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Ownership structure and corporate performance

A pragmatic evidence from Nasdaq OMX Helsinki 2014-2018

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ABSTRACT:

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The purpose of this thesis is to investigate whether a certain type of ownership structure can increase corporate performance, measured by using the relationship between market valuation and intrinsic value, Tobin's Q. An examination of 89 Nasdaq OMX Helsinki listed companies in 2014-2018 provides evidence of a direct relationship between the ownership structure and corporate performance. Specifically, this thesis aims to answer the controversial question of how different ownership types, voting power and CEO ownership behave with respect to corporate performance. The ownership types are separated into corporations, families, foreign investors, foundations, investment advisors, pension and insurance companies, and the state.

A growing body of literature have examined the association between ownership structure and corporate performance, while the geographic concentration has limited mostly to large market economies and emerging markets. As a geographic area, Northern Europe is still quite unexplored. Due to the gap of existing literature concerning the relationship between ownership structure and corporate performance in Finnish capital markets, this thesis contributes to earlier research by concentrating on the latest evidence of ownership structures in Finnish listed companies. The theoretical framework of this thesis is built around earlier academic know-how, which argues that companies seek to adjust their ownership structures to enhance monitoring and controlling possibilities, and at the same time, to lower agency costs. Evidently, this leads to efficient operational performance.

The main results of this thesis propose that, typically, investment advisors and pension and insurance companies as a major owner enhance company performance, whilst foundations have an inverse relationship with respect to forward-looking financial ratio, Tobin's Q. The voting rights of a company have a negative impact on corporate performance, though the significance abates as the percentage of voting rights increases. Consistent with existing literature, CEO ownership and company performance have an inverse relationship. The results of this thesis suggest that companies with higher leverage ratios tend to underperform, whilst companies with rapid sales growth outperform.

Keywords: Agency theory, Tobin's Q, Ownership, Voting rights, CEO ownership

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1 INTRODUCTION

Based on the general fundamentals of finance, the traditional agency theory proposes that the separation of ownership and control of a company leads to various agency problems among participants in interest. The agency theory is based on premises that agents (managers) do business on behalf of a company's shareholders. This is a typical example of agency related problems within the companies (Eisenhardt, 1989). The managers exacerbate this problem with their opportunistic behaviour as they settle on choices at the expense of shareholders' advantages (Jensen & Meckling, 1976). However, agency related conflicts could be resolved if managers of companies partially owned the company they run (Jensen & Meckling, 1976). Hence, observing managerial ownership within a company is one of the essential factors of corporate performance.

Earlier studies prove that the execution of a company improves when ownership stakes are merged through grouping of ownership (Agrawal & Mandelker, 1990; Katper, Anand & Kazi, 2018). If a company's ownership structure is not well-diversified, the company becomes an acquisition target for external investors. This study forms a comprehensive analysis on ownership structure and types by comparing their impact on the financial performance of a company, measured by Tobin's Q. A company's financial performance is one of the key factors to judge the performance of managers (Cheung & Wei, 2006). Collecting the financial and accounting data from Nasdaq OMX Helsinki for the period of five years, I discover both positive and negative significant results of ownership structure with respect to Tobin's Q. With the inclusion of several control variables, I disclose variables that are related to the observed dependent variable, Tobin's Q.

After the financial crisis, the upward market condition has lasted almost a decade. Now, turning into a new decade, it is reasonable to look back and examine changes in corporate ownership structures and how these changes have affected the performance of companies. The last decade was exceptional in global financial markets. Generally, accepted boundaries, general fundamentals of financial theories have changed, and

behavioural finance has gained ground. This thesis aims to form an updated point of view for the venerable question whether family-owned businesses still play in a dominance role and yield greater financial performance compared to other types of ownerships.

1.1 Purpose of the study

This study aims to build a block in understanding of the relationship between ownership and corporate performance. While it might seem counterintuitive, the best decision-maker and owner is not necessarily the person with most successes, but rather the one with best processes, judgement, and management. The purpose of the study is to crystallize two main point of views, ownership structure and voting power, and their separate impact on a company's financial performance, measured by using the relationship between market valuation and intrinsic value, Tobin's Q. This study endeavours to find evidence if a certain type of ownership leads to greater company performance, as well as to dispute and confirm earlier studies on the underlying context.

1.2 Contribution of the study

A growing body of literature (e.g. Demsetz & Villalonga, 2001; Margaritis & Psillaki, 2010) have examined the association between ownership structure and corporate performance, while the geographic concentration has limited mostly to Asia and Middle East area, and the United States. As a geographic area, Northern Europe is still quite unexplored, and thus an updated research is required in order to increase the full understanding of the ownership fundamentals that affect corporate performance. Further, earlier academic literature support accounting-based variables, such as ROA and ROE in their studies while this study concentrates more on the relationship between market valuation and intrinsic value, Tobin's Q. In this thesis, I follow the stream of the literature and touch on an alternative view that the voting rights of major owners within a company do have direct (or indirect) relationship with respect to company performance, Tobin's Q. According to Demsetz and Villalonga (2001), variations in

ownership structure should not be systematically related to variations in company performance. However, this study gives an alternative approach that fluctuations in ownership structure has an impact on corporate performance. The paper contributes to the existing literature in at least two main ways: firstly, earlier studies are reflected to concern on the Northern European geographic area, and secondly, the variables used in earlier studies are utilized in the regressions made in this study. Chapter 3.2.2. goes through more comprehensively the base literature, and how I utilize these studies in the empirical part of the thesis.

1.3 Structure of the study

The structure of the study is constructed as follows: Chapter 2 presents the theoretical framework of the examined subject. It explains comprehensively the fundamental factors that form a basis of a company's ownership structure. Further, it indicates the relationship between a company's most crucial agencies and the possible conflict that may occur through their activities. Chapter 3 goes through earlier studies and give an overview of a few different studies concerning the divisive topic of ownership structure and corporate performance. Chapter 4 presents the data of the study and the descriptive statistics as well as the used variables. The research methodology and model specifications are presented in chapter 5, while chapter 6 provides the main results of the empirical part of the thesis. To give a comprehensive outline of the thesis, chapter 7 concludes the main findings.

2 THEORETICAL OVERVIEW

The academic research of ownership structure and corporate performance extends back to the beginning of the 20th century. At that time, Berle and Means (1932) argued that the diffusion of a company's ownership structure has, evidently, a direct relationship to corporate performance. The underlying issue states that a company´s management is eager to drive their own interest at the expense of the company´s stakeholders. This chapter represents the theoretical framework of ownership structure and corporate performance. The objective is to give a comprehensive theoretical overview of factors that, regarding to the finance theory, affect consistently the behavior of a company and its shareholders. Shareholders actively exploit their leverage by participating in a company´s decisions and actions, and how a company´s policies should be organized.

The structure of the theoretical perspective is built around the agency theory, firstly presented by Jensen and Meckling (1976), and subsequently reviewed by Fama & Jensen (1983) and Eisenhart (1989). According to the finance theory, a company´s aim is to maximize the wealth of its shareholders. As corporate efficiency seems to be a prominent outcome of well-structured ownership, I also assess the basic overview of the theory of corporate performance measurements, overviewed e.g. by Demsetz and Villalonga (2001) and further studied by Margaritis and Psillaki (2010). As scoping the study to concern the Nordic area of Europe, corporate governance has an essential impact on the behavior of corporations, their boards and shareholders, and hence, need to be incorporated to the theoretical review. In addition, I am tying together elements of the theory of each ownership types.

2.1 Agency cost theory

At a market where agency problems are not present, a corporation´s management chooses investment opportunities that maximize the wealth of shareholders. Large public companies are usually known for atomistic stakeholders and have both dispersed and separated ownership and control. (Demsetz & Lehn, 1985). Even though the conflicts

between a company's debtors, managers, and shareholders are well-recognized in the literature, the efficient monitoring and disciplinary of controlling agents can be alleviated on account of large shareholders, such as state and pension and insurance companies (Andersen & Reeb, 2003). Early on the 1970's, Jensen and Meckling (1976) have presented the foundation of the agency cost theory which states the underlying conflict that a company´s management does not deal with shareholders´ wealth with the same essential vigilance with which, for instance, consistent (family business) top management does. The agency cost theory is based on the idea that the interests of a company´s management and its shareholders are not completely aligned. This leads to the unfavourable condition where both parties seek to maximize their own utility, and if their interests are not aligned, there is a possibility that certain agents might act on their own behalf. A Company´s management is faced with both positive and negative incentives to assure that it obeys objectives that maximize shareholder wealth. (Jensen & Meckling 1976.)

Jensen and Meckling (1976) separate agency costs between the principals and the agents into three different categories: monitoring expenditures, bonding expenditures, and residual loss. The principal has a possibility to restrict dispersion from his/her interest by creating adequate incentives for agents and by causing monitoring costs planned to restrict the deviant activities of agents (bonding expenditures). Moreover, in some cases the principal can guarantee that agents do not set out specific action which could harm the principal or, vice versa, concede relieves in a way that agents do such an action (monitoring expenditures). Lastly, the residual loss can be referred to the cost of agency relationship in where agents set out specific actions which have a disadvantageous impact on the principal´s interest. (Jensen & Meckling 1976.) Further sections concern the isolation of an agency cost of equity and debt which is essential in order to ease the understanding of the relationship between principals and agents.

2.1.1 Separation of ownership and risk-bearing functions

For decades, companies have tried to survive from the outgoing competition. Organizations´ operating model is premised on a nexus of explicit contracts among groups of interest. These agreements identify positions, rights and responsibilities of agents in the organization, and define profit functions, incentives and performance indicators. Essentially, a company´s shareholders are entitled to residual claim, even though the magnitude of it remains vague. Further, Fama and Jensen (1983) determine the risk incorporated into the residual claim as the divergence between the uncertain cash inflows and defined cash outflows allocated to manage a business. The one that delivers services and products at the lowest price while covering costs, succeeds. The circulation of competition among organizations obeys Charles Darwin´s evolution theory – the frailest disappear, the most robust govern. Both failure and success are incorporated into the discussion where one of the fundamental features is the separation of decisions and control. (Fama & Jensen 1983.)

Fama and Jensen (1983) argue that the most influential agents, such as top management, should not bear a significant portion of the financial impact on their decisions. The allocation of decision process among an organization´s agents is in an important role in order to explain the survival of an organization. Typically, the decision process is divided into two specific categories – decision management and decision control. Under decision management, implementation and initiation are allotted to the same decision agents, while decision control consists of the monitoring and ratifying of decisions carried out by the shareholders or their representatives on the board of a company. (Fama & Jensen, 1983.) These components form the generalized steps of the decision process which is illustrated in the figure below:

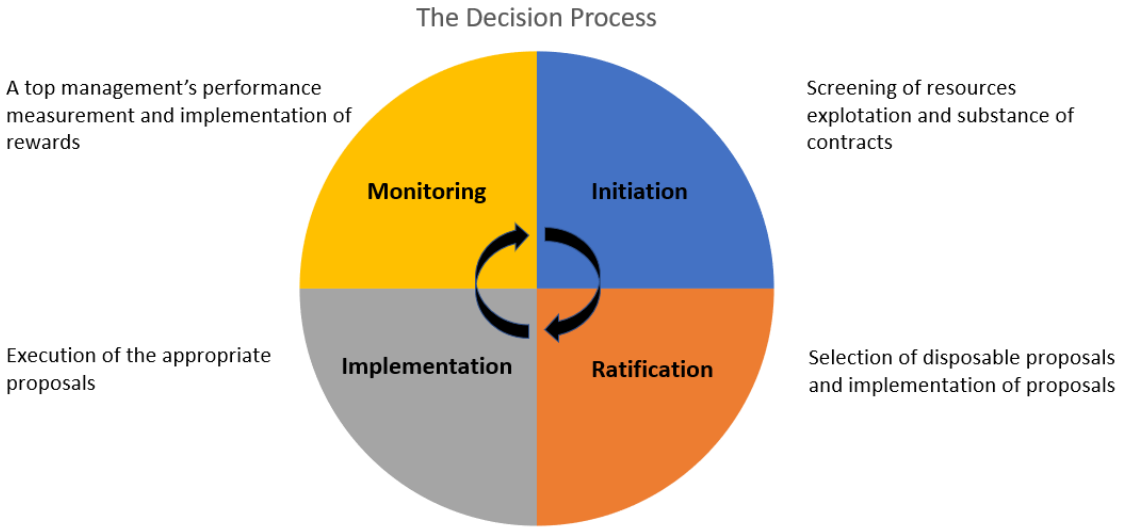

Figure 1. The Decision Process. (Fama & Jensen, 1983).

Advantages one gains from the separation of ownership and control depend on the characteristics of a company. Hence, optimization and control of agencies in the decision process are not always clear. It is worth examining whether these three functions – decision management, decision control and residual claims – can be allocated to the same agent. For instance, in family businesses where ownership and control are highly concentrated on one agent or specific agents, and functions are hard to allocate within the company, decision management and decision control are most convenient to be handled by the major (controlling) agent. This is usually appropriate in a non-complex company where relevant information for decision-making is concentrated only in a couple of agents. In such situations, the major owner bears the risk, residual claim[1], that the agent uses his/her power in the company. To prevent this from occurring, the major owners of a company can allocate a specific portion of the residual claim to other agents to keep his/her own interest aligned with others. An example of the situation is equity shareholders of a joint stock company where shareholders are entitled to a share of the

[1] Residual claim refers to the shareholders' right to the leftover assets of a company once all the fixed claims that are tied to business activities are acknowledged. Since the shareholders are owners, they are entitled to a vis-à-vis share of any leftover value.

residual claim on grounds of an agreement. In large companies, the separation of decision management and control is usually wider since the decision-making and ownership structures are more complex. (Fama & Jensen 1983.)

