



LUND UNIVERSITY
School of Economics and Management

Department of Business Administration

Spring 2014

BUSN89

Degree Project in Corporate and Financial Management - Master Level

Corporate cash holdings: An empirical study of ownership
identities on the Swedish market.

Authors

Erik Hedman

James Persson

Supervisor

Håkan Jankensgård

Acknowledgements

We would like to extend our gratitude to our supervisor Håkan Jankensgård. His comments and support have been very helpful during the work of this thesis.

We would also like to thank Sven-Ivan Sundqvist and Daniel Fristedt who gave us access to the database SIS Ägarservice. Without their help, this thesis would not have been executable.

Abstract

Title	Corporate cash holdings: An empirical study of ownership identities on the Swedish market
Course	BUSN89
Authors:	Erik Hedman and James Persson
Advisor:	Håkan Jankensgård
Keywords:	Cash holdings, Ownership identity, Controlling owner, Family owner, Insider owner, Institutional owner
Purpose:	The main purpose of this study is to investigate whether different ownership identities has any effect on the levels of cash amongst firms listed on the Stockholm Stock Exchange (SSE) main markets. The examined types of owners are family owners, insider owners and institutional owners.
Methodology:	A quantitative approach with the interpretation of the results from a panel data regression
Theoretical framework:	Agency Theory, Stewardship Theory, Theories related to the determinants of cash holdings, Theory of Ownership Identity
Empirical foundation:	A sample of 209 firms during the time period 2008-2013
Conclusions:	We come to the conclusion that different types of owners have an impact on the cash levels in firms listed on the SSE main markets. Through or regression models we found statistical significant evidence that family owners and insider owners affect corporate cash holdings. The observed relationship between family owners and cash holdings contradicts previous research; besides this the results were in line with previous findings. The relationship between institutionally owned firms and cash holdings are weaker, raising the question whether institutions are as active as they are supposed to be when it comes to monitoring and disciplining of management.

Table of Contents

1. Introduction	5
1.1 Background	5
1.2 Problem discussion	6
1.3. Purpose	7
1.4 Research question	8
1.5 Research contribution	8
2. Theoretical framework and empirical hypotheses	9
2.1 Agency Theory	9
2.2 Stewardship theory	10
2.3 Capital structure	12
2.3.1 Trade-off model	12
2.3.2 Pecking Order Theory	12
2.3.3 Jensen's Free Cash Flow Hypothesis	13
2.4 Ownership and Control in Sweden	14
2.5 Theory of ownership identity	16
2.5.1 Family ownership	16
2.5.2 Institutional ownership	17
2.5.3 Insider ownership	19
2.6 Summary of previous relevant studies	20
3. Methodology	23
3.1 Sample	23
3.2 Time frame	24
3.3 Data collection	24
3.4 Exclusions	25
3.5 Variables	25
3.5.1 Dependent variable	25
3.5.2 Explanatory variables	26
3.5.2.1 Family owner	26
3.5.2.2 Institutional owner	27
3.5.2.3 Insider owner	27
3.5.2.4 Summary of hypotheses for the explanatory variables	28
3.5.3 Control variables	28
3.5.3.1 Size	28
3.5.3.2 Leverage	29
3.5.3.3 Market-to-book	29
3.5.3.4 Profitability	30
3.5.3.5 Dividends	31
3.6 Econometric techniques	31
3.7 Regressions	32

3.8 Reliability and validity	33
3.8.1 Heteroscedasticity.....	33
3.8.2 Heterogeneity	33
3.8.3 Endogeneity.....	34
3.8.4 Multicollinearity	35
3.8.5 Normality.....	35
3.8.6 Exclusion of outliers	35
3.8.7 Limitations	36
4. Results	37
4.1 Descriptive statistics	37
4.2 Regression results.....	38
5. Analysis	41
6. Conclusions	46
7. References	49
Appendix 1: Excluded firms	55
Appendix 2: Definition of insider person.....	58
Appendix 3: Correlation matrix	59
Appendix 4: Normality test.....	60
Appendix 5: Redundant: Fixed Effects Tests	61
Appendix 6: Breusch-Pagan-Godfrey Test	62

1. Introduction

This chapter provides an introduction and background to the study and reports the thesis' problem discussion, purpose and research questions. Finally this chapter discusses this thesis' research contribution.

1.1 Background

According to an article published in Businessweek, S&P 500 companies held record amounts of cash and liquid investments on their balance sheets in 2013, representing a 50 % increase in just four years (Popelka, 2013). The fact that many companies have unproductive cash resources on their balance sheets irritates many investors and confuses researchers. The notorious American activist investor, Carl Icahn, has openly criticized Apple for holding too much cash and stated that the company's shareholder value would increase if the company distributed their excess cash among the shareholders (La Roche, 2014).

Corporate cash holdings have increased rapidly recent years, and it is not just a trend observed in US markets. Ferreira and Vilela (2004) have published an article on the European market, which found that, in 2000, companies held 15% of their total of assets in cash or cash equivalents.

According to an article published in Dagens Industri in 2014, several Swedish companies also hold large amounts of cash. The pattern observed on both the US and the European market is also present on the Swedish market. Family-owned H&M is one Swedish firm that tops the list of having cash on their balance sheet (Dagens Industri, 2014) and according to their annual report in 2012, 41% of their net total assets consisted of cash.

The existence and the size of corporate cash holdings have engaged both researchers and business experts for years. Jensen (1986) argues that excess cash holdings will be exploited by managers, spending the money according to their own interest if the excess cash is not transferred to the owners. Myers & Majluf (1984) argues that cash holdings provide a less expensive financing alternative than debt and equity, and therefore see cash holdings as something positive. In other words, theories regarding corporate cash holdings can be seen as a double-edged sword.

1.2 Problem discussion

If managers were left alone they would exploit and waste the corporation's resources. This is one of the main assumptions behind the agency theory and has been widely used to explain agency costs in the modern corporation (Jensen & Meckling, 1976). Dittmar & Smith (2007) found that cash and marketable securities to total assets, increased from 5 % in 1990 to 13 % in 2003 among large publicly traded firms in the US. To put things in a bigger perspective, the aggregated cash held by these firms corresponded to 10 % of the annual U.S. GDP in 2003.

Internal cash is the optimal way for managers to finance the daily operations. Internally generated cash is also a good alternative to external financing of projects since it is cheaper due to lower transaction costs. However, if the cash is used inappropriately it can actually reduce the firm value. There is a chance that self-serving managers spend the cash in an inefficient way and therefore one dollar of cash is not always worth one dollar (Dittmar & Smith, 2007). This is supported by the findings of Faulkender & Rong (2006) who found that the value of one dollar in cash often is worth less than one dollar since the value is reduced from the risk that opportunistic managers will use it inefficiently. For the average firm in their sample one dollar was worth \$0.94.

It is well known that the identity of a controlling shareholder has important implications for firm-specific policies and corporate governance. Different categories of owners have different objectives and incentives with their investments, and the level of commitment in the firm might differ between different owner groups (Thomsen & Pedersen, 2000). It is therefore fair to assume that the identity of a controlling owner might affect a firm's cash holding policy.

An attempt to investigate the relationship between the owner identity and firms cash holdings was made by Ozkan & Ozkan in 2004. They examined whether firms controlled by families vs. institutions had different attitudes towards cash holdings. They reasoned that the UK market had distinct corporate governance differences from other foreign markets, especially the US market, and that this ultimately could affect the cash holding policies of firms. According to the authors, the UK corporate sector is characterized by insufficient market discipline due to institutions being too passive in their monitoring duties. Therefore, they assumed that institutions had little influence on manager's attitudes towards cash holdings and their results confirmed this hypothesis. In contrast to institutions, there was a significant positive relationship between having a controlling family owner

and the cash holding policy of a firm. Their results clearly show that the identity of the controlling owner can affect the level of cash holdings.

Since cash holdings can lead to value deterioration if used irresponsibly this is an interesting topic to investigate. The fact that cash holdings often represent a big fraction of a firm's total asset base, and that managers have easy access to these internal funds makes this topic even more compelling. And since effective corporate governance is the shareholders defense against managers wasteful spending of cash, our choice of topic is highly relevant.

There is a broad consensus in the literature that high levels of excess cash can have a deteriorating effect on firm value. Still, we can observe a global pattern of increasing cash levels in firms, a trend that clearly indicates a problem for owners that want to maximize the value of their investments. The owners of a firm are the ones that ultimately can change this worrying pattern and it ought to be a priority for every controlling owner since it could increase the firm value and hence the value of their investments. Even though this ought to be a prioritized objective for every owner, we know that owners differ in terms of commitment in their investments. It is therefore interesting to investigate whether the identity of the ultimate owner affects the level of cash holdings in Swedish listed firms.

1.3. Purpose

The question whether cash holdings are beneficial or not for firm's shareholders is beyond the primary focus of this study. Instead, we aim to investigate whether there is any relationship between corporate cash holdings and the identity of controlling owners.

The purpose of this thesis is to investigate the relationship between ownership identities and corporate cash holdings on the Swedish stock market between the years 2009 and 2013. The examined identities include family owners, insider owners and institutional owners. Much research has been done on the determinants of corporate cash holdings (i.e. Opler et al. (1999); Harford et al. (2008); Ferreira & Vilela (2004)) but there is only a limited body of research focusing on ownership structure and its effect on cash levels (i.e. Ozkan & Ozkan (2004)).

Following previous research this study aims to investigate whether similar relationships can be observed for firms listed on the Swedish market. Instead of focusing on the general cash determinants, this study intends to analyze ownership variables and their relation to corporate cash holdings. The Swedish market place provides a unique and interesting governance setting with several family and institutionally owned firms with strong controlling owners (La Porta et al. (1999)). Our aim is to investigate whether this setting has any implications on corporate cash levels and if the results observed are in line with previous research (i.e. Ozkan and Ozkan (2004)).

1.4 Research question

To investigate the relationship and pattern between corporate cash holdings and ownership structure, the following research question is the focus of our study:

- Does the identity of the controlling shareholder impact the level of cash holdings in Swedish listed firms?

1.5 Research contribution

This study contributes to the literature in several aspects. Firstly, our access to the database SIS Ägarservice provides us with detailed information about the ownership structures in firms. The database also have a built-in function that allows us to group owners that are presumed to vote together into spheres, a detailed discussion regarding this follows in *3.5.2 Explanatory variables*. This feature gives us a more accurate picture of the ultimate owners in Swedish firms concerning the size of their total voting rights. As far as we are aware of, a similar method has not been used in previous research on this topic.

We also believe this to be the first study to investigate the relationship between ownership identity and corporate cash holdings amongst Swedish listed firms. Not only do we contribute with findings on the Swedish market, but we also investigate this topic on a non Anglo-Saxon market that might have implications for our results.

2. Theoretical framework and empirical hypotheses

This chapter includes theories relevant to our research topic as well as the results from previous empirical research. The thought is to give the reader a basic understanding of the theories underlying our research topic. The theories as well as the empirical research will later serve as a foundation to the hypotheses we make, as well as a framework to analyze our results from.

2.1 Agency Theory

Agency theory can be seen as the main paradigm underlying corporate governance and the research related to this topic. It has been widely used to address the separation between ownership and control, and how principals can incur losses given that the agents act in a manner that diverge from the principals interest. (Davis et al., 1997)

The foundation of agency theory is based on the assumptions about the human being and its behavior. Agency theory models the human being as a rational person whose main objective is to maximize his or hers personal utility (Jensen & Meckling, 1976). The rise of the modern corporation created a setting where ownership of wealth was separated from the control of it. Even though owners were reluctant to give up control of their wealth, new market conditions such as an increased capital needs, forced them to do so (Berle & Means, 1932). The implication of this is that the modern corporation often has several different owners, each with the intention to maximize the value of their investment in the firm (Davis et al., 1997).

