash-poor firms.

Although there is no significant difference, the third finding points out that there is an insignificant difference showing that companies with negative excess cash and lower shareholder rights experience higher abnormal returns around the announcement of an acquisition than companies with high shareholder rights. This finding reinforces that there are negative effects of underinvestment and that this type of agency conflict is neutralised when negative excess cash is combined with low shareholder rights rather than high.

VII. Further research

This thesis has had a focus on the immediate stock market reaction of acquisitions. Another approach is to test how different combinations of shareholder rights and cash holdings affect the likelihood of a company to become an acquirer.

Another topic discussed is that the market already expects companies with large cash holdings to acquire, which is shown by Harford (1999). From this follows that there is a lack of stock price reaction from the acquisition announcement. It would be interesting to further investigate how this pricing shows.

What is important to understand is that this thesis includes proxies that do not fully capture the true value. I.e., agency conflicts are measured by cash holdings, shareholder rights are measured by governance index and stock returns are used to estimate the market reaction or even performance of the acquirer. Naturally, this leaves room for more tests to be performed using other estimates to investigate if the results are the same.

In this paper, both cash mergers and equity mergers were included. Previous research suggests that the choice of payment method could expose the financial health of a company which would have resulted in an unwanted bias. That is, the research shows that, on average, equity mergers perform worse compared to cash mergers. Thus, only including cash mergers would result in a general over performance in the sample. However, another research paper could focus on this fact and examine if cash holdings or shareholder rights are more important in certain types of mergers. This could, for example, be to explore how the signal value from using equity, debt, and cash is reacted to by the market with different combinations of excess cash and shareholder rights.

In the discussion section, it was concluded that it is not possible to determine whether the stock price reaction is an irrational behaviour of the market or if managers in firms that risk higher agency conflicts actually make poor strategic decisions. This is something that would be interesting to investigate further.

One more suggestion for future research is to test the findings of this thesis in relation to management turnover in companies. The governance index is a measure on how fast and easily managers can be replaced. It would be interesting to see if the effects are shown from the level of

governance index actually is forced by managers being replaced or if simply the threat of being replaced reduces the agency conflicts and make the managers make better strategic decisions for the shareholders.

Also, this paper focuses on the short-term reaction after the acquisition announcement. The effect of cash holdings and shareholder rights on the long-term operational performance of a merger or acquisition is another interesting research question that could be further examined given that the noise that appears over a longer period of time can be sorted out.

VIII. Research limitation

Despite that the aim has been to present all data and other research material fairly, some research limitations have to be discussed. Firstly, the data used has been collected from different sources and merged together which has resulted in a smaller sample. That is, due to data limitations, the number of transactions analysed has been heavily below the actual number of transactions that took place in the US between 1990 and 2016. Despite this, the data used is sufficiently extensive and the data limitations should not have affected the conclusions drawn in this paper.

As has been mentioned earlier in the thesis, the choice to keep the sample within one country was made to limit the risks of different accounting standards or political risks in different countries affecting the results and discussions. However, it has not been possible to take differences over time into account. To give an example, the model for excess cash is the same throughout the whole time period although it might have been reasons to keep more cash from time to time.

Due to lack of data on unsuccessful bids from SDC Platinum, there is a shortcoming in the data used, in the sense that there might be an overrepresentation of bids by cash-rich firms. That is, if cash-rich firms are more inclined to be successful acquirers, the data might be biased.

IX. Conclusion

The aim of this study was to establish the relationship between cash levels, shareholder rights and corporate performance focusing on agency conflicts and the free cash flow problem in an M&A context. The data used covered M&A transactions in the U.S between the years 1990 and 2016.

The main results from this thesis show that there is a significant difference in market reaction around the announcement date depending on the level of excess cash holdings. The abnormal stock returns from the event were strongly significant for companies with negative excess cash while the market reaction was significant but more modest for companies with positive excess cash. Using previous research, these results are explained by agency conflicts between owners and managers resulting in companies with negative excess cash underinvesting and companies with positive excess cash overinvesting which is known by the market. What is important is not the announcement itself but how positive or negative the news are in relation to the market's expectations.