2.1.2 Agency cost of external equity

Small and medium-size enterprises (SMEs) dominate the market economies in quantitative terms – in Finland, the share of SMEs is over 90 %. Usually, in such companies the ownership and control are concentrated only in one or a few agents. A single owner owns and controls for 100 percent of the residual claims on a company and his/her aim is to maximize the company´s value, in other words, to make profit for him/herself. If he/she remains as the owner of the company, specific information and knowledge is on-time and all interests are aligned without the occurrence of agency problems. (Singh & Davidson, 2003; Jensen & Meckling, 1976.) However, if the owner chooses to broaden the ownership of the company, for instance, by selling shares to an external investor or blockholder agency costs may arise. Then, as the ownership is decentralized, the owner of the company won´t bear maximum cost and risk that are, from the perspective of shareholders, associated with value destroying activities. Because of an external equity, the owner´s portion of ownership in the company falls, and so does the marginal cost of expropriation. As a result, his/her possibility and willingness of using the company's capital decreases. (Jensen & Meckling, 1976.)

2.1.3 Conflicts between minority and controlling shareholders

According to previous studies[2], large controlling shareholders form a basis of publicly traded companies in most countries. Frequently, these large controlling shareholders own considerably more control rights than cash flow rights. Consequently, there is a risk-bearing function that the major controlling shareholders try to exploit their private gain

[2] See e.g. Holderness, C. G., & Sheehan, D. P. (1988). The role of majority shareholders in publicly held corporations: An exploratory analysis. *Journal of financial economics*, *20*, 317-346., and Claessens, S., Djankov, S., Fan, J. P., & Lang, L. H. (2002). Disentangling the incentive and entrenchment effects of large shareholdings. *The journal of finance*, *57*(6), 2741-2771.

at the expense of minority shareholders. According to Cronqvist and Nilsson (2003), a controlling minority structure may cause large agency costs. This kind of structure combines multiple agency problem issues, such as a company that is controlled by an insider who owns a pro rata share of a company's equity or a company that is controlled by an insider who is separated from the impact of other shareholders and corporate control market. (Cronqvist and Nilsson, 2003.)

In large corporations, monitoring and controlling is efficiently arranged. However, corporations' policies may create disadvantageous circumstance for minority shareholders. There are numerous different conflicts between a company's major and minor shareholders, such as pay-out policies or redistribution of income done by a company's top management. Burkart, Gromb and Panunzi (1997) provide a theoretical approach which suggests that a tight control by a company's largest shareholders forms a threat of expropriation among shareholders which deducts management initiatives and investments that are non-contractible. Moreover, Burkart, et. al (1997) examine that a company's ownership concentration may have an impact on incentive schemes, especially performance-based, and thus possible conflicts can arise.

2.1.4 Conflicts between shareholders and debt claimants

Another potential conflict between principals and agents can arise between shareholders and debt claimants. The underlying issue refers to the incentives of risk-shifting and asset substitutions. In such a case, wealth is being expropriated by shareholders at the expense of debt claimants by investing capital in more risky initiations and projects compared to those currently held in a company´s portfolio. Consequently, a company´s shareholders realize most of the high-risk payoffs whereas debt claimants bear most of costs. (Jensen & Meckling, 1976; Fama & Jensen, 1983.) Alternatively, the possible agency conflict can arise in option-pricing framework. For instance, shareholders may benefit from different equity holdings, e.g. call options, by exercising options in a state where the value of the asset is in its peak – greater than the debt claim. While the company risk increases, the value of the callable option increases

and, therefore, causes the downward valuation of the debt claim. (Anderson, Mansi & Reeb, 2003.)

Commonly, debt claimants require different kinds of covenants and monitoring devices to obviate any risk-shifting problems which occur because of shareholders´ incentives that appeal from external debt. However, the cost-benefit ratio of such shareholder-monitoring is inadequate. Moreover, all the future contingencies are not possible to perceive, and thus, inevitably some contracts cannot be made out. There are plenty of covenants that can monitor for, for instance, leverage-based financing, lease or dividend restrictions, and mergers and acquisitions. Still, some covenants are more difficult to monitor and regulate, such as managers´ intentions to invest in high-cost and negative NPV projects. As a result of this, the agency costs increase, and hence the premiums required by debt claimants increase. Obviously, this kind of conflicts between debt claimants and shareholders lead to the upward cost of debt. (Anderson, et al., 2003.)

2.1.5 Reduction of agency costs

The theory of agency cost refers to the fact that a company´s management pursues to fulfil its own goals instead of maximizing the wealth of shareholders. This agency relation between principals and agents may have a value-destroying effect. There are several procedures to reduce agency costs. For example, according to Rozeff (1982), a company´s dividend pay-out policy and reduction of managerial ownership may have a reducing impact on agency costs. Rozeff (1982) and Easterbrook (1984) assume that the pay-out of cash dividends obliges a company to operate in the capital markets more often, and hence leads to the reduction of agency costs as monitoring and controlling increase. Moreover, if a top management's and shareholders' interests are well-aligned, it can lead to the reduction of agency costs (Jensen & Meckling 1976).

Rozeff (1982) argues that a top management´s stock ownership and dividend pay-out policy are counterfactual tools to reduce agency costs between parties of conflict. Usually, corporations that use high-level management stock ownership to reduce agency

costs pay lower dividend to shareholders, whereas corporations with lower management stock ownership tend to have higher dividend pay-out ratios. Inversely, at some point, as the increase in stock ownership rises, it has an upward impact on agency costs. As a company´s management increases its ownership in the company stock, it leads to the fact that managers become less diversified than other shareholders**.** Hence, projects with a higher company risk may be rejected, although projects are justified based on the forecasted cash flows and total systematic risk. (Rozeff, 1982; Aljifri, Alzarouni, Chew & Tahir, 2014.)

2.1.6 Role of the board

In corporations, internal controlling is assigned to the board. The board of a company represents shareholders, monitors and ratifies actions of a company´s management, accepts compensation structures across a company. The shareholders of a company select the board members yearly in annual general meeting, and hence interests are usually aligned within these parties. Still, there may arise conflicts that can lead to operational inefficiency.

The relationship between corporate performance (Tobin´s Q) and managerial ownership is well-documented. For instance, Morck, Shleifer, and Vishny (1988) investigate that the ownership of the board of directors and the company value seem to have a non-monotonic[3] relationship, if measured by Tobin's Q. Interestingly, McConnell and Servaes (1990) provide an evidence that the relationship between Tobin´s Q and managerial stock ownership is curvilinear.

Fama & Jensen (1983) argue that to enhance the sharing of valuable specific information of an organization´s activities and to increase the performance of monitoring, the CEO of a company is usually included in the board of a company. Nowadays, due to the rising

[3] Non-monotonic relationship refers to the condition where an increase in one variable leads to a decrease in another.

vigilance of corporate compliance and governance the discussion whether CEO should be included in a company's board has come up (Platt & Platt, 2012). The hierarchy within a company needs to be well-defined between the main authorities – the board members and top management. The lack of hierarchy levels may decrease an ability to make more objective decisions and raise the risk of firing the management. (Fama & Jensen, 1983.)

2.1.7 Corporate governance environment in the Nordics

The regulations of corporate governance have become more aligned during the last decade. The underlying reasons for this alignment could be found from the development of homogenous financial markets and corporate ownership. To encourage companies to further globalization, the new regulations are natural continuum for the development. Especially in the European area, European Union has taken a huge role of vanguard when it comes to aligning regulations to the international operational environment. The global adjustment of regulations has had a huge impact on the international commerce, owing to the Anglo-American system that has been a role model for EU regulators. Consequently, these regulation reforms have brought European countries closer to the British corporate governance system. (Jakobsson & Korkeamäki, 2014.)

An explanation of moving towards the Anglo-American governance system stems from the fact that these countries play a leading role in the financial markets. Yet, when comparing the corporate governance systems between these Anglo-American countries and, for instance, Scandinavian countries, one can notice that they differ significantly. The lack of disperse ownership and managerial leadership is intrinsic for the Nordic countries, such as Finland and Sweden. Rather, in the Nordic countries controlling ownership plays a huge role in corporate governance actions. In the United States, it is distinctive that a company's management owns and controls for corporations, whereas in the United Kingdom the members of the board control for a company's actions. According to Jakobsson and Korkeamäki (2014), the regulatory framework which Anglo-American companies have adopted does not work as such in Scandinavian countries where management controlling is not generally accepted. Even though the Anglo-

American corporate governance model has impacted positively on the Scandinavian system, it has contributed to problems in our corporate governance and ethical framework, such as the legal entitlement provided for the board and the behavioural change towards company management ownership and controlling power. (Jakobsson & Korkeamäki 2014.)

2.2 Features of ownership types

According to Demsetz and Villalonga (2001), ownership can be defined as a proportion of shares of a company held and owned by a person, institution or some authority that entitles the owner of these shares to certain rights and obligations within the company. The essential feature of ownership is ownership concentration which refers to at least one shareholder who owns and controls for a significant number of shares in a company. The major shareholder can be, for instance, a government, a foundation, an institution, some other corporation, a foreign investor, or a family. A company´s major shareholders have an essential role in a company´s functions as they monitor and ratify the actions of the management. For one shareholder, a marginal cost of monitoring can be much less than for another. The degree of contribution to management decisions have a linear relationship with the increasing power of ownership. (Rubin, 2007.) The following chapters gives a comprehensive representation of these features of ownership types, their characteristics, and incentives as shareholders.

Shleifer and Vishny (1986) argue that ownership concentration is an essential part of the corporate governance mechanism through which agency problems arising from ownership and control can be reduced. Accordingly, the hypothesis of positive corporate performance with concentrated ownership is based on its effective monitoring. The basis of ownership concentration is that a company´s major shareholders can actively influence, control and discipline the management decision-making in order to protect their own interests. Previous studies (Nguyen, Locke & Reddy, 2015; Rubin, 2007; Jensen & Meckling, 1976) examine that ownership concentration is closely attached to corporate performance, and if managed effectively, it mitigates agency problems. Not

only in developed countries the impact of monitoring is playing an essential role due to the restrictive regulation standards but also in underdeveloped markets where the magnitude of external governance is less standardized. There, major shareholders are forced to monitor companies´ top management due to the absence of external managerial discipline. That is possible and effective only if ownership is concentrated within the company. In contrast to positive association with performance and ownership concentration, the negative predictions of ownership concentration are based on its expropriation effect. If ownership is highly concentrated, the agency problems may convert to principal-principal conflicts from traditional principal-agent conflicts. This may lead to the upward conflict between minority and controlling shareholders. (Nguyen et. al, 2015.)

Early on 1980s, Demsetz (1983) argued that ownership structure is an endogenous value-maximization process of shareholders. Based on that definition, the main argumentation is that the variations in a company´s ownership structure should not be systematically associated with the variations in corporate performance. The dynamic nature of the relationship between corporate governance structure and corporate performance implies that a company´s past performance is connected with the present corporate governance structure. Hence, it is essential to examine different ownership types and their features. The following chapters introduce more deeply the features of different ownership types – state, institution, foreign, family, and corporation ownership types.

2.2.1 State ownership

State ownership has had essential consequences for financial and economic development around the world. States control a significant proportion of companies, especially the largest ones (Faccio & Lang, 2002). The reasons for state ownership can be divided into different categories such as citizen protection, securing of basic services, or increased competition. According to La Porta, Lopez-de-Silanes and Shleifer (2002), such ownership tends to be common in countries with low per capita income (PCI),

slowly emerging market economies, and poorly managed governments. However, especially emerging market economy countries have started the privatization of state-owned enterprises. This kind of action is in contradiction with the fact that the state is one of the biggest owners, measured by the capital tied to stock market, among the publicly listed companies in Nasdaq OMX Helsinki stock exchange (Prime Minister's Office, 2020). State-owned companies are characterised by sustaining society´s welfare, as well as pursuing political and social goals, such as redistribution of wealth, instead of maximizing profits. Yet, the justification of state ownership and its benefits for societies remain controversial. (Dewenter & Malatesta, 2001.)

2.2.2 Institutional ownership

Institutional ownership refers to the fraction of ownership in a certain company that is held by large entities such as financial organizations, foundation, insurance companies or mutual and pension funds. Generally, institutional investors purchase a large amount of a company´s outstanding shares and become major blockholders. Through this, institutional investors can have a significant influence on the decision-making of a company´s management. Various studies[4] argue that institutional investors participate in the enhancement of a company´s performance by supporting and monitoring managers in different kind of amendments, such as duties of a company´s directors when a company is targeted with a possible takeover bid. The difference between traditional controlling corporate owners and institutional investors is that for institutions an ownership has primarily one objective, maximizing the return on investment (ROI). (Duggal & Millar, 1999.)

Institutions are rather passive than active investors and usually diversify their investments in multiple securities. However, institutions may decide to expand their strategies towards more active participation. For instance, some large hedge or mutual funds are well-known for managerial entrenchment strategies that affiliate with active

[4] See for example: Pound (1988), Brickley, et. al (1988), and Agrawal & Mandelker (1990).

participation to maximize capital gains. For instance, Nesbitt (1994), and Smythe, McNeil and English (2015) give an example of institutional investor activism by using California Public Employee Retirement System[5] (CalPERS-effect) as a proxy. Nesbitt (1994) finds out that companies that are targeted to the CalPERS outperform Standard & Poor index by almost 50 % over the subsequent five-year period. Even though Smythe, et. al (2015) examine positive abnormal announcement returns, they notice only a little enhancement in value adding measurements.

The venerable assumption is that institutional investors operate in efficient capital markets, and because of the magnitude of their investments, their activities may improve market efficiency. There are a couple of point of views from which one could approach institutional investors. Firstly, institutional investors are risk pooling providers for smaller investors. Their objective is to concentrate on liquidity and diversification, and hence they prefer relatively large and liquid capital markets in order to manage to adjust their holdings in response to new information. Secondly, because of effective pooling methods, institutional investors usually are the major blockholders in a large corporation. In large institutions, influence plays an essential role in monitoring a company´s management activities, and hence it has a positive long-term effect on a corporate governance within a company. (Davis & Steil, 2004: 13.)