Owners become principals as soon as they contract managers to run their firms for them. By contracting with the owners, the managers become an agent who is morally responsible for maximizing their principal's wealth. However, agents accept their position since they believe that they can maximize their own utility by doing so. Therefore, the modern corporation includes principals and agents, motivated by opportunities for their own personal benefits. This relationship is vulnerable to conflicting interests and that is the rationale behind the need of effective corporate governance systems. (Davis et al., 1997)

If both principals and agents share the same goals there is no agency problem. The problems appear when there is a divergence of interests between them. This leads to agency costs for the principals,

since given the opportunity of conflicting interests, agents will try to maximize their own utility on behalf of the principals. To reduce agency costs and to avoid situations where agents exploit their principals, internal control systems are designed to discipline the managers. (Davis et al., 1997)

Two internal control mechanisms that has been widely adopted in organizations are the use of corporate governance structures and specific compensation programs to top executives. According to agency theorists, compensation programs should be structured so that the executive is rewarded for performances related to shareholder interests, thereby aligning the objectives between principals and agents. A governance structure is another internal control mechanism aimed to make the agent act according to the best interest of their principals. Governance structure can be in the form of a board of directors, where the board members preferably do not have any ties to the management to ensure effective monitoring of the executives. If these internal control mechanism fail to curb managers, external market discipline will emerge, however this is a more expensive form of control. (Davis et al., 1997)

2.2 Stewardship theory

The main difference between agency theory and stewardship theory are the assumptions regarding managerial behavior in organizations. Even though agency theory appears to be a dominant paradigm in corporate governance the assumptions about self-serving behavior and individualistic utility maximization may not hold for all managers. Agency theory provides a good framework for addressing divergence between the principal and the agent but additional theory is needed to try to explain the factors that can cause alignment between the principal and the agents. (Davis et al., 1997)

Stewardship theory is based on the research of psychologists and sociologists and was designed in an attempt to examine different situations where managers as stewards act according to the best interests of their principals. The underlying assumption about mankind is that pro-organizational and collectivistic behavior has a stronger and more positive effect on a manager private utility than self-serving behavior. Given a situation where a manager can either choose between maximizing her own utility or choose the alternative that is in the best interest of the organization, the steward will choose the latter. Even in situations where the steward and the principal have different opinions about something, the steward rather cooperates than fights against the principal. The stewards

behavior can be considered rational, since she places a greater utility in cooperative behavior and act accordingly. (Davis et al., 1997)

The stewardship theory assumes a strong connection between the performance of the organization and the principal's satisfaction. In a setting with multiple shareholders, the steward's behavior and actions will be organizationally centered and in the best interest of the firm and of the group. Even though different shareholders may all have different objectives, it is fair to assume that they all wish to see a successful firm since it will maximize their wealth in the long run. Due to the pro-organizational assumptions about the steward; the needs of many competing shareholders can be satisfied. Stewards certainly have personal needs as well. For stewards, there is a trade-off between personal needs and organizational objectives and the stewards believe that their personal needs can be met given that they work hard and perform their duties according to the organizational objective. (Davis et al., 1997)

The main difference between agency theory and stewardship theory lies in psychological factors, such as the "model of man". Stewardship theorists argue that the agency framework where man is rooted in economic rationality is too simplistic, and instead propose for a more humanistic model of man. The view of different types of motivational factors is also different where stewardship theorists argue that managers are driven by intrinsic rewards such as opportunities for growth and achievement rather than extrinsic rewards such as tangible commodities that have a measurable value. Several other notable distinctions between stewardship theory and agency theory are identification with the organization, management philosophy and cultural aspects such as individualism vs. collectivism. (Davis et al., 1997)

Even though the agency theory remains as a paradigm for corporate governance and helps us understand the potential conflicts that can arise when ownership is separated from control, its underlying assumptions may not hold for all firms and managers. Organizational relationships are complex and the factors explaining managerial behavior are many. Therefore, an alternative approach to agency theory, such as the stewardship theory, is needed. (Davis et al., 1997)

2.3 Capital structure

The first generally accepted theory on capital structure was presented by Modigliani & Miller (1958), who stated that a firm's choice of capital structure is irrelevant. This was based upon the idea that a firm has a set of cash flows and debt and equity is only used to finance the assets needed to produce these cash flows. The proportions of debt and equity do therefore only divide the firm's cash flows among its investors. Hence, leverage does not affect the value of firms. (Modigliani & Miller, 1958)

Their paper led to both clarity and controversy. It was criticized due to the fact that it assumed perfect market conditions and thus ignored factors such as: tax, transaction costs, agency conflict, bankruptcy costs and adverse selection. Even if the theory has been questioned it is still embraced for providing a meaning for further research on capital structure. (Frank & Goyal, 2007)

When the assumption of perfect capital markets is relaxed, firm specific explanations towards corporate cash holdings arise and are explained in the following section. According to Ferreira and Vilela (2004) there are three primary theoretical frameworks that address the issue of which firm characteristics that influence the cash holding decisions amongst firms. These three models will be discussed below.

2.3.1 Trade-off model

The model is based on a trade-off between the benefits and costs of holding cash. It identifies three main benefits: firstly, cash reduces the risk of financial distress since it provides a safety reserve for unexpected costs or external financing restrictions. The second argument is that cash supplies a financing source enabling firms to pursue with investments in times when external funds are not available. Finally cash contributes to lowering firms' cost of capital since it is cheaper than raising external funds or liquidating other existing assets. These benefits are weighed against the alternative costs of holding cash, since liquid assets generate low rates of return. (Ferreira & Vilela, 2004)

2.3.2 Pecking Order Theory

Myers (1984) states that firms follow a pecking order when deciding which funds to use in the financing of investments. First off, firms prefer to finance projects with internal funds. Secondly, they will adjust their dividend levels, even if dividends tend to follow a sticky policy. Firms will

thereafter choose to sell liquid assets and finally use external capital as a last resort. If external financing is needed firms prefer debt, then hybrid securities such as convertibles and finally the issuance of equity. (Myers, 1984)

This order of financing comes from the theory of asymmetric information and that managers' objectives are to minimize the costs related to this. Managers have more knowledge on investment needs and the net present value of those investments. The managers are also assumed to act in favor of the firm's current owners and will therefore try to issue new shares at the highest possible price. Equity investors aware of this issue will demand a higher risk premium. This premium is consequently based on information asymmetry, which increases the costs of financing investments with new equity. This is the logic for companies preferring debt to equity. (Myers & Majluf, 1984)

2.3.3 Jensen's Free Cash Flow Hypothesis

Michael Jensen published a pioneering paper in 1986, analyzing the major agency conflicts tied to corporate cash holdings. He claimed that cash holdings create major agency conflicts between owners and managers and yet, it is an aspect that had received little attention. According to the agency theory managers are assumed to act according to their own interests in activities that maximizes their power and personal benefits. Thus, managers want to hoard as much of the free cash flows as possible and will always strive to keep their firms well capitalized. Jensen (1986) presents several crucial risks with this behavior.

Managers want to increase their power and will therefore engage in activities that build up substantial amounts of free cash flows (cash flows in excess after funding all projects with positive net present values). Since payouts to the company's shareholders reduce the resources under managers' control it also reduces their power. Besides increasing managers' power, large cash levels are also exposed to the risk of wasteful spending. Managers of well-capitalized firms tend to spend money on unprofitable investments in pursuit of building their own "empires". For the firms that have free cash flows agency costs arise due to the monitor needs of these managers. Corporate cash holdings also reduce the pressure on managers' performance. Simply, the requirements to perform tend to be low when firms already have substantial amounts of cash on their accounts. (Jensen, 1986)

Firms that finance their investments with internal funds do not have to approach the capital markets and provide them with detailed information about the firm. This increases the agency costs for the owners and is the underlying idea behind the argument that firms should pay out free cash flows to their owners and raise debt instead. Another argument for debt being an efficient way to monitor is that the promise to pay back debt is much stronger than the promise to pay back equity through dividends. Even if managers promise to pay out the free cash flows, they can still change the firm's dividend policies in the future. Debt however, is more restrictive and if a creditor does not receive the agreed upon payments she can take the firm into bankruptcy (Jensen 1986). Concluding, free cash flows carry high agency costs and increased monitoring from owners or debt holders force organizations to be more efficient and overcome managerial resistance.

2.4 Ownership and Control in Sweden

The Swedish corporate governance model is often described as a combination of the Continental European and the Anglo-Saxon systems. This unique setting has been surprisingly successful in generating many large internationally recognized companies. The market has a few strong commercial banks that are considered house banks for the large companies in line with many other Continental European countries. The banks have often held substantial blocks of shares in their clients firms. Another distinguishing feature is the presence of financial families with large blockholdings, i.e. the Wallenberg family that controls companies worth half the market value of the stock exchange. Yet, there are also similarities to the Anglo-Saxon setting. One example is that the Stockholm Stock Exchange is very liquid with both market capitalization and turnover per capita levels are among the highest in Europe. (Agnblad et al., 2002)

The mix of systems combined with strong separation of ownership and control should result in underdeveloped markets with companies in strong need of capital, and not a well working world-class equity market (Agnblad et. al, 2002). Hence, Sweden has been a puzzling case for many of the leading corporate governance researchers (such as La Porta et al., 1997, 1998, 1999).

The Swedish governance setting allows for concentrated ownership, and hence many listed companies can remain in the control of a strong owner for several generations. The legal systems allows both for pyramid holdings and dual-class shares, which allows family control over large

companies. Dual-class share is the strongest anti-takeover provision in Sweden. It enables shareholders to control a firm without owning a proportional stake of the capital. Both classes of shares have the same right to dividends but the voting rights are allowed to be 10 times higher for A-shares (up to 1000 times higher for shares issued in the past). (Agnblad et al., 2002)

Pyramidal ownership that enables a small group of investors to control majority stakes in one company, that in turn controls large stakes in several other companies, is allowed for in Sweden. The dual-share system is more widely used than pyramid holdings. This is a unique setting in an international perspective and La Porta et al. (1999) states that Sweden is one of only a few countries that allow both systems. An absolute majority of legal systems allow only one of the powerful ways to separate voting power and capital contribution. These arrangements undermine the minority shareholders protection and make them vulnerable to abuse, yet there are few examples of violation in the Swedish corporate governance history. (Agnblad et al., 2002)

One indication of a conflict between minority shareholders and controlling owners is the substantial discount (20-30%) on closed-end investment funds (such as Wallenberg's Investor or Handelsbanken's Industrivärden) over the fund's Net Asset Value (NAV). These funds have adopted a pyramid ownership structure and usually have a private controlling owner. Even though it's an indication of conflicts, it is still not an indication of poor minority protection since investors pay a fair price for the diluted ownership. The general explanation to why minority interests are not exploited is informal mechanisms such as the social status and reputation that comes with being a controlling owner. (Agnblad et al., 2002)

The Swedish governance system stands before several challenges in the future and the transition of ownership is already changing. Over the last decade there has been significant capital inflows from investors outside Sweden. The new, often anonymous institutional investors are less likely to share the values of long-termism and obey to the informal arrangements in the Swedish corporate governance system. Another threat associated with more globalized capital markets is the increased relative cost of raising equity for the large companies in Sweden, due to a larger risk premium required from international investors expecting the same one-share-one-vote system as they are used to. Changes have already been observed, and two examples are ABB and AstraZeneca who abandoned the dual-share system after a cross-border transaction. (Agnblad et al., 2002)

Agnblad et al. (2002) summed up sphere ownership to group owners with the same interests and therefore are presumed to vote aligned. The groups are then classified in different categories. Most important is that the companies in the Svenska Handelsbanken sphere are categorized as financial institutions and companies in the Wallenberg sphere are classified as family owned. This grouping does not have any clear definition and is based on a subjective evaluation, which makes the definition hard to compare internationally. Yet, the spheres play a very central role in Swedish corporate governance and should be accounted for.

