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Master's Thesis

The Effect of Ownership on Company Performance in Crisis: Evidence from the Finnish Stock Exchange During COVID-19

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ABSTRACT:
This thesis investigates the relationship between company ownership and performance measured by return on assets and Tobin's Q during a crisis period, COVID-19. A cross-sectional data from publicly listed companies in the Nasdaq OMX Helsinki is used to study the effect of company ownership. The thesis uses a dataset of Finnish stock listed companies exchanged on the Helsinki Stock Exchange (Nasdaq OMX Helsinki) between years 2017 and 2022.

Company ownership and company financial performance is investigated using a simple linear ordinary least squares (OLS) regression and agency theory as the theoretical framework. The thesis provides further evidence on agency theory from different ownership. Furthermore, the thesis adds to the existing literature of corporate ownership and performance during crisis period from the Nordic context, and more specifically from the Finnish market.

The results of this thesis show companies with concentrated ownership outperforming companies with distributed ownership measured by Tobin's Q. More pronounced results can be observed during the COVID-19 crisis, however, the findings remain consistent throughout the entire study period between 2017 and 2022. Performance results measured by return on assets are not found to be significant. Furthermore, considering company specific characteristics, company size and age are found to have an importance in company performance. Company size is positively associated with return on assets measured by net income whereas company age has a negative coefficient with Tobin's Q. The impact of company specific characteristics become more distinct during crisis period. Finally, the results of this thesis suggest an increase financial performance when a company ownership is concentrated after adjusting for company size, age, and industry.

KEYWORDS: Firm performance, Company ownership, Agency theory, OLS model, COVID-19

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TIIVISTELMÄ:
Tässä tutkielmassa tarkastellaan yrityksen omistajuuden ja omaisuuden tuotolla mitatun tuloksen ja Tobinin Q: n välistä suhdetta kriisiaikana, COVID-19 aikana. Omistuksen vaikutusta Nasdaq OMX Helsingin pörssiyhtiöissä tutkitaan poikkileikkaustietojen avulla. Tutkielmassa käytetään aineistoa Helsingin pörssistä (Nasdaq OMX Helsinki) vuosina 2017–2022 vaihdetuista suomalaisista pörssiyhtiöistä.

Yrityksen omistusta ja taloudellista suorituskykyä tutkitaan käyttäen yksinkertaista lineaarista tavallisen pienimmän neliösumman (OLS) regressiota ja teoreettisena viitekehyksenä käytetään agenttiteoriaa. Tutkielma antaa lisänäyttöä agenttiteoriasta eri omistajuudesta. Lisäksi tutkielma täydentää olemassa olevaa kirjallisuutta yritysten omistajuudesta ja menestymisestä kriisiaikana pohjoismaisesta kontekstista ja erityisesti Suomen markkinoista.

Tämän väitöskirjan tulokset osoittavat, että yritykset, joilla on keskittynyt omistus, menestyvät paremmin kuin yritykset, joilla on hajautettu omistus Tobinin Q: lla mitattuna. Selvempiä tuloksia voidaan havaita COVID-19-kriisin aikana, mutta havainnot pysyvät yhdenmukaisina koko tutkimusjakson ajan vuosina 2017–2022. Pääoman tuotolla mitattuja tuloksia ei pidetä merkittävinä. Kun lisäksi otetaan huomioon yrityksen erityispiirteet, yrityksen koolla ja iällä on todettu olevan merkitystä yrityksen tuloksen kannalta. Yrityksen koko liittyy positiivisesti nettotuloilla mitattuun omaisuuden tuottoon, kun taas yrityksen iällä on negatiivinen kerroin Tobinin Q: n kanssa. Yrityskohtaisten ominaispiirteiden vaikutus korostuu kriisiaikana. Lopuksi tämän väitöskirjan tulokset viittaavat taloudellisen suorituskyvyn paranemiseen, kun yrityksen omistus keskittyy yrityksen koon, iän ja toimialan mukauttamisen jälkeen.

KEYWORDS: Firm performance, Company ownership, Agency theory, OLS model, COVID-19

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1 Introduction

A long-term sustainable company can be built through various of factors and understanding what drives company success can provide insights on the resiliency factors in today's modern economy. Previous literature has introduced the idea that company ownership can drive company success (see e.g. Anderson et al., 2003; Anders, 2008; Berle and Means, 1932). While some researchers have concentrated on a particular ownership structure, others have adopted a broader approach to the field by analyzing the general concept of concentrated versus distributed ownership. Notably however, the research of the effects of family ownership seems to have attracted the greatest attention both globally but from smaller markets as well (see e.g. Anders, 2008; Anderson and Reeb, 2003; Chu, 2011; Ikäheimo and Lumijärvi, 2018; Villalonga and Amit, 2006).