2.2.3 Foreign ownership

Foreign owners have become a major part of the ownership diversification in the global market economies. Globalization has provoked international ownership in companies. Especially, the harmonization of European Union regulations has led to the increase of reign ownership across the continent. According to a statistical comparison, foreign-

[5] See more about CalPERS-effect: Nelson, J. M. (2006). The “CalPERS effect” revisited again. *Journal of Corporate Finance*, *12*(2), 187-213 and Barber, B. M. (2007). Monitoring the monitor: Evaluating CalPERS' activism. *The Journal of Investing*, *16*(4), 66-80.

owned companies hold a significant portion of businesses in the Nordic countries. Because of the active role of multinational corporations, large domestic companies are particularly foreign-owned. A significant part of foreign ownership comes from neighbouring countries. In 2018, the amount of foreign ownership in Nasdaq OMX Helsinki was about 120 billion euros. Foreign ownership has grown sharply during the 1990's in the Nordic countries. (Euroclear 2018[6]; Jakobsson & Korkeamäki, 2014.)

There are two prevailing types of foreign ownerships. First and the most traditional way is that foreign investors hold a proportion of shares of a company. Secondly, a company can be acquired by a foreign investor, and as a result of this, the acquired company is taken out from the public stock exchange. If a company becomes acquired, it typically becomes a wholly owned subsidiary of a foreign company. However, after the acquisition the company can be traded in another foreign stock exchange. According to Finnish Jakobsson and Korkeamäki (2014), the potential profitability and productivity gains are significant as specialization throughout the cross-border acquisitions usually increases rapidly. Ylä-Anttila, Ali-Yrkkö and Nyberg (2004) examine that international acquisitions have a positive impact on target companies and that foreign byers contribute to the profitability of the target company.

Also, foreign ownership can be viewed as a strategy of portfolio diversification. In this case, a foreign investor only holds a limited proportion of shares, and thus does not have major controlling ownership, and usually a foreign investor stays in a passive relationship with a company.

2.2.4 Family ownership

To create a successful company, it requires comprehensive knowledge of industry and strong innovative mindset. Through these, some exceptional family business stories can

[6] Euroclear Finland is an institution that manages the functionality of the book-entry system and tasks related to it in Finland.

be born, such as Walmart, one of the biggest multinational retail corporations holding 11 695 stores worldwide with the revenue of 500 billion. (Walmart Annual Report, 2018.)

According to earlier literature (Anderson & Reeb, 2003; Maury, 2006), family companies are found to outperform companies whose ownership is more decentralized. The underlying reason for this outperformance may be linked with the corporate governance model which is unique in family businesses. As a family owns and controls for a major proportion of shares of a company, it mitigates the classical agency problems that might occur otherwise. Yet, the downside of family control is noticeable. The temptation of using resources and controlling possibilities carelessly puts a company´s minority shareholders in a disadvantageous position. Thus, it has been argued that the limitation of top management positions only to family members may potentially lead to competitive disadvantages compared to non-family businesses. (McVey & Draho, 2005.)

The definition of a family business fluctuates, depending on the sorting measurements that are used during research. The most essential factors that need to take under consideration are the proportion of shares controlled by a founding-family and the separation of voting and cash-flow rights. Moreover, one other important point of view is a top management´s involvement and relationship with the founding-family. It is worth examining whether, for instance, a company has non-family executives, and whether a family is still an active part of the board. (McVey & Draho, 2005.)

McVey and Draho (2005) examine that family businesses have managed to outperform compared to non-family businesses, measured in terms of Return on Assets (ROA). There are a few underlying arguments to support the results, in addition to the corporate governance model. The practical knowledge and versatile experience of the business, well-planned investment horizons, reputation and both long-lasting and valuable relationships with a company´s shareholders are factors that may lead to higher expected returns. The mentioned benefits and drawbacks highly depend on the

founding-family´s eagerness to reduce their control if it is not aligned with the purpose of serving its shareholders. (McVey & Draho, 2005.)

2.2.5 Corporate ownership

Corporate (equity) ownership is an ownership arrangement where one corporation holds a major share of another corporation's shares outstanding. Such ownership can be arranged in several ways, for instance through dual class shares, takeover or buyout. Even though the methods of arrangements differ widely, the purpose of corporate equity ownership is usually categorized based on two points of view: synergy and scale advantages through which a company can enhance its capability to increase capital gains and market share. Moreover, corporate ownership may be in line with a company's long-term strategy to expand its business or concentrate more on certain segments or niches. (Fee, Hadlock & Thomas, 2006.)

2.2.6 Role of private equity

The common feature of equity investment is risk. Thus, the expected return, compensation, for this type of investment must be higher than what the investor could get from a less risky investment, such as interest for a loan. Private equity firms make such equity investments in both unlisted and listed firms. Through these investments, and especially through the voting rights attached to invested equity, private equity firms can discipline a target company´s management, they have the right to return on their investments and the right to sell their holdings in a company to some third party.

In Finland, a large proportion of these risk-bearing investments concentrates on unlisted companies. According to Jakobsson and Korkeamäki (2014), venture capital deals can be divided into three different segments: (1) Early stage investments are usually made into high growth prospects, relatively young companies whose business is highly dependent on the invested capital, (2) growth stage where the main objective is to expedite a target company´s growth, fund acquisitions or increase liquidity, and (3) re-structuring stage of

mature companies where private equity funds usually invest to financial distress companies by the means of new equity in order to restructure and take control of a company. (Jakobsson & Korkeamäki, 2014.)

3 LITERATURE REVIEW AND HYPOTHESES FORMULATION

This thesis proposes a novel approach to ownership structure and corporate performance in the Nordic countries, specifically in Nasdaq OMX Helsinki. The structure of the thesis is reflected to previous studies which concentrate strongly on the robust relationship between ownership and corporate performance. Firstly, this chapter gives an overview on the base literature and present profoundly earlier research which are closely attached to the subject of this study. The following studies have shown a major role in the academic research of ownership structure and corporate performance, and for this reason I also select these studies as base studies. Secondly, during this chapter the main hypotheses of this study are developed.

3.1 Maury

The article “Family ownership and firm performance: Empirical evidence from Western European corporations” by Benjamin Maury (2006) examines whether companies with non-family controlling shareholders outperform companies with family controlling shareholders in Western Europe. Earlier studies suggest that companies with founding-family ownership tend to outperform companies with widely held ownership for the reasons of higher company valuation and reduction of agency costs between owners and managers. Contradictory, agency problems may arise in the family-owned businesses due to conflicts between the family and minority shareholders.

The study concentrates on Western European corporations. The data sample is constructed of 1672 companies excluding financials and by utilizing Faccio and Lang´s (2002) ultimate ownership data and the WorldScope database. The selected countries are Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. To guarantee robustness, financial firms are studied separately from the main data sample.

To investigate the relationship between ownership structure and financial performance of Western European corporations, the study uses a country fixed-effects specification, Lagrange multiplier test, which is supported by Breusch and Pagan (1980). The main analysis includes the estimation of three different performance indicators, Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q.

In this study, the author uses several industry and firm-specific controlling variables. The selected variables are growth in net sales, capital expenditures (CAPEX), and total debt divided by total capital. Moreover, the study includes dummy variables such as two-digit SIC codes to control for industry effects, ownership dummy to control for the largest controlling shareholders, such as family, whether an observed company is listed or non-listed, and an approach where the controlling ownership is family or non-family. Also, the author examines the structure of the board of a company by adding dummy variable if the CEO of a company belongs to founding-family.

Empirical evidence suggests that family companies outperform companies controlled by more expanded ownership. Evidently, Tobin´s Q under control of founding-family increases by almost 10 % compared to non-family controlling companies. In addition, Maury finds that ROA as a performance metric is over 15 % higher within family companies than nonfamily companies.

3.2 Faccio and Lang

The ultimate ownership of Western European companies by Faccio and Lang (2002) aims to answer the questions of what the determinants of ownership structures in Western European companies are, and in what ways the owners of a company can take advantage of control rights along with ownership rights. To form an examination, the authors gather data from over 5 000 listed European companies from 13 different countries. Interestingly, the authors include financial companies into the data sample even though governmental regulations might impact on their financial performance substantially.

They form thresholds for controlling and cash-flow rights to divide the data more specifically.

By reflecting previous studies, Faccio and Lang collect the data sample from 5 232 listed companies in 13 countries including Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The authors use several different data sources to collect the sample, such as Datastream, local stock exchanges, and Worldscope. Over the sample period of the study, the authors screen out 167 companies that do not have specific ownership structure recorded. The study by Faccio and Lang aims to form an extensive understanding of ownership types and structures in Western European companies. The authors construct three different thresholds, 10, 15, and 20%, to capture more accurate determinants of cash-flow and controlling rights. By the perspective of controlling rights, these thresholds are also utilized in the study of ownership structure and corporate performance in Nasdaq OMX Helsinki.

The authors state a couple of different arguments why ownership and control rights can differ within a certain company. Firstly, the difference between cash-flow (ownership) and control rights can originate from the fact that companies can issue shares that provide different voting rights for certain cash-flow rights. A typical example of different voting and cash-flow rights is a dual class share which entitles shareholders to increase their voting rights while cash-flow rights remain the same. Secondly, the difference may arise from holdings and pyramiding through multiple chains of control. In the case of holdings, a certain owner controls the company via a group of control chains each of which has at least 5% of the voting rights at each chain. Pyramiding refers to a situation where a certain company has an ultimate owner, who, at the same time, controls another company indirectly through a third party that the owner does not totally control. For instance, if a foreign entity owns 15% of the company X that owns 20% of the company Y, thus the company Y is said to be controlled through pyramiding, at 10% threshold. Faccio and Lang divide ownership types into six different categories: families,

widely held financial institutions, state, widely held corporations, crossholdings, and miscellaneous.

The main findings of "The Ultimate Controlling Owners of Western European Corporations" suggest that, at the 20% threshold level, widely held institutions and corporations, and families are the most important ownership types in all countries resulting 36,93% and 44,29%, respectively. Nonetheless, there is a fluctuation between continental Europe and the United Kingdom, as widely held companies in the UK and Ireland result 63,08% and 62,32%, respectively, but in continental Europe, Northern European countries, i.e. Sweden, Norway and Finland, result highest percentages 39,18%, 36,77%, and 28,68%, respectively. The main argument of the results is that family-owned businesses seem to dominate the ownership field in all examined European countries.

3.3 Anderson and Reeb

The study "Founding-family Ownership and Firm Performance: Evidence from the S&P 500" by Anderson and Reeb (2003) aims to answer the questions whether family-owned businesses outperform non-family owned businesses, a certain ownership type affects corporate performance more, a family member as a CEO has a significant, positive or negative, impact on corporate performance, and how younger companies perform compared to mature companies. The study is crucial to include into the review of literature as it concerns the companies of Standard & Poors 500 in the United States.

The authors state that the public U.S. companies are usually less efficient and less profitable than other types of ownerships, yet this cannot be viewed as a universal norm. Family-owned businesses constitute a large portion (over 35%) of the Standard & Poors 500 Industrials, owning almost 20% of their companies' outstanding equity. According to Anderson and Reeb, a family member as a CEO results a positive relationship with respect to accounting profitability measures, ROA and ROE. Also, the authors include Tobin's Q which reports negative impact on corporate performance when the CEO is a

member of the founding family. A single argument for this relationship could be found, according to the authors, from the fact that poorly performed family companies more likely sell their portion and exit the company.

For this study, the authors use a data sample collected from 403 companies in the Standard & Poors 500 from 1992 to 1999, which totally includes 2 713 firm-years. The dataset has been collected manually from COMPUSTAT Industrial Files. Similarly, as in the ownership and corporate performance study from Nasdaq OMX Helsinki, the authors exclude financial companies and public entities since the calculus of Tobin's Q becomes more difficult due to the various regulations that may have an impact on corporate value. From the whole dataset, family-owned businesses play a dominant role, since 72% of SIC codes in S&P 500 are addressed to family businesses.

Primarily, the authors focus on the identification of family companies. To illustrate whether a certain company belongs to the family-owned category, the authors use the fractional equity ownership of the founding family and examine whether there are family members in the board of the company. The main interest of the authors is how founding-family ownership impact on corporate performance. The examination is done by using multivariate analysis, which incorporates variables that identify whether CEO belongs to founding-family or not. The authors use a fixed effects method to run a multiple regression. The fixed effects are indicated as dummy variables for each year of the sample. Also, SIC codes are marked as dummy variables.

The authors find out that family-owned companies perform significantly better than non-family-owned companies, as measured by ROA. This argument is contrary to the earlier hypothesis that, in the US, family-owned businesses are less efficient and profitable. Also, Anderson and Reeb state that a CEO from the founding family generates greater profitability than a CEO from outside of the family. One possible explanation for this could be that family members have a versatile knowledge of the business, and thus generate better results than an outsider. By using market valuation measure, Tobin's Q,

the evidence becomes more relevant as family businesses seem to outperform non-family businesses.

3.4 Formulation of hypotheses

The fundamental hypothesis for this study stems from the controversial relationship between ownership, financial performance, and company value. The earlier literature has shown that ownership affects a company's performance and value. This argument originates from the implication that a specific owner type or specific characteristic among owners impacts on a company's performance. The enigma is whether the impact is positive or negative. The main statistical hypothesis is formed by presuming that the coefficient (β) of the certain ownership variable equals zero. If the coefficient (β) differs statistically from zero, the null hypothesis is rejected in favour of the alternative hypothesis H_1 and then, one can interpret that ownership has an impact on a company's performance.

$$H_0 : \beta(Ownership\ type) = 0$$

$$H_1 : \beta(Ownership\ type) \neq 0$$

Alternatively, the second hypothesis for this study stems from the relationship of control rights of a company (voting power), and corporate performance (Tobin's Q). Again, as with the first hypothesis, the underlying issue lies in the fact whether the impact is positive or negative. Hence, by assuming that the coefficient (β) of the certain voting right threshold equals zero, we can proceed to hypothesis that if the coefficient (β) differs statistically from zero, H_0 is rejected in favour of H_1 and then, it can be interpreted that a certain amount of voting rights has a relationship with a company performance.

$$H_0 : \beta(Voting\ rights) = 0$$

$$H_1 : \beta(Voting\ rights) \neq 0$$

4 DATA

The data of this thesis is constructed from two primary data sources, the Orbis database and companies' financial statements and reports, with which the thesis aims to answer the question if ownership structure has either upward or downward impact on a company´s financial performance. The Orbis database is maintained by Bureau van Dijk and consists of massive amount of data information regarding (listed and unlisted) companies´ key financial figures, globally approved financial ratios, and other information which is highly relevant to guarantee the quality of the results in this thesis. The data has been constructed to one Excel file, with all the relevant and cross-checked information included. The key dependent and controlling variables, and dummy variables are thorough examined during chapter 4.