2.5 Theory of ownership identity

It is well understood that the identity of a controlling shareowner has important implications for firm specific characteristics and corporate governance. Different types of owners have different objectives and incentives with their investments and the level of commitment in a firm might differ between different owner groups (Thomsen & Pedersen, 2000).

In this section we aim to present relevant theory related to different owner identities. Further we will look at previous research in order to finally conclude our hypotheses regarding the owners' effects on corporate cash holdings.

2.5.1 Family ownership

One important group of controlling owners is private individuals and families. Faccio and Lang (2002) found that out of 5232 Western European companies, 44% was family controlled. The number for Sweden is even higher, where 61% out of 304 examined firms were in the controlling hands of a private individual or a family (Agnblad et al., 2002).

Even though family controlled firms are very common in the modern corporate society, there is little theory and empirical research about the family's impact on firm specific characteristics (Schulze et al., 2001). Ozkan and Ozkan (2004) is one of the few studies that investigate the impact of controlling family owners on cash holdings. According to the authors, there is a much bigger chance that controlling family members get involved in the direct management of the firms, than in their non-family counterparts, e.g. institutionally owned firms. In turn, this will lead to higher agency

costs between the management of the firm and non-family shareholders. Following this setting, the monitoring ability of that specific firm may become worse and that will ultimately lead to higher cash holdings in family controlled firms.

Belenzon & Zarutskie (2012) investigated the relationship between family ownership and company performance and financing decisions. They find that many of the family owned companies maintain a conservative cash policy and often use retained earnings to fund investment opportunities. The family owned firms often have low operating costs and try to keep wage levels down. Following this, family owned companies have high cash holdings.

Following the theoretical framework and empirical research about a controlling family owners impact on cash holding, we have set up a hypothesis of a positive relationship between family ownership and cash holdings.

2.5.2 Institutional ownership

Ever since the restrictions concerning international ownership in Sweden was abolished in 1993, there has been a significant capital inflow to the Swedish stock markets. The international investors are primarily institutions that have challenged the Swedish control structures, such as the dual-class shares system. Their criticism indicates an appetite for increased voting rights so that they can take an active role in monitoring the firms. (Jakobsson & Wiberg, 2014)

Institutional investors are those that primarily focus on capital investments as their general operating activities. They differ much from individual owners as they usually manage large pools of someone else's capital and use it to make large investments in several different corporations. Because of these large investments, they should have strong incentives to spend more time and resources on monitoring these corporations (Grinstein & Michaely, 2005). It is often argued that the interests of the institutional owners coincide with those of the minority owners. The institutional investors tend to emphasize the importance of value maximization and that this value ought to be shared equally amongst all shareholders of a firm. This is of great importance in countries with low levels of minority protection. (Jakobsson & Wiberg, 2014).

Another dimension that distinguishes institutions from other owners are regulations (Grinstein & Michaely, 2005). As Nachemson-Ekwall (2012) points out, Swedish institutions have to adjust to internal rules regarding accountability as well as rules that reflect financial theory such as efficient portfolio management. As a result they often follow a passive index strategy, which is cheaper and less risky than an active fund management strategy. It is also common that institutions buy services from external advisors concerning recommendations and information (Jakobson & Wiberg, 2014). Swedish institutions also have to account for external regulations regarding their influence of the management in each and every company they have an ownership stake in. There are rules regarding the size of the holdings in a company, i.e. some institutions have a limit of how much they can own in a single company, often somewhere between 5 to 10 %. The legislator's idea behind the regulations was to minimize the risk of collective funds having the decisive power in a company (Nachemson-Ekwall, 2012).

When it comes to the relationship between institutional ownership and cash holdings, the theory suggests that there should be a negative relationship between institutional ownership and cash holdings. From an agency theory perspective, enhanced monitoring leads to firms paying out more of the free cash flow to their owners instead of keeping it within the firm (Jensen, 1986). However, this implies that the institutions have superior monitoring abilities and take an active role in monitoring and disciplining firms' management (Ozkan & Ozkan, 2004).

Despite the setting in Sweden, with rules limiting the Swedish institutions influence in firms' and their own internal passive investment strategies, we believe that the institutions take an active role in monitoring and disciplining the management in firms' to avoid situations where managers follow a self-serving behavior, and hoard cash for their own good. We also believe that the increased institutional ownership from abroad have a disciplining effect on firm's management. The legal use of pyramidal holdings and dual-class shares have allowed for closed-end investment funds, such as Industrivärden, to remain the controlling owner of several firms and one can therefore assume that these institutions have had a significant impact on firm decisions. This leads up to our hypothesis that there should be a negative relationship between controlling institutions and corporate cash holdings.

2.5.3 Insider ownership

There has been a lot of research conducted on firms owned by its employees and the impacts it has on the capital structure. Jensen & Meckling's article from 1976 has a central role in the governance literature and they argue that managers do not work towards optimal capital structures. Instead managers tend to entrench themselves against as much external monitoring as possible. They will therefore try to keep leverage low, which is also beneficial for the managers since it reduces the financial risk of the firm. Entrenched managers also dislike paying out cash to the owners since it dismantles their power and gives them less possibilities to spend money on investments and activities in their own interest. (Berger et al., 1997)

Managerial entrenchment towards external sources of capital increases when managers have had their positions for a long time and when their compensation is not related to the company's performance. (Berger et al., 1997) Increased equity compensation and management ownership is said to mitigate this problem and align the manager's agenda with the shareholders. (Jensen, 1986)

Research has shown that the relationship between managerial ownership and levels of cash holdings is non-monotonic. For firms with low managerial ownership there is a negative relationship with cash holdings. Increased managerial ownership decreases the firms' cash holdings. Managers seem to pile less cash when they own more of the company, and thus equity compensation can mitigate the issues related to free-cash flows. (Ozkan & Ozkan, 2004)

At higher levels of managerial ownership the relationship is observed to be the opposite, or in other words a positive relationship. For managers that already hold a substantial part of the firm, an increase of their ownership leads to higher cash levels and Ozkan & Ozkan (2004) found that corporate cash holdings rise when managers have an ownership stake in the span of 24% to 64%. The owning managers then get direct control of the firm as the gap between separation and control tightens, increasing the manager's capability to resist external monitoring by the other shareholders. This entrenchment effect ought to give higher capital levels when managers own a larger block of the company if the total level of their ownership makes them the largest stakeholder. In this way they can keep the cash in the firm and control it according to their own interests without risking being replaced by the board. (Ozkan & Ozkan, 2004)

Insider ownership is a broader definition than managerial ownership and includes members of the board etc. The definition is chosen for this study since it is a central definition on the Swedish market and can also be theoretically backed. The purpose of Finansinspektionen's register of insider persons and their ownership is to prevent the abuse of insider information, or in other words prevent the abuse based on information asymmetry between people within the company and the external owners and other stakeholders. Since the people in the register are considered to have more information than the rest of the owners (asymmetric information) the discussion of manager agendas and entrenchment is also relevant for the slightly broader definition, insider ownership.

One can argue that ownership among insiders aligns the interests of shareholders and insiders and eliminates the principal-agent problem. As insider ownership increases, the ability for outsiders to monitor decreases. This would lead to more managerial entrenchment and managers would then try to hold more cash to pursue with private interests and benefits, leading to a positive relationship between insider ownership and corporate cash holdings.

When managers, board members or other insiders also own a large stake of the company the agency costs of holding cash within the firm are expected to be smaller. This argument in combination with the arguments presented by Ozkan & Ozkan (2004) and the fact that our report measures the effect of having an insider as the largest shareholder gives us a hypothesis of a positive relationship between insider ownership and cash holdings.

2.6 Summary of previous relevant studies

“Corporate cash holdings: An empirical investigation of UK companies”

Ozkan & Ozkan (2004) conducted their study on a sample of UK firms between 1984 - 1999. Besides focusing on empirical determinants of cash holdings, they also investigated the relationship between the controlling owner's identity and the cash level of the firms. The UK market differs from i.e. the US market in terms of governance settings and this might have implications on the firms' cash levels. They argue that a controlling family owner is more likely to take part in the direct management of a firm, and that these firms might have a different policy towards cash holdings than their non-family owned counterparts. Furthermore, they stated that family owned corporations

would have higher levels of cash and that institutionally owned firms would hold less cash due to more effective monitoring exerted by the financial institutions.

The authors also investigated the relationship between managerial ownership and cash holdings. They argue that the size of the managerial ownership can have different implications for a firm's cash holding policy. For small levels of managerial ownership they expect to see a negative effect on cash levels, illustrating the incentive-alignment effect of managerial ownership. However, after reaching a certain level of managerial ownership the pattern should be the reverse, i.e. reflecting the entrenchment effect of managerial ownership.

The results found in the study partly reflect that corporate governance has implications on firms' cash levels. Having a controlling family owner has a significant and positive impact on firms' cash levels. The relationship between institutional ownership and firms' cash holding was not significant. According to the authors, this can be explained by passive and inefficient monitoring by the financial institutions in the UK. The results also suggest that the relationship between managerial ownership and cash levels is non-monotonic. Up to a certain level of managerial ownership (24 %) cash levels fall. Then the pattern is reversed, illustrating a rise in cash holdings up to 64 % of managerial ownership. Furthermore, the authors found that cash flows and growth opportunities had a significant and positive impact on cash holdings, whilst leverage and bank debt had a negative and significant effect on firms' cash levels.

“Why Do Firms Hold Cash? Evidence from EMU Countries”

Ferreira & Vilela (2004) investigated the determinants behind cash holdings of firms in EMU countries. Besides focusing on the general determinants of cash holdings they investigated the governance settings effect on cash levels in a variety of different countries. By studying several EMU countries the authors were able to capture the variations in legal systems, ownership structure etc. that could have important implications on a firm's cash holding policy.

The sample consisted of publicly traded firms in EMU-countries and the time frame stretched from 1987 to 2000. The descriptive statistics shows that the average firm held 14,8% of their total assets in cash and cash equivalents. However, the mean cash ratio for different countries stretched from

21,9% to 8,9% and the authors argue that this has to do with differences in patterns of corporate governance and capital markets characteristics amongst the investigated countries.

To test for the effect of corporate governance on cash holdings the authors adopted a framework developed by La Porta et al. in 1998. This framework included dimensions such as ownership concentration, rule of law and creditor rights and can be used to analyze the minority investor protection in different countries. Ferreira & Vilela (2004) therefore ran a regression including these dimensions and found that firms in countries characterized by better investor protection held less cash on their balance sheet.

Furthermore, their findings concerning determinants of cash holdings were in line with Opler et al., (1999) and Ozkan & Ozkan (2004). Size and leverage were negatively related to cash holdings, whilst market-to-book or investment opportunities had a positive effect.

“The determinants and implications of corporate cash holdings”

Opler et al. (1999) studied public listed US firms between 1971-1994 and concluded that firms with strong growth, high business risk and smaller size hold more cash in comparison to other firms. Smaller firms do not have the same access to capital markets as large firms and do therefore tend to stack more cash and highly levered firm usually have lower cash levels. However the author couldn't find evidence for the agency theory regarding the managerial entrenchment hypothesis as an explanation for corporate cash holdings.