Furthermore, shareholder rights were included in the discussion. The results showed an indicative significant difference between high and low shareholder rights when the cash holdings were high but an insignificant difference when the excess cash ratio was below 0. Also, the abnormal stock returns from the event were higher when shareholder rights were high rather than low in the sample with positive excess cash ratio and insignificantly higher for low shareholder rights rather than high when the excess cash ratio was negative. In previous research it has been discussed that companies with high shareholder rights make fewer acquisitions than those with low shareholder rights. This could be used to neutralise the agency conflicts from cash holdings meaning, for example, that companies with high shareholder rights and positive excess cash are successful since they benefit from the advantages of holding more cash while they limit the overinvestment problem.

To conclude, this thesis encourages potential investors and current owners to be more aware of the incentives communicated by the combination of cash holdings and shareholder rights. Empirical evidence has been presented on how combinations of cash holdings and Governance Index affect the corporate performance in an M&A context, which is believed to be useful information to understand the market.

References

Bates, T.W., Kahle, K.M. & Stulz, R.M. 2009, "Why do US firms hold so much more cash than they used to?", *The journal of finance,* vol. 64, no. 5, pp. 1985-2021.

Baumol, W.J. 1952, "The transactions demand for cash: An inventory theoretic approach", *The Quarterly Journal of Economics,* , pp. 545-556.

Bechert, L. & Schwarz N. 2016, "The Effect of Excess Cash on M&A", *Master Thesis edn, Stockholm School of Economics,* uppsatser.se.

Dittmar, A. & Mahrt-Smith, J. 2007, "Corporate governance and the value of cash holdings", *Journal of Financial Economics,* vol. 83, no. 3, pp. 599-634.

Fama, E.F., Fisher, L., Jensen, M.C. & Roll, R. 1969, "The adjustment of stock prices to new information", *International economic review,* vol. 10, no. 1, pp. 1-21.

Foley, C.F., Hartzell, J.C., Titman, S. & Twite, G. 2007, "Why do firms hold so much cash? A tax-based explanation", *Journal of Financial Economics,* vol. 86, no. 3, pp. 579-607.

Fresard, L. 2010, "Financial strength and product market behavior: The real effects of corporate cash holdings", *The Journal of finance,* vol. 65, no. 3, pp. 1097-1122.

Gompers, P., Ishii, J. & Metrick, A. 2003, "Corporate governance and equity prices", *The quarterly journal of economics,* vol. 118, no. 1, pp. 107-156.

Harford, J. 1999, "Corporate cash reserves and acquisitions", *The Journal of Finance,* vol. 54, no. 6, pp. 1969-1997.

Jensen, M.C. 1986, "Agency costs of free cash flow, corporate finance, and takeovers", *The American Economic Review,* vol. 76, no. 2, pp. 323-329.

Lang, L.H., Stulz, R. & Walkling, R.A. 1991, "A test of the free cash flow hypothesis: The case of bidder returns", *Journal of Financial Economics,* vol. 29, no. 2, pp. 315-335.

Maloney, M.T., McCormick, R.E. & Mitchell, M.L. 1993, "Managerial Decision Making and Capital Structure", *The Journal of Business,* vol. 66, no. 2, pp. 189-217.

Metrick, A. 2009, *, Governance index data by firm* [Homepage of Yale School of Management], [Online]. Available: http://faculty.som.yale.edu/andrewmetrick/downloads/Governance.xls [2017, 04/17].

Miller, M.H. & Orr, D. 1966, "A Model of the Demand for Money by Firms", *The Quarterly journal of economics,* vol. 80, no. 3, pp. 413-435.

Myers, S.C. & Majluf, N.S. 1984, "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics,* vol. 13, no. 2, pp. 187-221.

Opler, T.C. & Titman, S. 1994, "Financial distress and corporate performance", *The Journal of Finance,* vol. 49, no. 3, pp. 1015-1040.

Opler, T., Pinkowitz, L., Stulz, R. & Williamson, R. 1999, "The determinants and implications of corporate cash holdings", *Journal of Financial Economics,* vol. 52, no. 1, pp. 3-46.

Pinkowitz, L., Stulz, R.M. & Williamson, R. 2013, "Is there a US high cash holdings puzzle after the financial crisis?", *Fisher College of Business Working Paper Series.*

The World Bank 2017, *Inflation, consumer prices (% annual)*, The World Bank, http://data.worldbank.org/indicator/FP.CPI.TOTL.ZG.

Travlos, N.G. 1987, "Corporate takeover bids, methods of payment, and bidding firms' stock returns", *The Journal of Finance,* vol. 42, no. 4, pp. 943-963.