In this thesis, the focused market segment is Finland, more closely, Nasdaq OMX Helsinki. Earlier studies have examined the effects of ownership in financial performance in large market economies, such as Asia, East Asia, and the United States. Hence, this thesis makes a specific demarcation and concentration on Northern Europe. Data is gathered with yearly frequency and it represents absolute values from 2014 to 2018. The underlying reason for the 5-year time period is that a number of listed companies has increased significantly (>20%) in the Nasdaq OMX Helsinki within this time period, and thus it is interesting to investigate the impact of ownership structure on corporate performance during the time period. Also, the upward market condition has led to the situation where companies' ownership structures need to be adjusted into the immanent market condition.

Some of the observed companies have been excluded from the data due to the complex characteristic of the industry, such as structures of balance sheets and valuation approximations that differ substantially, for instance, in financial, real estate, and insurance industry. Also, these areas of industries might have certain governmental regulations that may have an impact on financial performance, and thus excluding them from the main sample is appropriate.

4.1.1 Dependent variable

In this thesis, I utilize Tobin's Q, a forward-looking financial performance indicator, as a dependent variable. Tobin´s Q has an important role in many corporate finance interactions. Tobin´s Q was originally introduced by James Tobin (1968) who suggest that the replacement cost of a company´s total assets equals with the market value of the company and that the total market value of the company is a sum of the market value of equity and debt. The formula has been further upgraded and examined by several studies (Lindenberg & Ross 1981; Chung & Pruitt 1994; Singh, Tabassum & Darwish 2018). It is considered as a good-functioning approximation for measuring a company's performance. If Tobin's Q results less than 1, a company can be considered as undervalued in relation to its total assets´ replacement cost. If it results over 1, a company seems to be overvalued compared to its replacement cost of total assets.

$$Tobin's\ Q = \frac{Market\ value + Long - term\ debt}{Book\ value\ of\ Total\ assets},$$

where the market value of a company is calculated as its market share price multiplied by the shares outstanding. Long-term debt is calculated as a sum of long-term interest and non-interest-bearing debt, and the book value of a company´s total assets represents the end of a year value of assets during the sample period.

Tobin's Q has echoed discussion about its usefulness as a proxy for measuring company value in situations where the examined company is over- or undervalued. For instance, Verbeke and Brugman (2009), and Erickson and Whited (2012) argue that Tobin's Q is an insufficient performance indicator as it assumes that capital markets are efficient, which means that a company´s true value can be reflected from its market valuation. As a single market performance indicator Tobin's Q can be seen as a suitable proxy of a company´s "truthful" performance, even though the difference between market-based and accounting performance indicators might be idiosyncratic for each company.

4.1.2 Ownership variables

One of the main variables in this empirical part is ownership. In this thesis, each company's ownership structure is being examined by utilizing NASDAQ Helsinki companies' financial statements. For publicly listed companies, information of ownership structures is public information, and hence a comprehensive investigation of how ownership and voting power affect corporate performance is possible to execute.

In this thesis, ownership variables have been divided into seven different groups, including Corporation, Family, Foreign, Foundation, Investment advisor, Pension and Insurance, and State. The categories are selected purely based on the industry classifications of the owners in NASDAQ Helsinki stock exchange. In the first group, corporations, there are also cooperation and holding companies included in the examined sample. Also, the investment advisor ownership type includes hedge and mutual funds. Table 1 specifies different ownership types and example companies in Nasdaq OMX Helsinki.

Table 1. The ownership variables, their specifications, and example companies.

Ownership	Specification	Example
Corporation	The major owner is a corporation, cooperation, or a holding company	Atria Plc, HKScan Plc, Metsä Board Plc
Family	The major owner is a family, the founder of a company or an individual investor	Efore Plc, Kone Plc, Marimekko Plc
Foreign	The major owner is a foreign entity	Ramirent Plc, Rapala VMC Plc, TietoEVRY Plc
Foundation	The major owner is a foundation, institution, or similar entity	Lassila & Tikanoja Plc, Olvi Plc, Vaisala Plc
Investment advisor	The major owner is a hedge or mutual fund	Exel Composites Plc, Revenio Group Plc
Pension and Insurance	The major owner is a pension or insurance company	Amer Sports Plc, Nokian Renkaat Plc
State	The major owner is a state	Metso Plc, Neste Plc, Nokia Plc

To approach ownership types, I have created a dummy variable for each ownership type which takes value of 1 if it concerns a certain type of owner, and 0 otherwise. Moreover, I have divided ownership based on voting powers into three different groups. The first

group includes owners that have most voting power within the company as measured by percentage of voting rights, the second group consists of owners that have second most voting power within the company, and the third group which includes owners that have third most voting power within the company. With this approach, I can divide these three groups to subgroups − over 10%, over 15%, and over 20% − in order to measure whether more voting power impacts more on corporate performance. In addition to the voting rights of owners, I include a CEO ownership variable, which is replicated from Maury and Pajuste (2005), to expand the research. Based on earlier literature (Griffith, 1999; Kim & Lu, 2011), the CEO ownership is expected to have an inverse relationship with corporate performance. The more the CEO owns of a company, the less significant is an increase in corporate value.

4.1.3 Controlling variables

I have selected four different controlling variables that are used for explaining variation in the examined dependent variable, Tobin's Q. The underlying reason for selecting these variables is based on the articles from Maury (2006), Maury and Pajuste (2005), and Anderson and Reeb (2003) where the authors have examined empirically how ownership impacts on financial performance of a company. By utilizing these studies, I have selected asset tangibility, leverage, sales growth, and size as controlling variables which are presented in this part of the chapter. At the end of the chapter, there is a summary statistic of selected variables, category of variables, predicted signs and source of data.

Asset tangibility

Asset tangibility is closely related to a company's capital structure and external financing, and thus it also plays an important role when discussing about the ownership structure of a certain company. Crucially, asset tangibility itself may determine whether a company faces credit constraints - companies with more tangible assets may have greater access to external funds. This implies that the relationship between capital spending and cash flows is non-monotonic in a company's asset tangibility.

Assets that are more tangible sustain more external financing because tangibility mitigates contractibility problems - asset tangibility increases the value that can be recaptured by creditors in default states. In the earlier academic results, there are different point of views how asset tangibility affects company performance. According to Almeida and Campello (2007), companies with very tangible assets are likely to become unconstrained. This implies a non-monotonic effect of tangibility on investment-cash flow sensitivities. On the contrary, Margaritis and Psillaki (2010) examine a positive correlation with asset tangibility and leverage, and company performance. Thus, the expected outcome of this variable is hard to predict in this data sample.

$$Asset\ tangibility = \frac{Tangible\ assets}{Total\ assets}$$

Dummy variables

Industry dummies have been included to account for the characteristics of different industries. The industry divisions are based on SIC codes and includes seven different categories: Construction, Manufacturing, Mining, Retail, Service, Transportation, and Wholesale. Also, votes over 10 %, 15 % and 20 %, and ownership types are considered as dummy variables in the main regression.

Leverage

Already in the 1970's, Jensen and Meckling (1976) have investigated a direct relationship of leverage and corporate efficiency. Leverage is a ratio that is widely used in earlier similar studies such as Margaritis & Psillaki (2010). They argue that the impact of leverage is negative to company performance, especially in high leverage levels. Yet, for this data sample, it is hard to predict the sign of an impact before executing the regression. Leverage of a company is calculated as a long-term debt divided by total assets.

$$Leverage = \frac{Long - term\ debt}{Total\ assets}$$

Sales growth

Sales growth is simply defined as the year-on-year sales growth. Depending on the industry structure, sales growth may provide additional market power which companies can use to increase performance. Hence, it is expected that sales growth influences positively on corporate performance.

$$Sales\ growth = \%\ change\ in\ sales\ over\ the\ past\ 12\ months$$

Size

Size, measured as total assets of a company, is a key factor when examining capital and ownership structure, and corporate performance. I have selected total assets as a size factor instead of total sales as balance sheet (book value) shows more accurately the development of a company's valuation. Thus, in this thesis a simple equation is utilized:

$$Size = Total\ assets\ of\ a\ company$$

Table 2. The variables, categories, predicted signs, and sources of data.

Variable	Category	Predicted sign	Source of data
Tobin's Q	Dependent variable		Orbis
Votes %	Independent variable	+ / -	Financial statement
Votes over 10 %	Independent variable	+ / -	Financial statement
Votes over 15 %	Independent variable	+ / -	Financial statement
Votes over 20 %	Independent variable	+ / -	Financial statement
CEO ownership %	Independent variable	-	Financial statement
Corporation	Independent variable	+ / -	Financial statement
Family	Independent variable	+	Financial statement
Foreign	Independent variable	-	Financial statement
Foundation	Independent variable	+ / -	Financial statement
Investment advisor	Independent variable	+	Financial statement
Pension and Insurance	Independent variable	+	Financial statement
State	Independent variable	-	Financial statement
Asset tangibility	Controlling variable	+ / -	Orbis
Leverage	Controlling variable	+ / -	Orbis
Sales growth	Controlling variable	+	Orbis
Size	Controlling variable	+ / -	Orbis

Notes: The predicted signs are based on earlier research of ownership structure and corporate performance, and writer's own assumptions.

4.2 Descriptive Data

In this chapter of the thesis, a descriptive data and statistics are presented. This review encases an examination of ownership distributions starting from the largest ownership to the third largest ownership, industry distribution, summary statistics of Nasdaq OMX Helsinki, a normality test to ensure robustness of the thesis, and at the end, a discussion of the presented data, including outlier detection, and endogeneity and survivorship bias. The final sample of data includes 89 companies which are all listed in Nasdaq OMX Helsinki. There are some industry related specifics, for instance, companies within financial, real estate or insurance industry that are excluded from the data sample due

to the complex structures of balance sheets and governmental regulations. Due to the limited time frame of the data, I have been forced to do some adjustments to the data sample. Attached, there is a list of companies that are excluded from the data sample because they have been unlisted through an acquisition or bankruptcy or a company's industry is not appropriate for this study. Totally, the final data sample includes 8010 observations from 2014 to 2018.

4.2.1 Ownership and industry distribution

The following figures specify the distribution between the different types of owners. The ownership types are divided into the single largest owners, the second largest owners, the third largest owners and the full sample. Figure 2 below represents ownership type distribution in terms of the largest owners in Nasdaq OMX Helsinki. As it can be seen from the figure, the major fraction of the largest owners in Nasdaq OMX Helsinki belongs to families (52%), measured by voting rights. As expected, corporations follow as the second largest owner group (17%). The state plays a relatively large role as a major owner in Nasdaq OMX Helsinki, but the share of ownership decreases among the second and third largest owners.

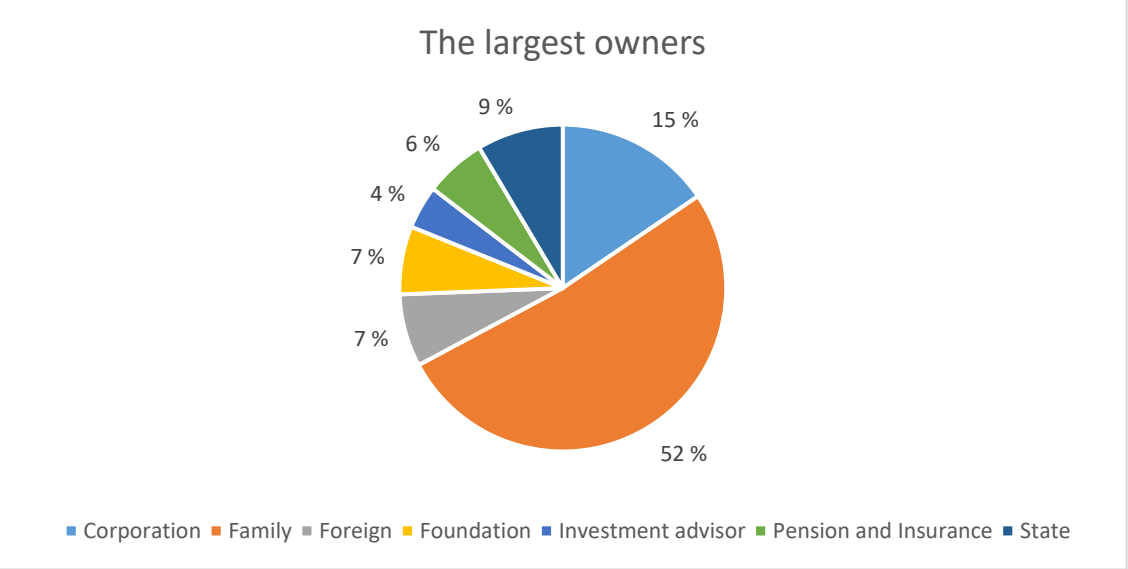

Figure 2. The largest owners in Nasdaq OMX Helsinki.

Figure 3 below indicates the distribution of the second largest owners in the Nasdaq OMX Helsinki stock exchange. Compared to the largest owners, the ownership is more concentrated between family, corporation, and pension and insurance companies, as their share of ownership totals over 80%. The main observation is that the share of family ownership has decreased significantly, while the share of corporations has increased to 13%. Pension and insurance companies fundamentally impact on Finnish capital markets. Large institutions can increase the stability of the domestic capital markets, and thus their existence is vital for our market economy. Pension and insurance companies cover 27% of the second largest owners in Nasdaq OMX Helsinki. However, according to latest academic research (Farwis & Azees, 2019) pension and insurance companies might encourage a company's top management to take more risk in their activities in order to gain higher compensations. Thus, institutional investors may temporarily increase a risk-bearing functions within a company.

From a strategic perspective, this argument is expected since institutional investors might have a lack of business-oriented mindset, and thus are not applicable for the major owner of a company. Yet, the capability of efficient monitoring and the enhancement of corporate governance is a reasonable assumption why foundations and institutional investors are usually the second and the third largest owner within a company.