3. Methodology

This chapter aims to outline the methodological approach used in this thesis. The purpose of this chapter is to provide an insight of how we have collected the data, defined our variables and how we have used this data in our econometric techniques. The chapter also provides a discussion of reliability and validity.

Since we want to study the relationship between corporate cash holdings and firm-specific ownership structure a quantitative approach is strongly preferred instead of a qualitative method. Previous research that is relevant for this study (e.g. Opler et al., 1999 and Ozkan & Ozkan, 2004) has all used a quantitative approach for the subject. A quantitative approach have several benefits since it allows for us to perform statistical tests and run regressions in order to detect relationships between the dependent variable and the chosen explanatory variables.

We will conduct regressions on panel data, and this structure is preferred as it allows us to investigate and analyze the relationship between the variables both from a cross-sectional and a time dimension. This means that we can examine the determinants of corporate cash holdings in several cross-sections, in our case firms and simultaneously over several years.

3.1 Sample

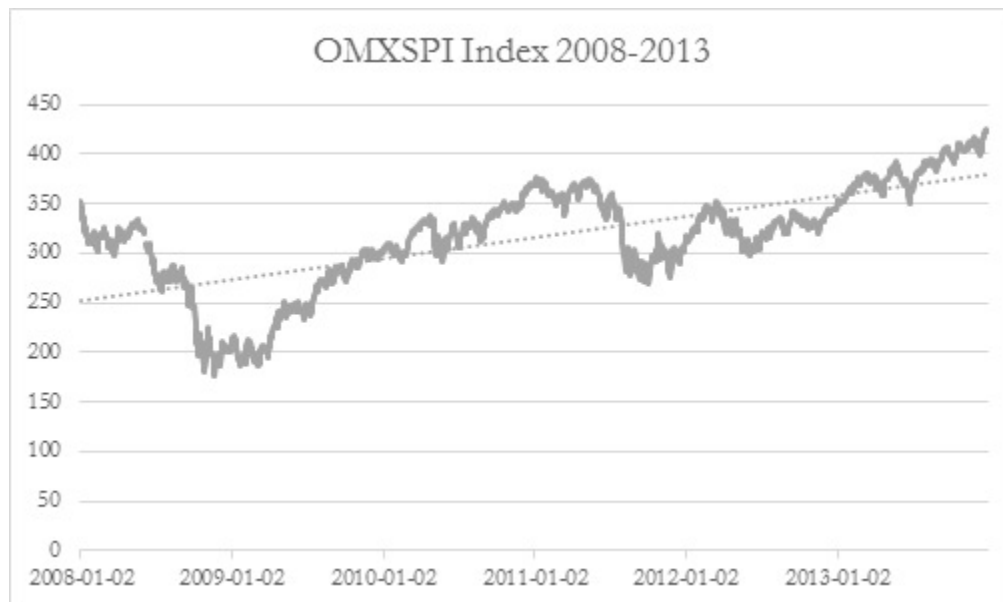
Our sample consists of firms listed on the Stockholm Stock Exchange (SSE) main markets NASDAQ OMXS Large-, Mid- and Small Cap as of 2014-04-15. The firms listed on the SSE main markets comply with the highest standards of financial reporting, accountability and transparency (NASDAQ OMX, 2014).

As of 2014-04-15, the SSE main market lists include a total of 256 firms: 65 firms on Large Cap, 80 firms on Mid Cap and 111 firms on Small Cap. After excluding certain firms based on our criteria set up in *3.4 Exclusions* we end up with a sample of 209 firms.

3.2 Time frame

The chosen time frame stretches from 2008 to 2013. We have chosen this time frame since it reflects a period with increasing returns on the SSE main markets. During this time period many listed firms have reported record profits and thus it should have an impact on the firm's cash holdings.

The following chart illustrates the return on the SSE main markets between 2008 and 2013. The chart shows a positive trend, indicating well-performing firms and investor optimism.



Source: Nasdaq OMX Nordic (2014)

3.3 Data collection

By contacting the Chief Executive Officer and the Chairman of the Swedish Database SIS Ägarservice, we managed to gain access to their database during a limited period of time. From this database we have been able to gather detailed information about the ownership structure in our sample firms. To gather firm specific financial data, Thompson Reuters Datastream has been accessed. Both databases are considered as highly reliable and thus applicable to use in this study.

3.4 Exclusions

Harford et al. (2008) excludes all firms with SIC codes ranging from 6000 to 6999 in their data sample. Firms classified with these SIC-codes primarily operate in the fields of finance, insurance and real estate. Firms whose primary operations consist of the construction of buildings for sale are not included in this category (SIC Directory, 2014).

Following previous research (e.g. Opler et al., 1999; Ozkan & Ozkan, 2004 and Harford et al., 2008) all financial firms are excluded from the sample. Firms classified as real estate and insurance companies are also excluded from the data sample. The reason for this is that these firms either have statutory capital requirements or that they use special accounting methods that affects the financial ratios and the comparability amongst firms. Ozkan & Ozkan (2004) also excludes all firm-year observations where they observe non-positive sales. We also adopt this criteria but we cannot observe any firm-year observation with negative sales.

The industry classifications are retrieved from SIS Ägarservice and the excluded firms are shown in *Appendix 1*.

3.5 Variables

3.5.1 Dependent variable

A dependent variable depends on other factors, and is at the center of measurement during a test (Brooks, 2008). Since this study aims to investigate how ownership structure affects corporate cash holdings, the dependent variable is corporate cash holdings. We have used the same method as previous studies (i.e. Ferreira and Vilela, 2004) and defined cash holdings as the ratio of cash and cash equivalents to total assets less cash and cash equivalents.

$$CASH_TA = \text{Cash and cash equivalents} / (\text{Total book value of assets} - \text{cash and cash equivalents})$$

Some would argue that taking the natural logarithm of this ratio would reduce the skewness of the variable. However, since we do not want to artificially improve our data we have chosen to proceed with the dependent variable in its current form, which is supported by using an identical method as Ferreira & Vilela (2004).

3.5.2 Explanatory variables

The explanatory (independent) variables are used to explain the behavior of the dependent variable (Brooks, 2008). The variables measure the owners voting rights. We have chosen to measure voting rights instead of capital rights, since the purpose with this study is to investigate whether the ultimate owner affects the cash levels of firms through their controlling position. The explanatory variables that measure ownership identity are collected from the database SIS Ägarservice. The database allows us to group owners in spheres to get a more accurate picture of the ownership structure in Swedish firms. The spheres consist of legally independent owners tied together by a constellation of formal and informal mechanisms (Fristedt & Sundqvist, 2009). The concept is widely used for the Swedish market and is considered very reliable (Agnblad et al., 2002). We collected the ownership stakes for 2013-12-31.

The method of only measuring ownership at one point in time is consistent with several previous studies. La Porta et al. (1999) investigated corporate ownership around the world by examining the ultimate controlling shareholders of large corporations in 27 countries. Their ownership data was a mix collected for several different years, and their method justified:

“Since ownership patterns tend to be relatively stable, the fact that the ownership data do not all come from the same year is not a big problem.” (La Porta et al., 1999, pp. 475)

Ozkan & Ozkan (2004) measured corporate cash holding of publicly traded UK firms from 1984 to 1999 but obtained data regarding ownership only for 1997 and motivated this with:

“Given that equity ownership structure of firms in a country is relatively stable over a certain period of time, we do not expect that measuring ownership characteristics in a single year would yield a significant bias in our results.”
(Ozkan & Ozkan, 1999, pp. 2119)

3.5.2.1 Family owner

Following the definition of Agnblad et al. (2002) all firms whose ultimate owner either is a single individual or a person/group of persons belonging to a controlling family are considered family owned corporations. SIS Ägarservice allows us to add together all owners belonging to a certain family or a group of interests. The thought is that these owners vote in the same direction. After

doing this to our data sample, the percentage of voting rights ownership change for some firms while it remains the same for other firms. We then construct a variable that takes on the value corresponding to the controlling family owners voting rights in the firms that are controlled by families and zero otherwise.

$$\textit{Family} = \% \textit{ of total outstanding voting rights owned by the controlling family/ individual}$$

3.5.2.2 Institutional owner

Harford et al. (2008) measure institutional shareholdings as the percentage of shares held by institutions. We have classified institutions according to Hedlund's (1985) definition of institutional owners as: investment firms, insurance companies, foundations/trusts, pension funds, societies/associations and other firms that invest in companies as part of their main operations. As for other ownership variables we are interesting in the ultimate owner of the firms and therefore only include those institutional investors that are controlling owners. The variable is constructed so that it takes on the value corresponding to the controlling institution's voting rights in the firms controlled by institutions and zero otherwise.

$$\textit{Institution} = \% \textit{ of total outstanding voting rights owned by the controlling institution}$$

3.5.2.3 Insider owner

Insiders are persons that due to their position have access to insider information about the firm. The definition follows the criteria set up by the Swedish regulatory authority Finansinspektionen, see *Appendix 2*. SIS Ägarservice follows Finansinspektionen's (2014) definition of a person with an insider position and the database allows us to get information about the insiders voting rights in each and every firm specifically. If an insider belongs to a controlling family owner or a group of owners with the same interest, it is thought of as the insider having the same voting rights as the controlling owner. The variable is then constructed so that it takes on the value corresponding to the insiders voting rights in the presence of an insider and zero otherwise.

$$\textit{Insider} = \% \textit{ of total outstanding voting rights owned by the controlling insider}$$

3.5.2.4 Summary of hypotheses for the explanatory variables

For a detailed discussion on the explanatory variables the readers are referred to section 2.3 *Theory of ownership identity*. The thought behind this section is to provide a brief summary of the expected relationship between the dependent variable and the explanatory variables:

H1: Ceteris paribus, there is a positive relationship between family ownership and corporate cash holdings

H2: Ceteris paribus, there is a negative relationship between institutional ownership and corporate cash holdings

H3: Ceteris paribus, there is a positive relationship between insider ownership and corporate cash holdings

3.5.3 Control variables

Control variables are used to test the relative impact of the explanatory variables (Brooks, 2008). We will use control variables as independent firm specific variables that have explained corporate cash holdings in several previous studies (e.g. Opler et al., 1999). The control variables are used to make the study more reliable and accurate. The control variables used in this study are: size, leverage, market-to-book, profitability and dividends. They will be presented in this section followed by their expected relationships to cash holdings.

3.5.3.1 Size

Myers and Majluf (1984) argue that asymmetric information determines the firm's sensitivity to external financing. Larger firms have lower cost of capital suggesting that they suffer from less information asymmetry than small firms (e.g. Whited, 1992 and Kim et al., 1998). Large firms have a greater accessibility to external capital markets, increasing their possibilities to raise external financing (Opler et al., 1999). This brings us to the conclusion that larger firms are assumed to hold relatively smaller amounts of cash than small-sized firms, and we therefore expect a negative relationship between firm size and cash holdings.

Firm size is measured as the natural logarithm of net sales or revenues, represented by gross sales and other operating income minus discounts, returns and allowances.

$$Size = \text{Natural logarithm of net sales}$$

3.5.3.2 Leverage

In line with The Pecking Order theory firms prefer using internally generated cash instead of financing investments with debt (Myers, 1984). This indicates a negative relationship between leverage and cash holdings. Highly levered firms would have less cash in their accounts, due to the logic that they spend their cash prior taking on debt.

Another argument for a negative relationship between leverage and cash holdings is presented by John (1993), who states that leverage is a substitute for holding cash. Firm that are debt financed have proven to easier take on further debt, making leverage a proxy for the firms ability to raise debt.

After taking the arguments in consideration we expect leverage to have a negative relationship to cash holdings. This is in line with previous research i.e. Ozkan & Ozkan (2004), even if one can argue that leverage increases the risk of financial distress, which can be compensated by holdings cash.

As in Opler et al. (1999) leverage is measured as the ratio of total debt to total assets. Total debt includes all interest bearing short and long-term debt and capitalized lease obligations.

$$Leverage = \text{Total debt} / \text{Total assets}$$

3.5.3.3 Market-to-book

Myers and Majluf (1984) argue that asymmetric information determines the firm's sensitivity to external financing. For firms whose value is determined by it's growth opportunities the asymmetric information is presumed to be large, since it is hard for external creditors and investors to value these opportunities. This may lead to firms passing on good investment opportunities if they are poorly capitalized, which indicates that these firms have to finance their investments to a greater extent with internal sources (cash) than others.

Since those firms' value is based on opportunities, the underlying value driver is very intangible and volatile in its nature. This increases the firms' costs for bankruptcy and financial distress. (Williamson, 1988; Harris & Raviv, 1990; Shleifer & Vishny, 1992) To compensate for the increased risk and to avoid distress these firms need to hold more cash. (Ozkan & Ozkan, 2004)

This report measures growth opportunities as market to book, following Ozkan & Ozkan's (2004) method, which found that market to book has a significantly negative relationship with cash holdings. Following the previous argumentation that firms with large growth opportunities suffer from high asymmetric information and are more exposed to financial distress, they are presumed to hold higher cash levels. We therefore expect a positive relationship between market-to-book and cash holdings.

The market-to-book ratio is measured as the total book value assets minus total shareholder equity plus the market value of equity (share price multiplied by outstanding shares) divided by the total book value of assets (Opler et al., 1999).

$$Mkt_Book = \frac{Total\ assets - total\ shareholder\ equity + market\ value\ of\ equity}{total\ assets}$$

3.5.3.4 Profitability

Profitable firms can easily finance their investments with internal funds (Dittmar et. al, 2003). Firms that generate positive cash flows from their operations are less dependent on storing large cash reserves on their balance sheets, which indicates a negative relationship to cash holdings. This relationship is also in line with Myers and Majluf's (1984) argument that asymmetric information determines a firm's sensitivity to external financing. Operating profits from the firm's operations is easy for external financiers and investors to value, which increases their possibilities to raise external financing. Profitable firms should therefore have smaller needs to hold cash, since they easily can raise external funds to finance their investments.

Profitability is measured as earnings before interest, taxes, depreciation and amortization (EBITDA) to net sales.

$$\textit{Profitability} = \textit{EBITDA} / \textit{net sales}$$

3.5.3.5 Dividends

Opler et al. (1999) argue that firms that pay dividends can hold less cash since they can cut dividends to raise financing. This makes them less dependent of external capital markets. The dividend dummy variable is included in this study since it has shown to explain cash holdings in previous studies, i.e. Opler et al (1999). We expect a negative relationship between firms that pay dividends and cash holdings and this is in line with the hypothesis in previous studies (e.g. Opler et al., (1999) and Ozkan & Ozkan (2004)).

Dividend is a dummy variable that takes on the value of 1 for every firm-year observation where that firm paid a dividend to their shareholders. The variable takes on the value of 0 for every firm-year observation where that firm did not pay any dividends to their shareholders. We also assume that the firms did not pay any dividends for all the firm-year observations where we have missing observations.

$$DV_Div = 1 \textit{ if the firm paid dividends, otherwise } 0$$

3.6 Econometric techniques

In order to empirically examine the research questions of this study several multiple regressions will be conducted, examined and analyzed. A multiple regression is used in order to analyze the relationship between a dependent variable (y) and a set of independent variables (x). This is conducted in an effort to explain the relationship between the dependent and independent variables. (Wooldridge, 2009)

The data set in this study consists of both cross-sectional and time-series data. The firms in the sample can be observed as different cross section units, whereas the time-series refers to the time period between 2008-2013. Due to the nature of the data, it constitutes as panel data.

In order to investigate the relationship between the dependent and the independent variables in this study, the method of Ordinary Least Squares (OLS) will be used. The OLS-method is widely used in regression analysis and the software program E-Views will be used for the regressions in this study.

3.7 Regressions

In order to increase the validity of our model, we ran several regressions to ensure that the results are robust using. The first regression model includes the dependent variable and the explanatory variables, excluding the control variables.

Model 1:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \varepsilon_{it}$$

The control variables were then added one by one to examine their impact on the regression results. The following regression models were estimated:

Model 2:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \varepsilon_{it}$$

Model 3:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \beta_{5t} Leverage_{it} + \varepsilon_{it}$$

Model 4:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \beta_{5t} Leverage_{it} + \beta_{6t} Market/Book_{it} + \varepsilon_{it}$$

Model 5:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \beta_{5t} Leverage_{it} + \beta_{6t} Market/Book_{it} + \beta_{7t} Profitability_{it} + \varepsilon_{it}$$

Model 6:

$$Cash/TA_{it} = \alpha + \beta_{1t} Family_{it} + \beta_{2t} Insider_{it} + \beta_{3t} Institution_{it} + \beta_{4t} Size_{it} + \beta_{5t} Leverage_{it} + \beta_{6t} Market/Book_{it} + \beta_{7t} Profitability_{it} + \beta_{8t} Dividend_{it} + e_{it}$$

Model 6 is the final model, including all variables in this study.

3.8 Reliability and validity

Reliability is of great importance for a study of this character. Reliability essentially means that the results are replicable given the same data (Bryman & Bell, 2005). A possible reliability problem is the usage of secondary data, since we cannot control for the quality of the data. Datastream and SIS Ägarservice, where the data is gathered from, are considered as trustworthy sources and thus the problems with reliability are modest.

Validity is another subject of great importance. Shortly it can be explained as something that is adequate and legitimate, and that the variables used in the study rightfully measures what's ought to be measured (Bryman & Bell, 2005). Since the variables are chosen in accordance to previous research it can be concluded that this study has high validity.

Our econometric method follows previous reliable studies where OLS regressions have been used (e.g. Opler et al., 1999 and Ozkan & Ozkan, 2004). We have also performed several robustness tests to ensure that the regression model is reliable, and a detailed discussion about our model and the assumptions underlying it are followed below.

3.8.1 Heteroscedasticity

Heteroscedasticity occurs when the residuals are correlated with the explanatory variables. Since E-views does not have a built in function for testing panel data for heteroscedasticity we conducted a manual Breusch-Pagan test for the explanatory variables. (Brooks, 2008) The manual test was done by using the squared residuals ($RESID^2$) as the dependent variable and running a regression with all explanatory variables. The p-value on the F-test was 0, meaning that the independent variables had no effects on the squared residuals. The test is thereby significant and heteroskedasticity is detected (see *Appendix 6*). Since our regressions have problems with heteroscedasticity it means that we need to use robust standard errors in our models, which has been done using White's robust standard errors for all regression models.

3.8.2 Heterogeneity

Since the standard pooled regression assumes constant intercepts and coefficients, it also assumes that there is no correlation between the residuals in either the cross-sectional units (firms) or in the

time period dimension (years). This means that it does not account for heterogeneity, which could be a problem when using a large panel data set. (Brooks, 2008)

The most common and simplest way to deal with this problem is to use a fixed effects model, allowing the intercept to differ across cross-section and time. An alternative to the fixed effects model is to use a random effects model, which is a similar model but with the difference that the intercepts for each unit is assumed to emerge from a common intercept (α) and are adjusted by a random variable (ϵ). (Brooks, 2008)

To see whether we need to use any effects we conducted a Redundant Fixed Effects Test. Due to our dependent variable taking on the same values for every year it is not possible for us to use the fixed nor the random effects in the cross-section dimension and we can thus only test whether the effects are needed in the period dimension. The F-stat of the tests is found in *Appendix 5* and shows that the null-hypothesis of no heterogeneity is accepted and no effects are needed for the time dimension.

3.8.3 Endogeneity

Endogeneity occurs when the explanatory variables are correlated with the error terms. This essentially means that changes in the dependent variable can explain the changes in the explanatory variables, and not the other way around (Wooldridge, 2009)

There is a chance that corporate cash holdings can explain the ownership structure of the examined firms. To control for the endogeneity problem other econometric techniques can be used, such as two-stage least squares (2SLS). The validity of 2SLS is highly dependent on finding exogenous variables which can be used as instrumental variables. However, Harford et al. (2008) states that prior research provides little insights to which variables that are applicable.

Following this reasoning and the fact that previous research (Harford et al., 2008) suggests that corporate governance is more likely to explain corporate cash holdings than the other way around, we will proceed with the OLS regressions in its current form.

3.8.4 Multicollinearity

Multicollinearity appears when the independent variables are correlated with each other. The problem arises when using several independent variables in multiple regression. The correlation between the explanatory variables will be non-zero, but the problem occurs when they are very highly correlated. (Brooks, 2008)

The method for measuring multicollinearity is looking at a matrix of correlations between the individual explanatory variables. If the correlation coefficient is higher than 0,8, then multicollinearity is a problem. (Gujarati, 2002) In our correlation matrix in *Appendix 3*, we observe that no correlation coefficient exceeds 0,8 and thus, we do not have any problems with collinearity between the independent variables.

3.8.5 Normality

To test for normality in our model we have conducted a normality test, which can be found in *Appendix 4*. Non-normality is often caused by a number of observations that represent extreme values. These observations are called outliers and can often lead to a rejection of the normality assumption. How we will deal with outliers follows in section 3.7.2.6 *Exclusion of outliers*. After dealing with outliers, some tests still reject the null hypothesis of normally distributed residuals. For a large sample size however, violating the normality assumption is inconsequential (Brooks, 2008).

3.8.6 Exclusion of outliers

Outliers are extreme observations that deviate from the pattern of the remainder of the data sample. Extreme observations are normal to encounter when doing financial modeling (Brooks, 2008). We have chosen to trim the dependent variable and the control variables at the first percentile in both tails. The same procedure is used by Opler et al. (1999). By doing this the observations become more normally distributed and the results easier to interpret. Trimming of the variables have been conducted in the econometric software package E-Views.

3.8.7 Limitations

We have still chosen to proceed with panel data even if there is a risk that the regression could suffer from heterogeneity in the cross-section dimension, since it can't be tested due to the time invariance in ownership structures. The use of panel data makes it possible to get a better understanding of the complex task to explain the determinants of corporate cash holdings, hence our choice of method. The use of panel data also allows us to examine the variables relationship to each other and the interesting dynamical change in them over time. By only conducting the regression on one year instead of using panel data would not give us more accurate results and would especially increase the risk of biased results since the one year observations could differ a lot from the previous and following years.

4. Results

In the following chapter the results from the regressions are presented. The chapter begins with descriptive statistics followed by the results from the six regression models.

4.1 Descriptive statistics

	Cash/TA	Leverage	Size	Mkt_Book	Profitability	Dividends	Family	Insider	Institution
Mean	0,13	0,22	14,84	1,48	0,08	0,66	23,39	13,21	3,12
Median	0,08	0,20	14,64	1,24	0,10	1,00	22,40	0,00	0,00
Maximum	3,34	0,63	19,24	7,78	0,67	1,00	84,90	84,90	43,00
Minimum	0,00	0,00	10,25	0,51	-5,07	0,00	0,00	0,00	0,00
Std, Dev,	0,21	0,14	1,94	0,84	0,28	0,47	23,23	22,46	7,98
Skewness	7,71	0,39	0,14	2,93	-9,56	-0,68	0,63	1,56	3,10
Kurtosis	93,19	2,36	2,52	16,34	150,24	1,46	2,39	4,16	12,97
Observations	888	888	888	888	888	888	888	888	888

The descriptive statistics shows that the average firm hold 13% of their net assets in cash and cash equivalents. This result is slightly higher than in Ozkan and Ozkan (2004) who found that the mean cash ratio amongst their sample was 9,9%. Our results are somewhat closer to the findings of Ferreira and Vilela (2004) who found that the average company in their sample held 14,8% of their total net assets in cash and cash equivalents.