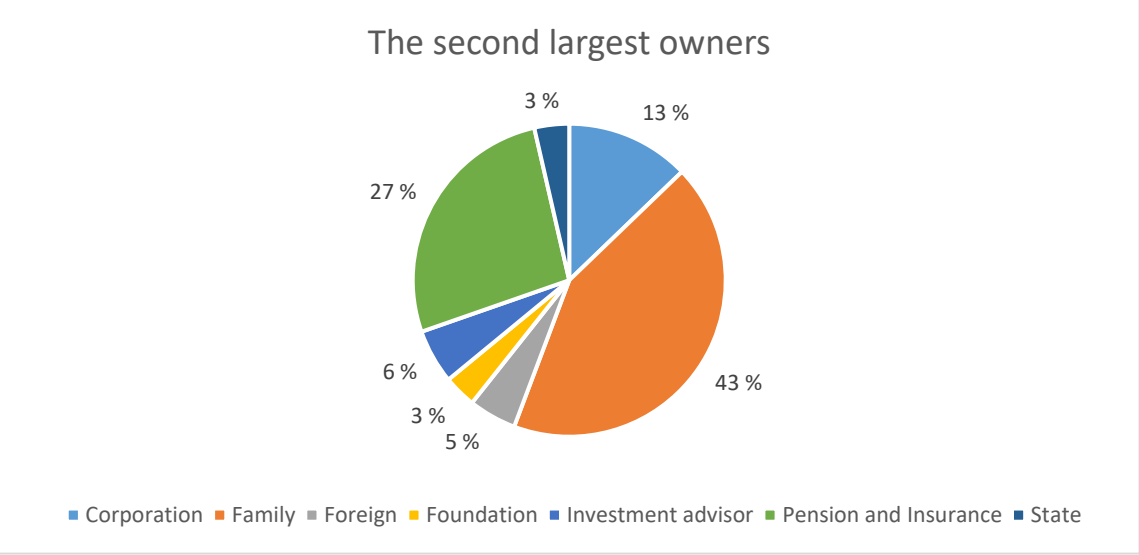

Figure 3. The second largest owners in Nasdaq OMX Helsinki.

Figure 4 illustrates the distribution of the third largest owners in Nasdaq OMX Helsinki. As in the distribution of the second largest owners, the same development continues with the third largest owners. The portion of family ownership declines, whilst the share of pension and insurance companies, and corporations increases. Also, the share of investment advisor has increased to almost 10 %.

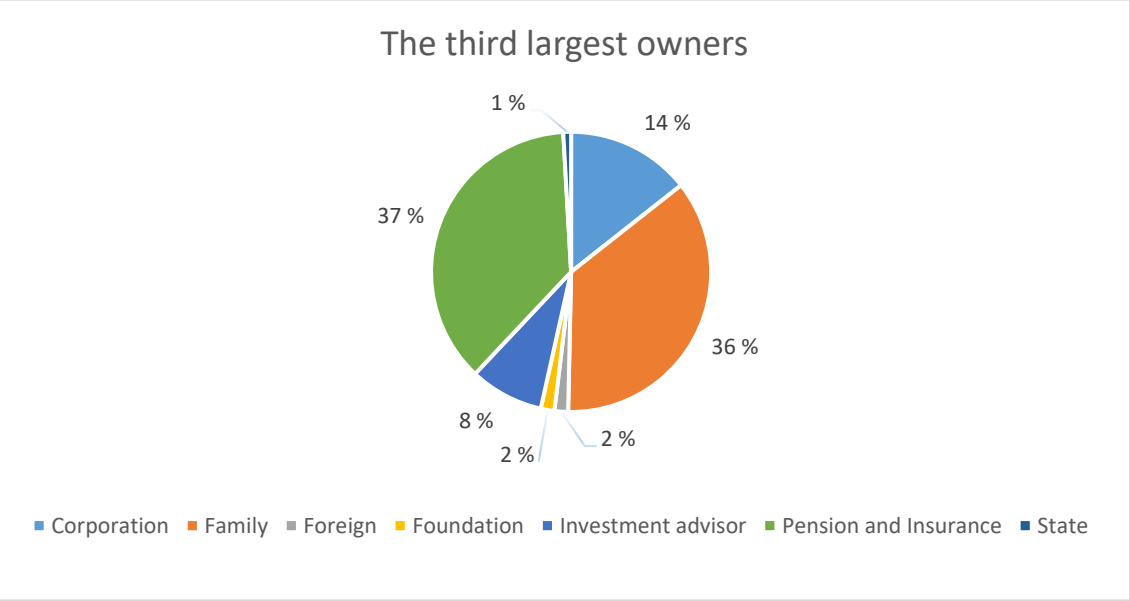

Figure 4. The third largest owners in Nasdaq OMX Helsinki.

The distribution of the full sample ownership types indicates that families dominate the ownership structures with 43%, whilst corporations and pension and insurance companies share together more than one third of ownership types, 15% and 23% respectively. Also, an interesting finding is that the share of investment advisor as a major owner is relatively low (6%). Even though there is an enormous amount of extra capital lying, for instance, in venture, private equity and hedge funds, the share of publicly listed companies in their portfolios seem to be minimal. One possible explanation for this could be that the venture capital and private equity investors seek to invest in relatively young companies, with exceptional business ideas and exponential organic growth, and thus they do not want to invest in stable growth listed companies.

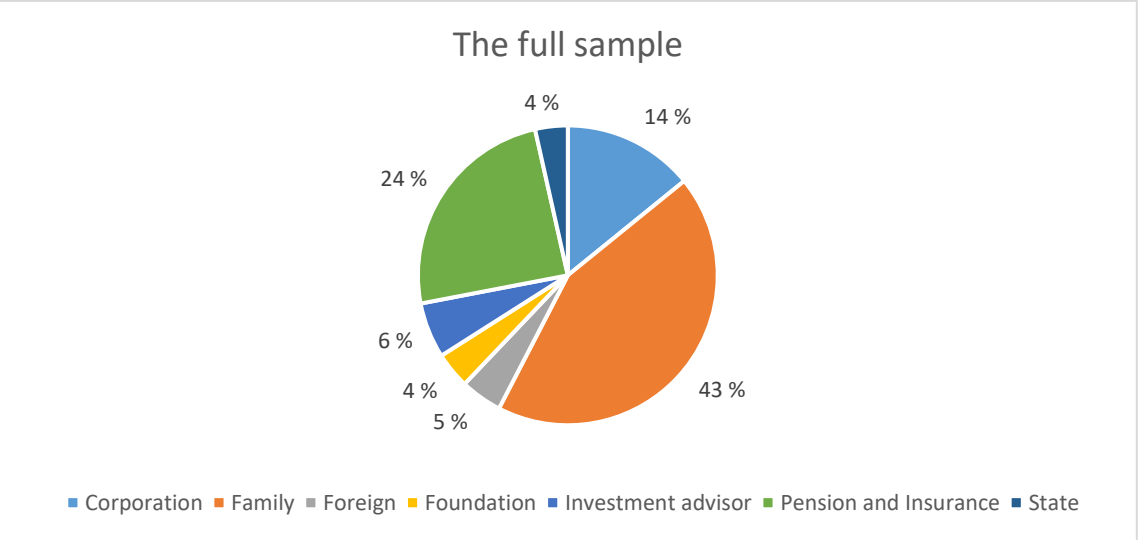

Figure 5. The full sample of ownership types in Nasdaq OMX Helsinki.

Figure 6 below describes the distribution of domestic and foreign ownership among the single largest shareholders of Nasdaq OMX Helsinki. Based on the results in table 6, it can be highlighted that even though the market capitalization of foreign invested capital is relatively high in Finnish capital markets, the absolute amount of invested capital is in most cases minimal. A possible explanation for this stems from the fact that foreign investors usually do not have as in-depth knowledge as required about the Finnish capital markets, and hence the engagement rate to the development of a company through a significant portion of ownership might increase their portfolios' idiosyncratic risk.

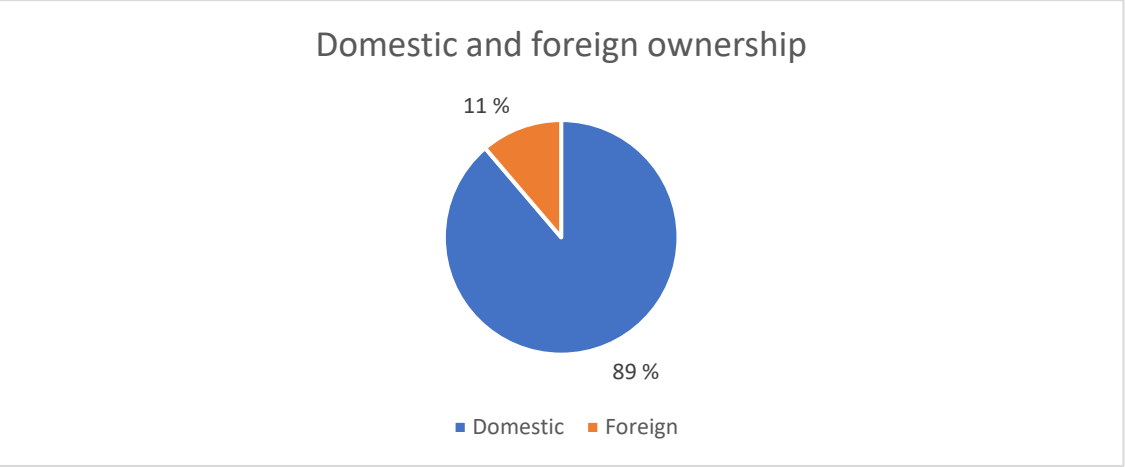

Figure 6. The distribution of domestic and foreign ownership in Nasdaq OMX Helsinki.

Figure 7 below illustrates an important implication of this study. The industry distribution of Nasdaq OMX Helsinki is based on the three digits Standard Industrial Classification (SIC) codes. In the empirical part of this thesis, the industry dummy variables are formed by utilizing these SIC codes. The industries are divided as follows: Construction, Manufacturing, Mining, Retail, Service, Transportation, and Wholesale. As one can see from the figure, over 60 % of companies belong to manufacturing industry. Combined, service and manufacturing form over 80 % of companies in this dataset. The smallest industry is mining which only covers 1 % of observed companies.

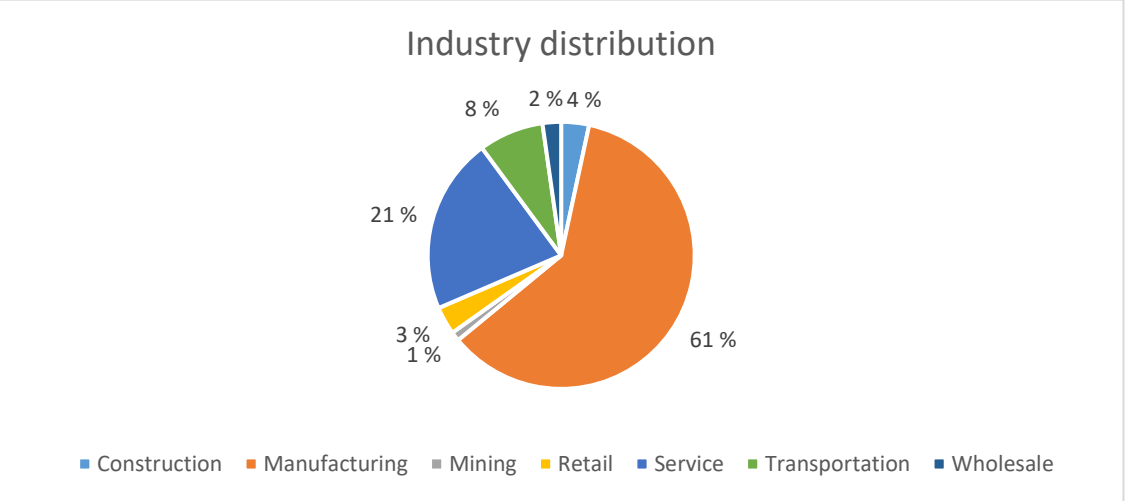

Figure 7. The industry distribution (SIC codes) in Nasdaq OMX Helsinki.

4.2.2 Statistical properties

Table 3 below represents statistical properties and normality test of Nasdaq OMX Helsinki. The dataset includes 445 observations across the time period of 2014-2018. I have divided the variables into three different categories of which the first variable is considered as dependent variable, variables 2-13 as explanatory variables and variables 14-17 as controlling variables.

From the 445 observations, the mean of Tobin's Q results 1,12. As the Tobin's Q indicates the ratio between the market value of a company and the replacement cost of a company's assets, one could argue that in the data sample the market values of

companies exceed their replacement cost of assets. Nonetheless, the median of Tobin's Q for observed companies remains below 1 which indicates that over a half of the companies are still considered as undervalued. When looking at the industry distribution of observed companies, one may not be surprised of the Tobin's Q results since over half of the companies belong to manufacturing industry. The characteristic of manufacturing companies is large intangible assets that are not easily replaceable.

According to Wooldridge (2016), normality plays an important role in statistical procedures as it ensures the validity of a dataset, throughout which empirical economic analysis can be proceeded. In this normality test, skewness and kurtosis are selected to indicate asymmetry of probability distribution, to identify whether or not the variables are normally distributed. From the table, one could interpret that Votes %, Votes over 10%, 15%, 20%, and Family are fairly normal distributed. Yet, Jarque-Bera, which is a test that compares the shape of given distribution to that of normal distribution, rejects the null hypothesis of normal distribution in all the variables in the table.

Consistent with the current market condition, the 95^{th} percentile of the dataset includes some outlier values. This increases the mean and standard deviation of the Tobin's Q ratio. Also, the size factor which is measured as a company's total assets has large variation which indicates that the impact of very large and small companies is relatively high in this data sample. The outlier detection method is presented later in chapter 4.

Table 3. Statistical properties and normality test of Nasdaq OMX Helsinki.