Furthermore, we can see that a few of the explanatory- and control variables also differ in terms of maximum and minimum values. This supports the use of fixed effects in the regressions and a further discussion concerning this can be found in section 3.7.2.2 *Heterogeneity*.

4.2 Regression results

Model: Dependent variable:	Predicted sign	Model 1 Cash/TA	Model 2 Cash/TA	Model 3 Cash/TA	Model 4 Cash/TA	Model 5 Cash/TA	Model 6 Cash/TA
C		0.300304 (0.0000)***	1.138769 (0.0000)***	0.572395 (0.0000)***	0.384006 (0.0000)***	0.301072 (0.0000)***	0.266553 (0.0000)***
FAMILY	+	-0.004148 (0.0000)***	-0.002128 (0.0000)***	-0.001024 (0.0072)***	-0.001018 (0.0076)***	-0.000978 (0.0066)***	-0.000887 (0.0132)**
INSIDER	+	0.001930 (0.0000)***	0.000218 (0.6057)	3.75E-05 (0.8764)	0.000365 (0.1571)	0.000546 (0.0499)**	0.000637 (0.0216)**
INSTITUTION	-	-0.003844 (0.0000)***	-0.001676 (0.1448)	-0.001029 (0.2021)	-0.001132 (0.1097)	-0.001146 (0.0968)*	-0.001129 (0.0947)*
SIZE	-		-0.060616 (0.0000)***	-0.025277 (0.0000)***	-0.021636 (0.0000)***	-0.014622 (0.0007)***	-0.011270 (0.0052)***
LEVERAGE	-			-0.158187 (0.0347)**	-0.081896 (0.3233)	-0.113783 (0.1346)	-0.119509 (0.1154)
MKT_BOOK	+				0.074613 (0.0000)***	0.071013 (0.0001)***	0.072698 (0.0001)***
PROFITABILITY	-					-0.158850 (0.0544)*	-0.153725 (0.0605)*
DIVIDENDS	-						-0.030663 (0.0125)**
Observations:		888	888	888	888	888	888
R-squared:		0.030176	0.130171	0.083768	0.173001	0.200072	0.203537
Prob(F-statistic)		0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
F-statistic:		12.45641	43.06209	17.15160	31.44837	31.44274	28.07867

***, ** and * indicate coefficient is significant at the 1%, 5% and 10% level, respectively.

The first regression included only the independent ownership variables. This regression had a coefficient of determination (R^2) of 3,02%, meaning that the ownership variables describes 3,02% of the differences in cash levels amongst firms listed on the SSE main markets.

The results from the first regression show that family ownership and institutional ownership are significant with a negative coefficient. This means that firms controlled by larger family and institutional owners have less cash in their firms. Insider ownership also had a statistically significant influence on cash holdings with a positive coefficient. This means that the larger the controlling insider owner is, the more cash was held in the companies.

In the second regression the control variable size was added in an attempt to increase the explanatory power of the model. The R^2 was now 13,01%, substantially higher than in the first regression. This increase was expected since the control variables ought to influence the results and are used primarily due to this reason. Size was significant and showed that larger firms hold a smaller proportion of their net assets in cash. In this regression family ownership was the only significant ownership variable and demonstrated the same relationship as in the first regression. The remaining variables: institution and insider were not significant.

In the third regression leverage was added and was significant with a negative coefficient. This means that higher leverage results in lower cash levels in firms. Apart from this, the results were in line with the second regression, but the family coefficient was smaller indicating that family ownership has a smaller impact on cash holdings.

In the fourth and the fifth regression, market-to-book and profitability were added as control variables. In both regressions the control variables except leverage were significant and the expected relationships were observed. The independent variables showed the same relationships as in the previous regressions. Family ownership remained significant in regression four and five, whilst insider ownership and institutional ownership only were significant in regression five.

In the final regression model we added the dividend dummy variable as a control. This variable was significant with a negative relationship, which is in line with our hypothesis that payouts decrease cash holdings. Family- and insider owner were significant at 5%-level whilst institutional owners only were significant at the 10%-level. Leverage was now almost significant with a p-value of 11% and had a negative impact on cash holdings. The remaining controls (size, market-to-book and profitability) were significant and the observed relationships were in line with the previous regressions and our expectations.

In the final model including all independent and control variables the coefficient of determination (R^2) was 20,4%. This means that our model can explain 20,4% of the deviations in cash holdings. This result is in line with several previous studies such as Ozkan & Ozkan (2004). The relationships for the examined variables remained throughout the regressions, but some of the coefficients demonstrated a volatile significance pattern. The coefficients of the explanatory variables were small and tended to decrease in size as we added the control variables. This indicates that the explanatory variables affect cash holdings, but to a limited extent.

5. Analysis

The following table summarizes the expected and observed relationships in regression model 6. It shows whether the variables are significant or not and if the observed relationships were in line with our hypotheses. As we can see, some relationships are different from what we expected, and this in combination with the significance levels will serve as a foundation for our analysis.

Variable	Significant on the 5 %-level	Expected relationship	Observed relationship
1. Family	✓	Positive	Negative
2. Insider	✓	Positive	Positive
3. Institution	✗	Negative	Insignificant
4. Size	✓	Negative	Negative
5. Leverage	✗	Negative	Insignificant
6. Mkt_Book	✓	Positive	Positive
7. Profitability	✗	Negative	Insignificant
8. Dividends	✓	Negative	Negative

The results show that besides the family variable, the significant variables are in line with our expectations. In a closer examination we can observe that insider ownership had a positive relation to cash holdings and that institutional ownership was insignificant. Three of the examined control variables were significant at the 5%-level with relationships in line with previous research. This indicates that our model is robust and that at least a few of the financial ratios that have proven to influence cash flows on foreign markets, also holds in a Swedish context. Market-to-book, which measures growth opportunities has a positive relationship to cash holdings. This result, together with the variable size that indicates that larger firm with better access to capital market hold less cash are in line with the findings of Opler et al., (1999). Since a deeper analysis of the control variables is beyond the scope of this study, they will not be further analyzed. For a further discussion on the control variables, the readers are referred to Opler et al. (1999) and Ozkan & Ozkan (2004).

The findings concerning the family variable are interesting in several aspects. First off, the variable is significant indicating that controlling family owners have an impact on corporate cash holdings. Secondly, the relationship between family ownership and cash holdings is negative, something that contradicts previous research and our hypothesis.

So what could explain this relationship? The Swedish governance setting is interesting in many ways, with several controlling family owners that have retained their positions through decades. One example is the Wallenberg family that controls several large corporations on the SSE main markets. One can argue that families such as the Wallenberg family not necessarily fits in to the general definition of family owners, since they according to Agnblad et al. (2002) controls firms in many different industries, that at the time of their study was worth nearly half of the SSE market value. We can therefore presume that they manage their investments as professional portfolio managers in a more institutional way rather than behaving as the typical family owner passing on the family business to their children from generation to generation. Besides the Wallenberg family, there are several other financial families controlling a substantial value on the SSE main markets. Presumably, they also control their firms in a more institutional way, focusing on monitoring and disciplining of management, hence resulting in lower cash holdings.

We also know that informal mechanisms play an important role in the Swedish governance setting. Even though arrangements such as pyramidal holdings and dual class shares are allowed, we seldom see any cases of minority abuse. Social status and reputation is of great importance to the controlling family owners and thus it would be hard to justify policies that ultimately could lead to value destruction of their firms. Since many family owners have been in business for a long time, one can argue that they have a long-term perspective aiming to please all the stakeholders instead of themselves only. One way of securing the future well being of their firms is to reduce the cash available for self-serving managers and that could be another explanation to the observed relationship.

Ozkan & Ozkan (2004) argued that it is common for family controlled firms to have family members in the management team. It is fair to assume that the connections between owners and management are closer in these cases, and that they share the same agenda of maximizing the value of the firm. This indicates that the stewardship theory is better suited to explain the managerial behavior for family owned companies. This would imply that managers prioritize the well being of the organization, rather than maximizing their own utility. And since research have shown that holding too much cash can be detrimental to firm value, high cash levels would not be in line with the steward's objectives. This reasoning would imply that family owned firms managed by stewards

would have lower levels of cash holdings. Based on this reasoning our results are in line with the theory.

Our results show that insider ownership has a statistically significant positive relationship to Swedish firm's cash holdings. Previous studies have mainly focused on managerial ownership and have found the same relationship, but our results show that the relationship also holds for insider ownership, which is a slightly broader definition.

One possible explanation to our results is the entrenchment effect. The underlying concept of the entrenchment effect is that managers and other insiders entrench themselves to external players in order to maximize their own utility. This is exercised by taking decisions and carrying out actions aiming to minimize outsiders' control of the firm. The entrenchment could lead to higher cash levels within the firm since the insiders have ultimate control over the decision power through their existence in management and the board. Insiders differ from other ownership identities, since they by nature have closer connections to the firms. Due to inside information, the entrenchment effect of knowing what is best for the firm, and not wanting outsiders to get control, could increase the willingness to store the firm's cash internally. By doing this, the exposure to external monitoring is decreased.

Insider entrenchment towards other shareholders could be another explanation to higher cash holdings. The categorization of ultimate owners is based on voting rights and not capital rights since we aim to examine the identity of the owner that has the controlling position. The Swedish dual-class share system, further explained in chapter 2.2.1 *Ownership and Control in Sweden*, becomes very important when analyzing the positive relationship between insider ownership and cash holdings. Since many Swedish firms have dual-class shares that separate voting rights from capital rights, the insiders largely control the firms' capital as long as it stays within the firm. The decision to pay out the firms' cash holdings is taken on the annual meeting, where the shareholders power is determined by their voting rights. If the largest shareholder is an insider that has larger voting rights than capital rights due to dual-class shares, she has strong incentives to vote against dividends. By paying out the cash, she would get a smaller proportion of the cash since her shares entitles her to more votes, rather than capital rights. If the insider owner instead exercises her power to keep the cash within

the firm, the insiders can control the cash. This gives the insider owner incentives to keep the cash within the firm, yielding higher cash holdings.

Ozkan & Ozkan (2004) found that the relationship between cash holdings and managerial ownership is non-monotonic. Up to a certain level of managerial ownership cash holdings decrease, whilst increasing at a higher level of managerial ownership. Although it would be interesting to investigate whether a similar pattern holds on the Swedish market, our method does not allow us to measure the effect of different ownership thresholds. Despite this, the general picture is that increased managerial ownership leads to higher levels of corporate cash holdings. This should ultimately lead to lower agency costs between managers and shareholders since their interests are aligned. Our results for insider ownership are therefore in line with our hypothesis, previous research and can be supported by corporate governance theory.

The results from the institutional variable are insignificant at the 5%-level and are in line with the findings of Ozkan & Ozkan (2004). The variable is significant at the 10%-level which indicates that institutional owners have some effect on corporate cash holdings, albeit a bit weaker than the other ownership variables. The coefficient is negative which indicates that larger institutional owners have a negative effect on cash holdings.