Variable	Observations	Mean	Median	Std.dev	Skewness	Kurtosis	Jarque-Bera
Tobin's Q	445	1,12	0,77	1,46	6,11	50,89	43158,0***
Votes %	445	0,25	0,20	0,18	1,04	3,29	82,0***
Votes over 10%	445	0,81	1,00	0,39	-1,61	3,59	198,6***
Votes over 15%	445	0,64	1,00	0,48	-0,57	1,32	76,1***
Votes over 20%	445	0,49	0,00	0,50	0,06	1,00	74,2***
CEO ownership	445	0,01	0,00	0,06	6,30	49,83	43604,73***
Corporation	445	0,16	0,00	0,36	1,91	4,63	318,86***
Family	445	0,52	1,00	0,50	-0,09	1,01	74,17***
Foreign	445	0,07	0,00	0,26	3,31	11,98	2311,1***
Foundation	445	0,07	0,00	0,25	3,45	12,91	2702,3***
Investment advisor	445	0,04	0,00	0,19	4,81	24,22	10067,9***
Pension and Insurance	445	0,06	0,00	0,24	3,68	14,55	3476,5***
State	445	0,09	0,00	0,28	2,97	9,80	1511,3***
Asset tangibility	445	0,20	0,16	0,18	0,79	2,62	49,0***
Leverage	445	0,15	0,13	0,15	2,66	17,64	4500,3***
Sales growth	445	0,03	0,01	0,24	5,23	66,05	75741,0***
Size	445	1886,26	309,74	4802,17	5,36	38,42	25399,41***

Notes: The data series are yearly coverage from 2014 to 2018, Size (total assets) is presented as millions of euros, whilst asset tangibility, leverage, and sales growth as percentage / 100. Variables from 3 – 5 and 7 – 13 are dummy variables.

4.2.3 Correlation coefficient

Another essential implication of an empirical economic analysis is correlation coefficient between the selected variables. Correlation refers to the statistical relationship between selected variables or data. Correlation coefficient is a statistical measure which illustrate the relationship between a pair of variables, and hence ensures the unbiasedness of the data sample. (Wooldridge, 2016.) To confirm the validity of the data sample, none of the

independent variables should be constant and there should not be any perfect linear relationship between the pair of variables. To be clear, perfect relationship, also named as perfect collinearity, results 1. Generally, the frontier within which variables are “acceptable” is 0,7. Then, it can be concluded that there is no multicollinearity in the dataset. (Wooldridge, 2016.) In the next page, figure 8 illustrates the correlation coefficient matrix of the Nasdaq OMX Helsinki data sample. In the matrix, the abbreviations are as follows: CORP – corporation, FAMI – family, FOUN – foundation, IA – investment advisor, PI – pension and insurance, ASSET TANG – asset tangibility, LEV – leverage, and SG% - sales growth %.

In the correlation coefficient matrix, an important observation is that votes %, votes over 10%, 15%, and 20% have almost perfect collinearity between each other. To ensure the validity of a data set, a solution to evade a distortion of main results is that these bivariate variables are regressed in separate models. I also augmented the correlation matrix by including residuals into examination. Through this, I make sure that the explanatory variable(s) X_i are not correlated with the error term(s) ε_t.

	TOBIN'S Q	VOTES	VOTES > 10 %	VOTES > 15 %	VOTES > 20 %	CEO %	CORP	FAMI	FORE	FOUN	IA	PI	STATE	ASSET TANG	LEV	SG %	SIZE
TOBIN'S Q	1																
VOTES	-0,05	1															
VOTES > 10 %	-0,04	0,98	1														
VOTES > 15 %	-0,03	0,97	0,98	1													
VOTES > 20 %	-0,05	0,96	0,96	0,96	1												
CEO %	-0,13	0,02	0,03	0,03	0,03	1											
CORP	-0,10	0,30	0,28	0,27	0,27	0,06	1										
FAMI	0,06	0,54	0,55	0,54	0,52	0,08	-0,25	1									
FORE	-0,01	0,03	0,04	0,05	0,04	-0,07	-0,09	-0,19	1								
FOUN	-0,03	0,24	0,23	0,23	0,23	-0,06	-0,07	-0,17	-0,06	1							
IA	-0,06	-0,12	-0,11	-0,13	-0,12	-0,04	-0,05	-0,12	-0,04	-0,04	1						
PI	0,00	-0,15	-0,16	-0,15	-0,12	-0,05	-0,06	-0,14	-0,05	-0,04	-0,03	1					
STATE	-0,03	0,24	0,24	0,22	0,23	-0,07	-0,09	-0,19	-0,07	-0,06	-0,04	-0,05	1				
ASSET TANG	-0,04	0,04	0,06	0,05	0,05	-0,10	0,15	-0,26	0,00	0,02	0,04	-0,04	0,36	1			
LEV	-0,05	-0,06	-0,04	-0,05	-0,07	-0,03	0,12	-0,17	0,06	-0,15	0,01	0,02	0,17	0,36	1		
SG %	0,08	0,00	0,00	0,01	-0,01	-0,01	-0,06	0,09	-0,02	-0,05	0,04	0,05	-0,04	-0,01	0,04	1	
SIZE	0,09	0,01	0,01	-0,01	-0,03	-0,15	0,03	-0,17	0,00	-0,03	-0,06	0,01	0,34	0,15	0,18	-0,04	1

Figure 8. The correlation coefficient matrix of Nasdaq OMX Helsinki.

4.2.4 Outlier detection

In the Nasdaq OMX Helsinki stock exchange, the status quo of value stocks is changing as number of growth stocks has gained ground in the recent years. Especially in the bullish market condition, growth stocks tend to be overvalued, as it is also in Nasdaq OMX Helsinki. Thus, reflecting this circumstance in the empirical part of this thesis, one should take under consideration the outlier values, which might have an impact on the main results of the thesis. To avoid this occurrence, I have excluded outlier values from the sample by utilizing winsorization at 98%. Simply, I replace the values below 1^{st} percentile with the exact value at 1^{st} percentile, and the values above 99^{th} percentile with the exact values at 99^{th} percentile.

4.2.5 Endogeneity and survivorship bias

Endogeneity is an economic analysis term which refers to the presence of an endogenous explanatory variable. For econometric analysis, endogeneity is a general problem that can cause challenges in multiple regression models. In a dataset, endogeneity is said to be present if an explanatory variable x_i is correlated with an error term Ɛ. In essence, the error term Ɛ consists of relative information that cannot be explained by the underlying explanatory variables x_i, x_j,…, and thus needs to be corrected to improve the explanatory power of explanatory variables. There are a few main reasons behind the occurrence of endogeneity, such as (1) omitting important variables from the model, also named as omitted variable bias, (2) if the outcome variable is a explanator of x_i, also called as simultaneity bias, and (3) measurement errors in regressors, such as imperfect proxy variables. (Wooldridge, 2016.)

In this thesis, the endogeneity problem may occur between ownership and company performance. On one hand, the hypothesis of this thesis lies in the assumption that ownership has an impact on company performance, but on the other hand a plausible hypothesis could also be that a greater company performance tempts specific investors and owners. If so, the hypothesis converts to the situation where company performance impacts on ownership. The above-mentioned problem could be faced if the dataset used

would only consist of short time-period observations and time effect has not factored in. Evidently, company performance is neither constant nor intrinsic value because the underlying market condition, decisions and actions made by a company's top management and many other policies and circumstances form a basis of a company's future performance. (Wooldridge, 2016.)

In addition to endogeneity and endogenous explanatory variables, survivorship bias has a relevant implication to the empirical research. The underlying assumption of survivorship bias is selection bias where the results, called as survivors, of a certain output are disproportionately estimated. Implicitly, it can be said that survivorship bias examines the omitted observations of the data set, and the possible consequences of omission. At the end of 2019, the Nasdaq OMX Helsinki stock exchange contains over 150 companies from which only 89 is selected to this dataset. Because of the upward market trend, the number of listed companies in OMX Helsinki stock exchange has raised significantly, with over 20% compared to end of 2009. Between 2014 and 2018, 29 companies were listed in Nasdaq OMX Helsinki, and as a result, survivorship bias increases fractionally through this occasion. The other aspect, delisting, is irrelevant, and thus the risk of an injurious impact of survivorship bias is very small since only a couple of companies have moved to another stock exchange from the Nasdaq OMX Helsinki during the sample period.

5 RESEARCH METHODOLOGY

A fundamental assumption in the field of finance is that for increased exposure to risk investors demand higher expected return – compensation. Ultimately, shareholders concentrate on the profitability and long-term success of the company. Hence, including Tobin's Q as a dependent variable, describes most accurate a company's valuation in this dataset. In this thesis, I disclose whether different ownership types result excess returns within the sample period 2014-2018 in Nasdaq OMX Helsinki. I conduct a multivariate analysis and use dummy variables to demonstrate different ownership types. The industry dummies are used as binary variables that take value 1 if a company's ownership type matches the SIC code, and otherwise 0. The regression I use replicates firm performance model used in Anderson and Reeb (2003) and Maury (2006). The model below measures how different ownership types impact on corporate performance by regressing one ownership type at a time against a company performance:

(1) $$Tobin's\ Q = \alpha + \beta_1(Ownership\ type)_{it} + \beta_{2-5}(Controlling\ variables)_{it} + \beta_{6-11}(Industry)_{it} + \varepsilon_{it}$$

where,

α = intercept

β_1 (Ownership type) = Dummy variables (Corporation, Family, Foundation, Investment advisor, Pension and Insurance, and State),

$\beta_{2\text{-}5}$ (Controlling variables) = Asset tangibility, Leverage, Sales growth, and Size

$\beta_{6\text{-}11}$ (Industry) = Dummy variables (Construction, Manufacturing, Mining, Retail, Service, Transportation[7], and Wholesale,

Ɛ = error term, and

it = company (i) and time period (t).

[7] In all regression models, transportation includes communication, electric, gas and sanitary services.

The second model used replicates the ownership model with the difference that, now, voting rights are considered. The regression adds total votes (%), over 10% of voting rights, over 15% of voting rights, and over 20% of voting rights. The model measures, separately, whether different percentage thresholds of voting rights have an impact on corporate performance:

(2) $$Tobin's\ Q = \alpha + \beta_1(Voting\ rights\ /\ CEO\ Ownership)_{it} + \beta_{2-5}(Controlling\ variables)_{it} + \beta_{6-11}(Industry)_{it} + \varepsilon_{it}$$

where,

β_1 (Voting rights) = Total votes %, over 10%, 15%, 20% of voting rights, and CEO ownership

$\beta_{2\text{-}5}$ (Controlling variables) = Asset tangibility, Leverage, Sales growth %, and Size,

$\beta_{6\text{-}11}$ (Industry) = Dummy variables (Construction, Manufacturing, Mining, Retail, Service, Transportation, and Wholesale,

Ɛ = error term, and

it = company (i) and time period (t).

5.1 Model specifications

There are a few different estimation methods to estimate data. Generally, these methods consist of three different approaches: cross-sectional, panel, and time-series data. From these three, panel data has both cross-sectional and time-series dimension. In this chapter, I go through a justification of the selected estimation method and converse on the issues that should be taken under consideration while dealing with the data, such as multicollinearity, heteroskedasticity and random effect. To go through more specifically, the dataset of the thesis consists of multiple time-series and cross-sections. The dataset used in this empirical analysis includes firm-specific variables that change during the time period, and hence the selected category is panel data. To analyse the impact of firm-specific variables over time period 2014-2018, I use a linear regression model for

panel data. Panel data has specific characteristics because it can be based on either fixed- or random-effect. To provide proof estimations and results, the selection between fixed- and random-effect models is done by executing the Hausman test. Instead of pooling together the observations of the panel data, the original panel data is more accurate as it considers the changes of firm-specific characteristics between companies.

5.1.1 Hausman test

To test whether selected econometric model includes misspecifications, I run the Hausman test (Hausman 1978) to illustrate the comparison of two different panel data models. The underlying function behind the Hausman test is that it evaluates whether models´ error terms (Ɛ) are correlated with the explanatory variables. The null hypothesis of the Hausman test is that the preferred model is the random effects model whilst the alternative hypothesis is the fixed effects model. (Wooldridge 2016.)

To guarantee the reliability of estimations, I focus on two methods for estimating unobserved effect panel data models, fixed and random effects. The fixed effects (or unobserved effect) model is a linear regression model where an unobserved variable, such as intercept, changes cross-sectionally but remains fixed over time, whilst the slope estimates are fixed both cross-sectionally and over time. To illustrate more detailed, two assumptions need to be fulfilled: at least two observations for each variable and time variation over time. By presuming that the explanatory variables are correlated with the error term (Ɛ), the fixed effects model forms a variable, a_i, which accounts for the specific effect of the unobserved entity and leaves the rest of the disturbance, which varies over time cross-sectionally, in the error term u_{it}, such following: (Wooldridge, 2016.)

(3) $$y_{it} = \beta_1 x_{it} + a_i + u_{it}, \text{ t = 1, 2, ..., T}$$

Reflecting to this thesis, the fixed effects model does have some limitation. For instance, the model cannot control for variables that vary over time, such as sales growth and total assets. Yet, this limitation can be disregarded by including dummy variables in the model

for units and time. Regardless of this solution, one main problem that occurs is that the more dummy variables are included in the regression, the more noise is controlled for in the regression model. Since the model does not endure changes during the time period, the random effects model becomes relevant, and thus should be taken under consideration. (Wooldridge 2016.)

The random effects model refers to the unobserved effects panel data model where the unobserved effect is presumed to have an uncorrelated relationship with the explanatory variables in each time periods and across different entities. The random effects model is an alternative way to estimate a linear regression model for panel data. (Wooldridge, 2016.)

(4) $$y_{it} = \beta_0 + \beta_1 x_{it1} + \cdots + \beta_k x_{itk} + a_i + u_{it}$$

The equation above turns into a random effects model when we have an assumption that unobserved effect a_i is uncorrelated with explanatory variables as following:

(5) $$Cov(x_{itk,} a_i) = 0, t = 1,2, \dots, T\ ; k = 1,2, \dots, k$$

Conversely to the fixed effects model, the intercept of the linear regression model is described as an average of the variations in the entities over time. This entitles the usage of dummy variables that remain constant over time, such as industry variables. Thus, selecting the random effects model as a proxy for the regression model of this thesis is more plausible for the estimations. (Wooldridge, 2016.) In the Hausman test, I use the Wallace-Hussain (1969) random effects method as an approach for variance estimators.