The substantial capital inflow from international institutions to the Swedish stock markets has put pressure on the Swedish corporate governance setting. Agnblad et al. (2002) states that international institutional investors are pressuring the system, which indicates that institutions desire more control in the firms they are investing in. This indicates that the international capital inflows could have led to increased monitoring of firms, resulting in decreased cash holdings, which in turn would support our negative relationship.

The observed weak relationship can be analyzed in several dimensions. Since there is competition for customers amongst the institutions, the institution that offers the lowest administrative fees will probably attract the most customers. However, low administrative fees ultimately implies less resources to monitor firms they have invested in, and that can be one explanation to our results. We can also observe a trend where several institutions rely on external expertise and buy services and recommendations. This has led to institutions slimming their organizations and taking a less active

role themselves in the governance of the firms they have invested in. We also know that the regulatory setting in Sweden has a limiting effect on how much influence some institutions can practice. This could explain the weak relationship between institutional owners and corporate cash holdings.

The discussion above analyzes the results observed in regression model 6. In the first regression model we only included the explanatory variables. They were all significant but the coefficient of determination was low, indicating that the variables explained little of the variation in cash holdings. The results were expected: ownership identity alone should not fully explain the levels of cash in Swedish firms.

We therefore included control variables one at the time in order to optimize the fit of the model. Through all regressions, the family variable was significant and showed the same relationship to cash holdings. However, including control variables clearly affected the significance of the other two explanatory variables: insider- and institutional ownership. One can therefore question their impact on cash holdings and if the observed relationship is strong enough to base conclusions on.

6. Conclusions

The question we wanted to answer in our thesis was whether the identity of the examined controlling owners had an impact on the cash levels in firms listed on the SSE main markets. We examined three main ownership identities: family, insiders and institutions and arrived at the following conclusions.

Through our regression models we found statistical significant evidence that family owners and insider owners affects corporate cash holdings. We also found that some of the empirical determinants of cash holdings hold in a Swedish context.

The family ownership variable was significant in all the regression models. This indicates that controlling family owners have an impact on corporate cash holdings, which is in line with previous research. Our observed relationship contradicts the findings in Ozkan & Ozkan (2004), which we motivate with a unique governance setting in Sweden, where financial families in Sweden can be seen as professional portfolio managers. Through their controlling position they take on an active role in reducing the cash levels available to potentially self-serving managers.

The results from the insider ownership variable suggest that an increased level of insider ownership leads to higher cash holdings in firms. This indicates that insiders entrench themselves against other shareholders and external capital markets. By building cash reserves internally, they increase their independence from external monitoring and control. Insider ownership also aligns the interests between principal and agents and one can therefore assume that the agency costs of holding cash is low for these firms.

Our findings of a weak negative relationship between institutional owners and cash holdings indicates that institutions have some effect on cash holdings and that they exercise some form of monitoring to mitigate managerial wasteful spending. Although the relationship is still weak, which is in line with Ozkan & Ozkan's (2004) results. In their study the relationship was fully insignificant, which was explained by institutions in the UK being too passive and not utilizing their control rights to reduce cash levels. Our results show that the institutions on the Swedish market to some extent impacts corporate cash holdings, unlike the UK market, but simultaneously not as much as we had expected. Our study in combination with the results of Ozkan & Ozkan (2004) clearly raises

questions whether institutions really are good at monitoring? The empirical research on the European market questions whether they take on an active role to put pressure on the firms to hold less cash.

Finally this study shows that ownership identities have an impact on cash holdings for firms on the SSE main markets. Although it is suitable to consider how big impact they actually have. In the first regression model that consisted of only ownership variables, the coefficient of determination was very low and a general analysis on the coefficient values in our regression models tells us that ownership has a small impact on cash holdings. The significance of the explanatory variables did also show a volatile pattern through the different regression models, which indicates that the coefficients are so close to zero that it makes them difficult to statistically secure. With this in consideration, our results are still interesting in several aspects. The purpose of this paper was to answer the question: *Does the identity of the controlling shareholder impact the level of cash holdings in Swedish listed firms?* The answer is clear; ownership identity does have an impact, even if we conclude that the impact is limited. Our research paper is unique and the first of its kind. The general results of our model show that the ownership identity has an impact on Swedish firms' cash holdings, which contributes to the current research and knowledge on the determinants of cash holdings. The results bring insight and opens fruitful boulevards for further empirical research.

6.1 Further research

After completing this thesis we can conclude that we managed to bring important insight regarding the influence of ownership identity on corporate cash holdings. Despite our conclusion, several thoughts on further research have arisen in hindsight regarding the classifications of the explanatory variables. We believe that the generally accepted and previously examined categorizations of family and institutions are not optimal for the Swedish market. Instead of grouping all individual and family owners as one category, we suggest dividing them into several categories. There are several large families on the Swedish market (e.g. the Wallenberg family) that we believe control their firms in a different manner than other family business owners. It would therefore be interesting to examine the financial families and their relationships to cash holdings individually and see how they differ from firms where the founder family owns the firm.

Similar arguments apply to the institutional investors. Dividing them into additional categories would be interesting and might give more significant results. We believe that mutual funds following a passive index strategy might not act in the same way as closed-end funds such as Industrivärden.

Further a larger sample does always give more generalizable results. By extending the time period and examining the listed firms with other variables in other models could contribute to explaining the determinants of corporate cash holdings on the Swedish market. Our study focuses on the ownership aspect of corporate governance and its effects. Future research can build upon our findings and include other governance variables in an attempt to clarify the picture of corporate cash holdings.

7. References

Articles

Belenzon, S., & Zarutskie, R. 2012, 'Married to the Firm? Family Ownership, Performance, and Financing in Private Firms', *Duke University*.

Berger, P, Ofek, E, & Yermack, D 1997, 'Managerial Entrenchment and Capital Structure Decisions', *Journal Of Finance*, 52, 4, pp. 1411-1438

Davis, J, Schoorman, F, & Donaldson, L 1997, 'Toward a Stewardship Theory of Management', *Academy Of Management Review*, 22, 1, pp. 20-47

Dittmar, A, Mahrt-Smith, J, & Servaes, H 2003, 'International Corporate Governance and Corporate Cash Holdings', *Journal Of Financial & Quantitative Analysis*, 38, 1, pp. 111-133,

Dittmar, A, & Mahrt-Smith, J 2007, 'Corporate governance and the value of cash holdings', *Journal Of Financial Economics*, 83, 3, pp. 599-634

Driffield, N, Mahambare, V, & Pal, S 2007, 'How Does Ownership Structure Affect Capital Structure and Firm Value? Recent Evidence from East Asia', *Economics Of Transition*, 15, 3, pp. 535-573

Faccio, M, & Lang, L 2002, 'The ultimate ownership of Western European corporations', *Journal Of Financial Economics*, 65, 3, pp. 365-395

Faulkender M, & Rong, W 2006, 'Corporate Financial Policy and the Value of Cash', *Journal Of Finance*, 61, 4, pp. 1957-1990

Ferreira, M, & Vilela, A 2004, 'Why Do Firms Hold Cash? Evidence from EMU Countries', *European Financial Management*, 10, 2, pp. 295-319

Frank, M, & Goyal, V 2007, 'Chapter 12: Trade-Off and Pecking Order Theories of Debt', *Handbook Of Empirical Corporate Finance SET*, pp. 135-202

Grinstein, Y, & Michaely, R 2005, 'Institutional Holdings and Payout Policy', *The Journal Of Finance*, 3, p. 1389

Harford, J, Mansi, S, & Maxwell, W 2008, 'Corporate Governance and Firm Cash Holdings in the US', *Journal Of Financial Economics*, 87, 3, pp. 535-555

Harris, M., Raviv, A., 1990. Capital structure and the informational role of debt. *Journal of Finance* 45, 321–349.

Jensen, M 1986, 'Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers', *American Economic Review*, 76, 2, p. 323

Jensen, M 1993, 'The Modern Industrial Revolution, Exit, and the Failure of Internal Control Systems', *Journal Of Finance*, 48, 3, pp. 831-880

Jensen, M., Meckling, W., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure, *Journal of Financial Economics* 3, 305–360.

John, TA 1993, 'Accounting Measures of Corporate Liquidity, Leverage, and Costs of Financial Distress', *FM: The Journal Of The Financial Management Association*, 22, 3, pp. 91-100

Kim, C.-S., Mauer, D.C., Sherman, A.E., 1998. The determinants of corporate liquidity: Theory and evidence. *Journal of Financial and Quantitative Analysis* 33, 335–359.

La Porta, R, Lopez-de-Silanes, F, Vishny, R 1997, 'Legal Determinants of External Finance', *Journal of Finance*, 52: 1131–50

La Porta, R, Lopez-de-Silanes, F, Vishny, R 1998, 'Law and Finance', *Journal of Political Economy*, 106: 1113–55.

La Porta, R, Lopez-de-Silanes, F, & Shleifer, A 1999, 'Corporate Ownership Around the World', *Journal Of Finance*, 54, 2, pp. 471-517

Modigliani, F, Miller, M 1958, 'The Cost Of Capital, Corporation finance and the Theory of Investment' , *American Economic Review*, 48, 3, p. 261

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* 13, 187–221.

Myers, S. C. 1984. 'The Capital Structure Puzzle.', *Journal of Finance*, 39, 575-592.

Opler, T, Pinkowitz, L, Stulz, R, & Williamson, R 1999, 'The determinants and implications of corporate cash holdings', *Journal Of Financial Economics*, 52, 1, pp. 3-46

Ozkan, A, & Ozkan, N 2004, 'Corporate cash holdings: An empirical investigation of UK companies', *Journal Of Banking & Finance*, 28, 9, pp. 2103-2134

Schulze, W, Lubatkin, M, Dino, R, & Buchholtz, A 2001, 'Agency Relationships in Family Firms: Theory and Evidence', *Organization Science*, 12, 2, pp. 99-116

Shleifer, A., Vishny, R.W., 1992. Liquidation values and debt capacity: A market equilibrium approach. *Journal of Finance* 47, 1343–1366.

Thomsen, S, & Pedersen, T 2000, 'Ownership structure and economic performance in the largest European companies', *Strategic Management Journal*, 21, 6, p. 689

Whited, T., 1992. Debt, liquidity constraints, and corporate investment: Evidence from panel data. *Journal of Finance* 47, 1425–1460.

Williamson, O., 1988. Corporate finance and corporate governance. *Journal of Finance* 43, 567–591.

Books

Agnblad, J, Berglöf, E, Höglfeldt, P, & Svancar, H 2002, *Ownership And Control In Sweden: Strong Owners, Weak Minorities, And Social Control*, Oxford University Press

Berle, A, & Means, G 1932, *The Modern Corporation And Private Property* / By Adolf A. Berle, Jr. And Gardiner C. Means, New York : Macmillan

Brooks, C 2008, *Introductory Econometrics For Finance*, Cambridge: Cambridge University Press

Bryman, A. & Bell, E. 2005. 'Företagsekonomiska forskningsmetoder', Malmö, Liber Ekonomi.

Fristedt, D. & Sundqvist, S-I. 2009, 'Ägarna och Makten, Stockholm' SIS Ägarservice AB.

Gujarati, DN 2002, *Basic Econometrics* / Damodar N. Gujarati,; Boston : McGrawHill

Hedlund, G. (red.) (1985). 'Institutioner som aktieägare: förvaltare? industrialister? klippare?', Stockholm: Näringsliv & Samhälle (SN&S).

Wooldridge, JM 2009, *Introductory Econometrics : A Modern Approach* / Jeffrey M. Wooldridge, n.p.: Mason, OH : South Western, Cengage Learning, cop. 2009

Databases

SIS Ägarservice, 2014. SIS Ägarservice AB

Thomson Datastream Advance 5.0, 2014. Thomson Financial Ltd.