5.1.2 Further discussion of estimations

In most econometric regressions, the random effects model provides more accurate estimation for observed variables. This argument is also valid in Nasdaq OMX Helsinki data sample as variations in variables over time and the usage of dummy variable should

be included in the estimation. Because of the nature of ownership dummies, the usage of fixed effects model as a proxy for regression is not adequate. Evidently, the fixed effects model omits important explanatory variables from the regression due to collinearity, which stems from no variation over time in the variables. Consequently, the Hausman test cannot be implemented. (Wooldridge, 2016.)

Another reason of why the fixed effects model cannot be executed in the Nasdaq OMX Helsinki dataset originates from the relatively short time period (5 years). Simultaneously, there are fractional variations in ownership structures. Thereby, the probability of insignificant results increases which stems from the fact that the fixed effect model relies in some changes in ownership structures.

6 EMPIRICAL RESULTS

This chapter represents the main empirical results of this thesis. The main results are based on three baseline models represented in chapter 5: the ownership type model, the extension of the ownership type model, and the voting rights model in which the CEO ownership is included.

6.1 Ownership type model

The ownership type model from equation (1) illustrates the relationship between ownership structure and a company's financial performance by utilizing Tobin's Q, a forward-looking performance indicator, as a regressor. Based on the Hausman test, the multiple regression uses the random effects model which is testified as an applicable approach in chapter 5. In this regression model, the industry dummy variables are also used but not reported in the table. The probability of the Hausman test exceeds 0,05 in in each regression indicating that the null hypothesis – the random effects model is not applicable – is rejected in favour of an alternative hypothesis, and thus the random effects model becomes valid. To avoid dummy variable trap, I exclude one ownership dummy variable at each time in regression.

In the results, one may see that there are many ownership types that reports significant results**.** Investment advisor and Pension and Insurance ownership types report significant results at 1 %, 5 % and 10 % level with respect to Tobin's Q. This could be based on the fact that in the upward market condition, both investment advisor and pension and insurance owners have increased their level of riskiness in the stock market via which targeted companies have gained crucial capital to rapid their financial performance, and enhanced more efficient monitoring and controlling of companies' top management. Conversely to earlier academic literature, state ownership type has a positive impact on the Tobin's Q, even though insignificant. Interestingly, when omitting the investment advisor variable, it seems that the ownership variables become

significant at 1 % and 5 % level, with a negative impact. This indicates that investment advisor variable is playing an important role in regression.

In the academic literature, there is a bifurcation of opinions whether asset tangibility has a positive or an inverse relationship with Tobin's Q. For example, Margaritis and Psillaki (2010) have found that asset tangibility has a positive relationship with a company's financial performance. Further, Pouraghajan, Malekian, Emamgholipour, Lotfollahpour, and Bagheri (2012) state that asset tangibility has a positive relationship with company performance. Conversely, Almeida and Campello (2007) report that asset tangibility has an inverse relationship with financial performance of a company. There could be multiple reasons for the bifurcation of the results such as time period, market condition, location of the examined market, and ownership specifications within the examined country.

Prior academic literature suggests that founders bring unique, value-adding skills to a company resulting in superior market valuations. However, conversely to earlier studies, which suggest that family ownership has mainly positive impact on company performance, the results indicate that family ownership have both negative and positive relationship with Tobin's Q, resulting only a couple of significant values at 1 %, 5 % and 10 % level. This indicates an important implication that the status quo of family ownership seems to be changing, at least within 2014-2018 in Nasdaq OMX Helsinki. From the four controlling variables, sales growth reports positively significant results at 5 % level, whilst leverage has negative and significant results at 1 % level. This finding indicates that in the upward market condition companies with relatively rapid sales growth report higher Tobin's Q, whereas an increase in the leverage ratio leads to decrease in Tobin's Q. As expected from earlier research (e.g. Anderson & Reeb 2003), the size factor has a negative impact on Tobin's Q. The R-squared are reported at the end of the table.

Table 4. The random effects model of ownership type model, Nasdaq OMX Helsinki.

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Corporation		0,03	0,21	0,35*	-0,80***	-0,48**	-0,15
		(0,26)	(1,11)	(1,75)	(-3,15)	(-2,18)	(-0,73)
Family	-0,03		0,18	0,32*	-0,83***	-0,51**	-0,18
	(-0,26)		(1,07)	(1,77)	(-3,56)	(-2,54)	(-0,96)
Foreign	-0,22	-0,18		0,14	-1,01***	-0,69***	-0,37
	(-1,11)	(-1,07)		(0,59)	(-3,72)	(-2,87)	(-1,60)
Foundation	-0,35*	-0,32*	-0,14		-1,15***	-0,83***	-0,50**
	(-1,75)	(-1,76)	(-0,59)		(-4,07)	(-3,20)	(-2,05)
IA	0,80***	0,83***	1,01***	1,15***		0,32	0,65**
	(3,16)	(3,56)	(3,72)	(4,07)		(1,06)	(2,33)
PI	0,48**	0,51**	0,69***	0,83***	-0,32		0,33
	(2,18)	(2,54)	(2,87)	(3,20)	(-1,06)		(1,39)
State	0,15	0,18	0,37	0,50**	-0,65**	-0,33	
	(0,73)	(0,96)	(1,60)	(2,05)	(-2,33)	(-1,39)	
Asset tangibility	0,06	0,06	0,06	0,06	0,06	0,06	0,06
	(0,22)	(0,22)	(0,22)	(0,22)	(0,22)	(0,22)	(0,22)
Leverage	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***
	(-4,77)	(-4,77)	(-4.77)	(-4,77)	(-4,77)	(-4,77)	(-4,77)
Sales growth	0,62**	0,62**	0,62**	0,62**	0,62**	0,62**	0,62**
	(2,54)	(2,54)	(2,54)	(2,54)	(2,54)	(2,54)	(2,54)
Size	-0,00	-0,00	-0,00	-0,00	-0,00	-0,00	-0,00
	(-1,57)	(-1,57)	(1,57)	(-1,57)	(-1,57)	(-1,57)	(-1,57)
Constant	1,32***	1,29***	1,10***	0,97***	2,11***	1,80***	1,47***
	(6,36)	(7,50)	(4,72)	(3,99)	(7,41)	(7,24)	(5,69)
R^2	0,239	0,239	0,239	0,239	0,239	0,239	0,239
N	445	445	445	445	445	445	445
Hausman test p-value	0,999	0,999	0,999	0,999	0,999	0,999	0,999

Notes: The first row is the coefficient of the variable and the number in parenthesis presents t-statistics. *, ** and *** illustrate the significance at 10 %, 5 % and 1 % level, respectively. Variables from 1 – 7 are dummy variables.

6.2 Extension of ownership type model

In this section, I present an alternative extension to the ownership type model where each ownership type is regressed alone, with respect to Tobin's Q. Similarly, as in table 5, the results provided in table 6 indicate that both Investment advisor and Pension and Insurance ownership variables have significant and positive relationship with Tobin's Q.

As in table 5, the foundation variable reports negative results with respect to Tobin's Q. Similarly, state ownership reports positive but insignificant results with respect to Tobin's Q. Interestingly, family ownership has negative, even though insignificant, relationship with Tobin's Q. From four controlling variables, sales growth and leverage remain with the same sign and at the same significance level, and the size variable is negative at all examination levels. The probabilities of the Hausman test, and the R-squared are reported at the end of the table.

Table 5. The random effects model of the extension of the ownership type model, Nasdaq OMX Helsinki.

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Corporation	0,00 (0,01)						
Family		-0,09 (-0,90)					
Foreign			-0,27 (-1,61)				
Foundation				-0,36** (-2,00)			
IA					0,85*** (3,66)		
PI						0,50** (2,55)	
State							0,06 (0,31)
Asset tangibility	-0,05 (-0,20)	-0,10 (-0,37)	0,00 (0,00)	0,04 (0,13)	-0,09 (-0,33)	0,01 (0,03)	-0,06 (-0,23)
Leverage	-1,43*** (-3,91)	-1,47*** (-4,00)	-1,40*** (-3,84)	-1,52*** (-4,15)	-1,65*** (-4,53)	-1,45*** (-4,02)	-1,43*** (-3,92)
Sales growth	0,76*** (3,10)	0,77*** (3,16)	0,76*** (3,11)	0,71*** (2,90)	0,68*** (2,80)	0,72*** (2,97)	0,76*** (3,12)
Size	-0,00 (-0,67)	-0,00 (-0,90)	-0,00 (-0,58)	-0,00 (-0,80)	-0,00 (-0,41)	-0,00 (-1,57)	-0,00 (-0,74)
Constant	1,31*** (7,61)	1,39*** (7,32)	1,33*** (7,70)	1,33*** (7,71)	1,31*** (7,63)	1,27*** (7,34)	1,32*** (7,61)
R^2	0,192	0,194	0,197	0,199	0,217	0,204	0,192
N	445	445	445	445	445	445	445
Hausman test p-value	0,991	0,991	0,991	0,991	0,988	0,986	0,989

Notes: The first row is the coefficient of the variable and the number in parenthesis presents t-statistics. *, ** and *** illustrate the significance at 10 %, 5 % and 1 % level, respectively. Variables from 1 – 7 are dummy variables.

6.3 Voting rights model

The following table 7 presents the results from the equation 2 of the study, voting rights model. Total votes %, and each voting right thresholds are regressed separately, and the remain variables are included in each regression. The voting rights model indicates the impact of voting power on company performance. Further, the CEO ownership variable is added to expand the research. All the multiple regressions are based on the random effects model.

Based on the results in table 7, it can be stated that the voting power has an inverse relationship with the financial performance of a company, measured by Tobin's Q. Interestingly, the first threshold (votes over 10%) reports negative and significant values at 1% level whilst the second threshold (votes over 15%) reports negative values but the reported results are less significant. The same trend continues with the third threshold (votes over 20%) where the sign is negative, but the significance is even lower than in the second threshold. This indicates that even though the voting right has an inverse relationship with the financial performance of a company, an increase in voting right percentage lowers the significance with respect to Tobin's Q. The CEO ownership variable has a negative and insignificant impact on Tobin's Q. An increase in CEO's ownership decreases Tobin's Q with 0,0063 units.

From the industry dummy variables, construction, retail and wholesale report negative and significant results at 1 %, 5 %, and 10 % significance level, whilst service reports positive and significant results, at 1 % level, with respect to Tobin's Q. As shown in the results of the ownership type model, leverage and sales growth report significant results, at 1 % level.

Table 6. The random effects model of voting rights, Nasdaq OMX Helsinki.

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Votes %	-0,61** (-2,42)				
Votes > 10%		-0,61*** (-5,53)			
Votes > 15%			-0,30*** (-3,36)		
Votes > 20%				-0,27*** (-3,07)	
CEO ownership					-0,63 (-0,63)
Construction	-0,76*** (-2,67)	-0,74*** (-2,72)	-0,81*** (-2,88)	-0,85*** (-3,00)	-0,75*** (-2,62)
Manufacturing	-0,17 (-1,09)	-0,15 (-1,01)	-0,23 (-1,51)	-0,23 (-1,46)	-0,21 (-1,31)
Mining	-0,56 (-1,26)	-0,59 (-1,39)	-0,73 (-1,70)*	-0,67 (-1,46)	-0,74* (-1,70)
Retail	-0,56* (-1,95)	-0,49* (-1,77)	-0,60** (-2,10)	-0,63** (-2,19)	-0,57** (-1,97)
Service	0,53*** (3,76)	0,52*** (3,83)	0,44*** (3,15)	0,49*** (3,53)	0,46*** (3,32)
Transportation	0,03 (0,15)	0,01 (0,03)	-0,05 (-0,23)	-0,05 (-0,20)	-0,02 (-0,10)
Wholesale	-0,73* (-1,69)	-1,00** (-2,36)	-0,91** (-2,08)	-0,82* (-1,90)	-0,70 (-1,60)
Asset tangibility	-0,00 (-0,00)	0,06 (0,24)	0,01 (0,05)	-0,01 (-0,04)	-0,07 (-0,26)
Leverage	-1,45*** (-4,00)	-1,39*** (-3,94)	-1,44*** (-4,01)	-1,39*** (-3,84)	-1,37*** (-3,64)
Sales growth	0,77*** (3,16)	0,79*** (3,34)	0,80*** (3,31)	0,78*** (3,22)	0,76*** (3,10)
Size	-0,00 (-0,72)	-0,00* (-1,68)	-0,00 (-0,98)	-0,00 (-0.67)	-0,00 (-0,72)
Constant	1,43*** (8,02)	1,76*** (9,49)	1,55*** (8,41)	1,46*** (8.24)	1,33*** (7,63)
R^2	0,203	0,246	0,213	0,209	0,193
N	445	445	445	445	445
Hausman test p-value	0,991	0,989	0,991	0,991	0,986

Notes: The first row is the coefficient of the variable and the number in parenthesis represents t-statistics. *, ** and *** illustrates the significance at 10 %, 5 % and 1 % level, respectively. Variables from 2 – 4 and 6 – 12 are dummy variables.

6.4 Robustness of results

To ensure the robustness of the results, I present a few standard tests which have an essential impact on the main results of this study.

6.4.1 Heteroskedasticity

Heteroskedasticity refers to the condition where the variance of the error term(s) is constant, conditional on the explanatory variable(s). Similarly, homoskedasticity is not present when the variance of the unobserved factors fluctuates across the population. To test whether sample has heteroskedasticity, I conduct Wald's test in Eviews. I test simultaneously multiple variables if they differ from zero. The results are as expected: the null hypothesis of no heteroskedasticity is rejected in favour of an alternative hypothesis that the data contains heteroskedasticity. Furthermore, for serial correlation, I run the Breusch-Pagan test. The probability (p-value < 0,05) of the test indicates that the null hypothesis − no cross-section dependence (correlation) in residuals − cannot be rejected, and hence stays valid.

6.4.2 Normality

The second robustness check test is normality, which is also presented in chapter 4. Under the normality assumption, error terms are normally distributed in all observations. To conduct a test whether this assumption holds, I use Jarque-Bera test, which is illustrated in table 3 in chapter 4. The results support that the assumption of normality is rejected in favour of non-normal distribution for all variables used in the data sample. According to Wooldridge (2016), this issue could be resolved by utilizing the central limit theorem, a probability theory which implies that the independent random variables have a distribution that seems to standard normal when the sample size of a dataset increases. Thus, an increase in the size of a data sample may correct the non-normality. Yet, this central limit theorem does not invalidate the test results, so the assumption of a dataset being normally distributed is not valid.