Other references

H&M, 2012. *Annual Report 2012*, Stockholm: H&M

Websites

Finansinspektionen, 2014, 'Persons with an insider position', <<http://www.fi.se/Folder-EN/Startpage/Regulations/Market-information/Insider-position/Relevant-persons/>>

[Accessed 10 May 2014]

Dagens Industri, 2014. 'Bolagen med fetaste kassan'. Available at:
<<http://www.di.se/artiklar/2014/2/12/bolagen-med-fetaste-kassan/>> [Accessed 18 April 2014].

Jakobsson, U., Wiberg, D., Svenskt Näringsliv, 2014. 'Vem ska styra de svenska företagen?' Stockholm. Available at:
<http://www.svensktnaringsliv.se/migration_catalog/Rapporter_och_opinionsmaterial/Rapporter/vem-ska-styra-de-svenska-foretpdf_587827.html/binary/Vem%20ska%20styra%20de%20svenska%20f%C3%B6ret.pdf>
[Accessed 16 May 2014]

La Roche, J., 2014. Business Insider: 'Carl Icahn Gives Up On Apple Buyback Plan'. Business Insider Online. Available at:
<<http://www.businessinsider.com/carl-icahn-gives-up-on-apple-buyback-2014-2>> [Accessed 18 April 2014]

Nachemson-Ekwall, S., Svenskt Näringsliv, 2012. 'Institutionella investerares förmåga att utöva ägarkontroll.' Stockholm. Available at:
<[http://www.svensktnaringsliv.se/migration_catalog/Rapporter_och_opinionsmaterial/Rapporters/33641_institutionella-investerare_webb-2pdf_532433.html/binary/33641_Institutionella%20investerare_webb%20\(2\).pdf](http://www.svensktnaringsliv.se/migration_catalog/Rapporter_och_opinionsmaterial/Rapporters/33641_institutionella-investerare_webb-2pdf_532433.html/binary/33641_Institutionella%20investerare_webb%20(2).pdf)>
[Accessed 16 May 2014]

NASDAQ OMX Nordic, 2014 'Historical prices OXSPI'. Available at:
<http://www.nasdaqomxnordic.com/index/historiska_kurser?Instrument=SE0000744195&InstrumentName=OMX%20Stockholm_PI>
[Accessed 16 May 2014]

NASDAQ OMX Nordic, 2014 'Primary Listing on NASDAQ OMX in Europe', Available at:
<<http://www.nasdaqomx.com/listing/europe/primarylisting>> [Accessed 15 May 2014]

SIC Directory, 2014. Available at:
<<http://siccode.com/en/siccodes/60-67/finance-insurance-real-estate>> [Accessed 10 May 2014]

Popelka, L., 2013. BloombergBusinessweek: 'Too Much Cash Isn't Good for Apple'. Bloomberg Online. Available at:

<<http://www.businessweek.com/articles/2013-02-26/too-much-cash-isnt-good-for-apple>>

[Accessed 3 May 2014]

Appendix 1: Excluded firms

Company	Industry	List
Atrium Ljungberg	Real Estate	Large Cap
Avanza Bank Holding	Financial Services	Mid Cap
Balder	Real Estate	Mid Cap
Bure Equity	Financial Services	Mid Cap
Castellum	Real Estate	Large Cap
Catena	Real Estate	Mid Cap
Corem Property Group	Real Estate	Mid Cap
Creades	Financial Services	Mid Cap
Diös Fastigheter	Real Estate	Mid Cap
East Capital Explorer	Financial Industries	Mid Cap
Fabege	Real Estate	Large Cap
Fast Partner	Real Estate	Mid Cap
Havsfrun	Financial Services	Small Cap
Heba	Real Estate	Mid Cap
Hemfosa Fastigheter	Real Estate	Mid Cap
Hufvudstaden	Real Estate	Large Cap
Industrivärden	Financial Services	Large Cap
Intrum Justitia	Financial Services	Large Cap

Investor	Financial Services	Large Cap
JM	Real Estate	Large Cap
Kinnevik	Financial Services	Large Cap
Kungsleden	Real Estate	Mid Cap
Klövern	Real Estate	Mid Cap
Latour	Financial Services	Large Cap
Lundbergs	Financial Services	Large Cap
Melker Schörling	Financial Services	Large Cap
Midway Holding	Financial Services	Small Cap
NAXS Nordic Acces Buyout Fund	Financial Services	Small Cap
Nordea Bank	Banks	Large Cap
Nordnet	Financial Services	Mid Cap
Novestra	Financial Services	Small Cap
Platzer Fastigheter Holding	Real Estate	Mid Cap
Ratos	Financial Services	Large Cap
Sagax	Real Estate	Mid Cap
SEB	Banks	Large Cap
SHB	Banks	Large Cap
Svolder	Financial Services	Small Cap
Swedbank	Banks	Large Cap

Traction	Financial Services	Small Cap
Tribona	Real Estate	Mid Cap
Victoria Park	Real Estate	Mid Cap
Vostok Nafta Investment Ltd	Financial Services	Mid Cap
Wallenstam	Real Estate	Large Cap
Wihlborgs	Real Estate	Mid Cap
Öresund	Financial Services	Mid Cap

Appendix 2: Definition of insider person.

Persons with an insider position

Persons with an insider position who **through their position in the company** are considered to very likely have access to insider information about the company. The following persons have an insider position:

- a **member** or **alternate member** of the company's or its parent company's board of directors
- a **managing director** or **deputy managing director** of the company or its parent company
- an **auditor** or **deputy auditor** of the company or its parent company
- a **partner** in a partnership that is the company's parent company, though not a limited partner
- a holder of an **other senior executive post** or **qualified function** of a permanent nature at the company or its parent company, if the post or function can normally be considered to have access to non-public information on circumstances that may affect the company's share price
- a **holder of a senior executive post** or a **service provider** in accordance with points 1-3 and 5 above **in a subsidiary** if they may normally be considered to have access to non-public information which may affect the company's share price
- **larger shareholders** who themselves, together with one or more natural or legal persons in concert or through a company, own at least ten per cent of the share capital or number of votes for all shares in the company

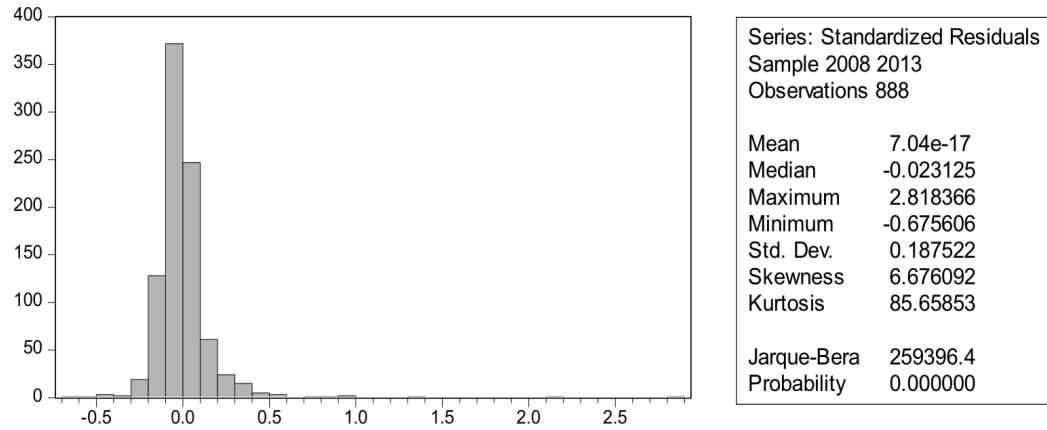
Source: Finansinspektionen, 2014-05-10

Appendix 3: Correlation matrix

Correlation	Cash/TA	Leverage	Size	Mkt_Book	Profitability	Dividends	Family	Insider	Institution
Cash/TA	1.00								
Leverage	-0.15	1.00							
Size	-0.24	0.20	1.00						
Mkt_Book	0.32	-0.16	-0.07	1.00					
Profitability	-0.26	-0.04	0.28	-0.04	1.00				
Dividends	-0.16	0.02	0.43	0.05	0.24	1.00			
Family	-0.08	0.06	-0.03	-0.07	0.05	0.22	1.00		
Insider	-0.01	-0.03	-0.17	-0.07	0.04	0.16	0.71	1.00	
Institution	-0.03	-0.07	0.10	-0.01	0.00	-0.03	-0.39	-0.23	1.00

Appendix 4: Normality test

Normality test for regression model 6



Appendix 5: Redundant: Fixed Effects Tests

Redundant Fixed Effects Tests

Equation: EQ_ALL

Test period fixed effects

Effects Test	Statistic	d.f.	Prob.
Period F	0.398452	(5,874)	0.8501
Period Chi-square	2.021867	5	0.8461

Period fixed effects test equation:

Dependent Variable: CASH_TA_TRM

Method: Panel Least Squares

Date: 05/22/14 Time: 16:58

Sample: 2008 2013

Periods included: 6

Cross-sections included: 186

Total panel (unbalanced) observations: 888

White diagonal standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.266553	0.053370	4.994444	0.0000
LEVERAGE_TRM	-0.119509	0.075839	-1.575835	0.1154
LN_SALES_TRM	-0.011270	0.004022	-2.802345	0.0052
MKT_BOOK_TRM	0.072698	0.018088	4.019070	0.0001
PROFITABILITY_TRM	-0.153725	0.081790	-1.879496	0.0605
DV_DIV	-0.030663	0.012246	-2.503916	0.0125
FAMILY	-0.000887	0.000357	-2.482445	0.0132
INSIDER	0.000637	0.000277	2.300755	0.0216
INSTITUTION	-0.001129	0.000675	-1.672687	0.0947
R-squared	0.203537	Mean dependent var		0.132869
Adjusted R-squared	0.196288	S.D. dependent var		0.210121
S.E. of regression	0.188373	Akaike info criterion		-0.490701
Sum squared resid	31.19080	Schwarz criterion		-0.442164
Log likelihood	226.8714	Hannan-Quinn criter.		-0.472148
F-statistic	28.07867	Durbin-Watson stat		0.772251
Prob(F-statistic)	0.000000			

Appendix 6: Breusch-Pagan-Godfrey Test

Dependent Variable: RESIDSQUARED
 Method: Panel Least Squares
 Date: 05/22/14 Time: 17:03
 Sample: 2008 2013
 Periods included: 6
 Cross-sections included: 186
 Total panel (unbalanced) observations: 888

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.076443	0.093323	0.819128	0.4129
LEVERAGE_TRM	0.194616	0.075640	2.572922	0.0102
LN_SALES_TRM	-0.008540	0.006505	-1.312747	0.1896
MKT_BOOK_TRM	0.065752	0.012583	5.225517	0.0000
PROFITABILITY_TRM	-0.240777	0.039091	-6.159442	0.0000
DV_DIV	-0.023218	0.025668	-0.904548	0.3660
FAMILY	-0.000915	0.000687	-1.332441	0.1831
INSIDER	0.000339	0.000680	0.499049	0.6179
INSTITUTION	-0.001252	0.001431	-0.874896	0.3819
R-squared	0.098901	Mean dependent var		0.035125
Adjusted R-squared	0.090700	S.D. dependent var		0.323365
S.E. of regression	0.308352	Akaike info criterion		0.494935
Sum squared resid	83.57627	Schwarz criterion		0.543472
Log likelihood	-210.7512	Hannan-Quinn criter.		0.513489
F-statistic	12.05949	Durbin-Watson stat		1.062526
Prob(F-statistic)	0.000000			