As can be seen from the normality test in table 3 in chapter 4, the size variable (total assets of a company) has the largest fluctuation from normal distribution based on the reported skewness and kurtosis. Thus, to guarantee the robustness of the results, I test a lagged form of the size variable in all regression models. This lagged form of the size variable is replicated from Anderson, et. al (2003). The outcome of this extension can be found in Appendices 2, 3 and 4.

6.4.3 Multicollinearity

Multicollinearity refers to an econometric situation where the explanatory variables of a multiple regression model have a high correlation among each other. Multicollinearity is expressed as a correlation matrix in chapter 4. As shown in the descriptive statistics, the correlation among the explanatory variables remains within acceptable limits (< 0,7), excluding voting rights variables. This issue is disregarded by regressing voting right variables separately in each multiple regression models.

7 CONCLUSION

The agency problem is a serious issue for companies since it increases the costs of companies. There might occur conflicts between different parties, and hence the alignment of interests among a company's shareholders is a troublesome issue. Although there is a significant volume of research that is conducted on the ownership structure and its impact on corporate performance, yet the issue seems inconsistent and indecisive. Therefore, this study attempts to scrutinize the behaviour of the sample of Finnish listed companies to add the contribution to the existing literature. The purpose of this study is to examine and analyse whether a company's ownership structure and amount of voting rights affect corporate performance. The examination is done by studying a balanced panel data sample which is limited to concern Nasdaq OMX Helsinki stock exchange and by applying multiple regression models to understand the profound interconnection between a company's owners and valuation from different point of views.

Based on the main results of the empirical examination, one could conclude that there exists a bidirectional relationship between a company's financial performance and ownership structure, yet the scope of the impact fluctuates among different types of owners and voting right thresholds.

To measure a company's performance, I use Tobin's Q as a regressor in ownership type, voting rights and CEO ownership models. To ensure robustness of the main results and to avoid dummy variable trap, I omit one ownership type dummy variable from each regression model. The ownership type model reports interesting results. Within the time period of 2014-2018, one could argue that, in Nasdaq OMX Helsinki, companies that have an investment advisor or a pension and insurance company as a major owner seem to generate positive and significant values on a company's financial performance. The explanation for this could be that investment advisor and pension and insurance companies form a strong mainstay for the ownership structure with extra capital and

wide interconnections. These two owners usually participate actively in the management as a major owner by having members on the board.

Another interesting implication is the strength of family ownership's impact on a company's performance. Results imply that family ownership has partly positive and negative but insignificant effect on Tobin's Q. The results are surprising since earlier literature suggests that family ownership has outperformed other ownership types. Based on common premises, foundations should act similarly to pension and insurance companies in their management and monitoring activities, and thus it would be consistent that they would increase a company's performance. However, results imply that they have a negative and significant impact on a company's performance. An underlying explanation for this issue could be found from corporate governance practices and it stems from the fact that their competence as a major owner in a certain company is not adequate to efficient management and multi-level monitoring.

I extend the research by adding an alternative regression to ownership type model where I regress each variable separately, ceteris paribus. The results are consistent with the ownership type model. Investment advisor and Pension and Insurance ownership variables remain positive and significant, as well as foundation reports negative and significant results at 5 % level. The probability of Hausman test and R-squared that are reported at the end of the table remain with almost same values.

In the second regression model, voting rights model, the results show that there is an inverse relationship with the voting rights and Tobin's Q. The first threshold (votes over 10%) reports negative and significant values at 1% level whilst the second threshold (votes over 15%) reports negative values but the reported results are less significant. The same trend continues with the third threshold (votes over 20%) where the sign is negative, but the significance is even lower than in the second threshold. This indicates that even though the voting right has an inverse relationship with the financial performance of a company, an increase in voting right percentage lowers the significance

with respect to Tobin's Q. The negative sign of the voting rights is consistent with earlier studies such as Maury & Pajuste (2005). The CEO ownership variable has a negative and insignificant impact on company performance which is in line with earlier studies (Griffith, 1999; Kim & Lu, 2011). Along with the voting rights and CEO ownership, I augment industry dummies to examine synergy of voting rights and industries on a company's financial performance. Construction, retail and wholesale industries report significantly negative values, whilst service industry has positive a positive impact on company performance in all examination levels.

Future academic researchers can expand this study by using a larger sample of companies. In addition, the current study uses only a five-year time frame from 2014 to 2018, which can also be expanded. Further, this thesis excludes companies in the banking and financial industry finance, leasing and investment companies due to their specific regulation policies. Hence, it would be intriguing to investigate more on those companies, and possibly to compare the Nordic countries with each other as well.

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Appendices

Appendix 1. Non-selected companies

Company	Industry	Reason for exclusion
Aktia Bank Plc	Banking	Industry
Altia Plc	Consumer Goods	Listed in 2018
AS Tallink Grupp FDR	Industrials	Listed in 2018
Asiakastieto Group Plc	Financial Services	Industry, listed in 2015
CapMan Plc	Financial Services	Industry
Citycon Plc	Financial Services	Industry
Consti Yhtiöt Plc	Industrials	Listed in 2015
DNA Plc	Telecommunications	Listed in 2016
Endomines Plc	Basic Materials	Listed in Stockholm stock exchange
eQ Plc	Financial Services	Industry
Evli Pankki Plc	Financial Services	Industry, listed in 2015
Harvia Plc	Consumer Goods	Listed in 2018
Hoivatilat Plc	Financial Services	Industry, listed in 2017
Investors House Plc	Financial Services	Industry
Kamux Plc	Consumer Services	Listed in 2017
Kojamo Plc	Financial Services	Industry, listed in 2018
Kotipizza Group Plc	Consumer Goods	Listed in 2015
Lehto Group Plc	Industrials	Listed in 2016
Lemminkäinen	Industrials	Delisted 2017
Neo Industrial Plc	Industrials	Industry (Investments)
Nixu Plc	Technology	Listed in 2018
Nordea Bank Plc	Financial Services	Industry
Oma Säästöpankki Plc	Financial Services	Industry
Ovaro Kiinteistösijoitus Plc	Financial Services	Industry
Panostaja Plc	Financial Services	Industry
Pihlajalinna Plc	Health Care	Listed in 2015
PKC Group Plc	Industrials	Delisted 2017
Qt Group Plc	Technology	Listed in 2016
Robit Plc	Industrials	Listed in 2017
Rovio Entertainment Plc	Consumer Goods	Listed in 2017
Sampo Plc A	Financial Services	Industry
Sievi Capital Plc	Financial Services	Industry
Siili Solutions Plc	Technology	Listed in 2016
Silmäasema Plc	Health Care	Listed in 2017
Soprano Plc	Technology	Listed in 2014

Sotkamo Silver Plc	Basic Materials	Listed in Stockholm stock exchange
Sponda Plc	Real Estate	Industry, delisted
SSAB A	Basic Materials	Listed in 2014
SSAB B	Basic Materials	Listed in 2014
Taaleri Plc	Financial Services	Industry, listed in 2016
Talenom Plc	Industrials	Listed in 2017
Techopolis Plc	Real Estate	Industry, delisted
Telia Company	Telecommunications	Listed in Stockholm stock exchange
Terveystalo Plc	Health Care	Listed in 2017
Tokmanni Group Plc	Consumer Services	Listed in 2016
Valmet Plc	Industrials	Listed in 2014
Ålandsbanken Plc A	Financial Services	Industry
Ålandsbanken Plc B	Financial Services	Industry

Appendix 2. Lagged size variable, ownership type model

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Corporation		0,07	0,20	0,32*	-0,76***	-0,46**	-0,15
		(0,55)	(1,04)	(1,59)	(-3,01)	(-2,18)	(-0,76)
Family	-0,07		0,13	0,25	-0,83***	-0,53**	-0,22
	(-0,55)		(0,75)	(1,36)	(-3,58)	(-2,69)	(-1,17)
Foreign	-0,20	-0,13		0,12	-0,97***	-0,66***	-0,35
	(-1,04)	(-0,75)		(0,51)	(-3,51)	(-2,81)	(-1,58)
Foundation	-0,32	-0,25	-0,12		-1,08***	-0,78***	-0,47**
	(-1,60)	(-1,36)	(-0,51)		(-3,81)	(-3,14)	(-2,00)
IA	0,76***	0,83***	0,97***	1,08***		0,30	0,61**
	(3,01)	(3,58)	(3,51)	(3,81)		(1,01)	(2,19)
PI	0,46**	0,53***	0,66***	0,78***	-0,30		0,31
	(2,18)	(2,68)	(2,81)	(3,14)	(-1,01)		(1,31)
State	0,15	0,22	0,35	0,47**	-0,61**	-0,31	
	(0,76)	(1,17)	(1,58)	(2,00)	(-2,10)	(-1,31)	
Asset tangibility	0,10	0,10	0,10	0,10	0,10	0,10	0,10
	(0,36)	(0,36)	(0,36)	(0,36)	(0,36)	(0,36)	(0,36)
Leverage	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***	-1,74***
	(-4,77)	(-4,77)	(-4.77)	(-4,77)	(-4,77)	(-4,77)	(-4,77)
Sales growth	0,61**	0,61**	0,61**	0,61**	0,61**	0,61**	0,61**
	(2,53)	(2,53)	(2,53)	(2,53)	(2,53)	(2,53)	(2,53)
Lagged size	-0,05*	-0,05*	-0,05*	-0,05*	-0,05*	-0,05*	-0,05*
	(-1,96)	(-1,96)	(1,96)	(-1,96)	(-1,96)	(-1,96)	(-1,96)
Constant	1,55***	1,48***	1,10***	1,23***	2,31***	2,01***	1,70***
	(6,46)	(7,47)	(4,72)	(4,43)	(7,66)	(6,87)	(5,57)
R^2	0,241	0,241	0,241	0,241	0,241	0,241	0,241
N	445	445	445	445	445	445	445
Hausman test p-value	0,999	0,999	0,999	0,999	0,999	0,999	0,999

Appendix 3. Lagged size variable, extension of ownership model

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Corporation	0,01						
	(0,06)						
Family		-0,14					
		(-1,43)					
Foreign			-0,24				
			(-1,45)				
Foundation				-0,32*			
				(-1,84)			
IA					0,83***		
					(3,58)		
PI						0,52***	
						(2,73)	
State							0,11
							(0,60)
Asset tangibility	0,01	-0,05	0,05	0,08	-0,04	0,09	-0,00
	(0,03)	(-0,17)	(0,18)	(0,29)	(-0,13)	(0,33)	(-0,01)
Leverage	-1,45***	-1,50***	-1,41***	-1,52***	-1,66***	-1,46***	-1,45***
	(3,97)	(-4,12)	(-3,90)	(-4,17)	(-4,58)	(-4,05)	(-3,99)
Sales growth	0,74***	0,76***	0,75***	0,70***	0,67***	0,70***	0,75***
	(3,05)	(3,13)	(3,06)	(2,87)	(2,76)	(2,88)	(3,08)
Lagged size	-0,06	-0,05**	-0,03	-0,03	-0,03	-0,06**	-0,04
	(-1,51)	(-1,96)	(-1,29)	(-1,37)	(-1,19)	(-2,29)	(-1,63)
Constant	1,45***	1,62***	1,45***	1,45***	1,41***	1,47***	1,48***
	(7,41)	(7,07)	(7,41)	(7,43)	(7,29)	(7,60)	(7,37)
R^2	0,195	0,199	0,199	0,202	0,218	0,209	0,196
N	445	445	445	445	445	445	445
Hausman test p-value	0,990	0,990	0,990	0,990	0,988	0,986	0,989

Appendix 4. Lagged size variable, voting rights model

	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q	Tobin's Q
Votes %	-0,67**				
	(-2,65)				
Votes > 10%		-0,63***			
		(-5,76)			
Votes > 15%			-0,34***		
			(-3,70)		
Votes > 20%				-0,29***	
				(-3,31)	
CEO ownership					-0,99
					(-0,97)
Construction	-0,69**	-0,66**	-0,74***	-0,80***	-0,70**
	(-2,42)	(-2,38)	(-2,60)	(-2,78)	(-2,43)
Manufacturing	-0,11	-0,08	-0,17	-0,17	-0,16
	(-0,70)	(-0,54)	(-1,09)	(-1,08)	(-1,02)
Mining	-0,48	-0,49	-0,66	-0,60	-0,69*
	(-1,08)	(-1,16)	(-1,53)	(-1,39)	(-1,68)
Retail	-0,47	-0,37	-0,49*	-0,51*	-0,49**
	(-1,59)	(-1,30)	(-1,70)	(-1,85)	(-1,68)
Service	0,55***	0,55***	0,46***	0,51***	0,48***
	(3,93)	(4,06)	(3,30)	(3,68)	(3,42)
Transportation	0,12	0,09	0,03	0,04	0,04
	(0,51)	(0,40)	(0,14)	(0,16)	(0,15)
Wholesale	-0,62	-0,85**	-0,79*	-0,72	-0,60
	(-1,43)	(-2,01)	(-1,82)	(-1,65)	(-1,37)
Asset tangibility	0,09	0,16	0,12	0,08	-0,00
	(0,32)	(0,61)	(0,44)	(0,30)	(-0,02)
Leverage	-1,48***	-1,40***	-1,47***	-1,41***	-1,36***
	(-4,09)	(-3,99)	(-4,11)	(-3,93)	(-3,62)
Sales growth	0,75***	0,77***	0,78***	0,76***	0,74***
	(3,10)	(3,26)	(3,25)	(3,16)	(3,03)
Lagged size	-0,04*	-0,06***	-0,05**	-0,04**	-0,04*
	(-1,87)	(-2,67)	(-2,27)	(-1,93)	(-1,70)
Constant	1,61***	2,01***	1,78***	1,64***	1,50***
	(7,92)	(9,48)	(8,39)	(8,15)	(7,44)
R^2	0,208	0,246	0,220	0,215	0,197
N	445	445	445	445	445
Hausman test p-value	0,990	0,989	0,991	0,990	0,987