The discussion of corporate ownership and performance has its roots from the 1930's when Berle and Means (1932) firs introduced the concept of company performance and investor control. Moreover, the ownership structure of a company has maintained a continuous place in recent literature and increased emphasis on corporate governance studies have introduced the idea that ownership can influence a company performance (Shleifer & Vishny, 1997). A growing number of literatures have researched into the concentration of ownership and its influence on corporate performance using agency theory as the theoretical framework (see e.g. Amore et al., 2022; Anderson et al., 2003; Anders, 2008; Chu, 2011; Goldeng et al., 2008; Jarchow et al., 2023; La Porta et al., 1999; Rashid, 2016; Tsouknidis, 2019). While some researchers advocate its benefits, other take a contrary view. As a result, empirical evidence remains inconclusive when attempting to determine whether certain ownership structures are advantageous for a company and therefore rises a motivation for further research in the area.

This thesis attempts to investigate the influence of company ownership to company financial performance. More specifically, this thesis tries to answer if having a large owner can drive company success by examining both stable economic period and crisis

period, COVID-19 pandemic. Furthermore, this thesis is driven by the ambition to find potential factors that increase the likeliness of a company to outperform its peers. In doing so, this thesis can bring value to both investors and policy makers while contributing to the literature on company ownership and performance, particularly from the Finnish context. For example, investors can use the information of this thesis to make better informed investing decisions while policy makers can adjust rules and regulations that help the economy in the long run.

This thesis focuses on Finland as it provides an interesting research focus for several reasons. First, company ownership in the country has experienced significant transformations from the 1970s to the present date (Jakobsson & Korkeamäki, 2014). Companies are traditionally owned by private individuals, institutional investors, private corporations, and the public sector, but over time, company ownership has become less concentrated as state and banks have reduced their ownership stakes in publicly listed companies while foreign investors are becoming more common in the Finnish stock market. Second, even though company ownership has changed during the past decades, the Finnish stock market remains highly concentrated. Hence, this thesis is well-positioned to explore various of ownership categories. Third, Finnish companies generally have established corporate governance principles which in return have been showed to influence management and hence have an effect on corporate performance. Last, previous literature has supported the idea that company ownership can benefit corporate performance, however, little evidence is from the Finnish market, specifically during crisis periods. Hence, it is worth studying if correlations between specific ownership categories and company performance can be found from the Finnish market.

At times, crisis periods challenge companies to manage its operations to overcome difficult periods and sustain the company in the long-term. Having an effective company that can adapt and act in challenging situations is something that investors value. Earlier literature has introduced the idea that company ownership can potentially have an impact on the company's ability to handle crisis periods (Beuselinck et al. ,2017; Ding et

al., 2021; Jabbouri and Jabbouri, 2021; Jarchow et al., 2023; Saleh et al., 2017). Crisis period can demand higher management and monitoring from the owners, however it can also require higher financial security. Previous research has not found persistent results on whether there is an ownership category that can outperform others during crisis periods and hence it creates opportunities for research in the area. For example, Jarchow et al. (2023) and Saleh et al. (2017) show families outperforming during crisis, but Jabbouri and Jabbouri (2021) take the contrary view. Beuselinck et al. (2017) on the other hand show that government held companies experiencing lower stock price declines compared to its peers during crisis times. This study uses agency theory as the theoretical framework to analyze the relationship between company ownership and performance during crisis period. This thesis takes the COVID-19 crisis as an example of a global crisis that has affected companies' financial performance.

Prior studies have focused on different forms of ownerships and their effects on performance have studied the relationship in both emerging economies and larger markets (see e.g. Anderson & Reeb, 2003; Anders, 2008; Barroso Casado et al., 2016; Tran, 2020). However, research covering the Nordic countries remains limited, specifically during crisis periods. Literature on COVID-19 crisis has begun to increase on a global term, but, to my knowledge, there is no research on ownership effects to company performance from the Finnish context. Moreover, after the COVID-19 crisis' initial crash in the beginning of 2020 many markets experienced increased volatility issues to which governments were required to provide support. However, certain sectors maintained greater stability than others and specific companies may have profited due to their ownership structure. Consequently, this thesis provides additions to existing literature on corporate ownership and its links to corporate performance during crisis period. Moreover, by conducting this research, the literature on corporate ownership and crisis periods will increase and some future suggestions for more extensive studies in the field of corporate ownership can be outlined.

This thesis studies the relationship of company ownership and performance in the following order. Section 2 goes over the purpose of this study followed by relevant theory framework and literature. Section 3 introduces corporate ownership categories used in this study and analyzes the existing literature on each category. Section 4 focuses on goes over the methodology and data sample followed by empirical results in Section 5. Last, Section 6 concludes.

1.1 Research question

This thesis aims to study the relationship between corporate ownership and firm performance by using agency theory as the theoretical framework. Furthermore, this thesis focuses on providing results on whether ownership concentration in any form can outperform in terms of both market and accounting-based measures and in the time of crisis, COVID-19. To study this relationship between ownership and performance, this thesis categorizes the most common company owners into five categories: concentrated ownership, family and individual ownership, institutional ownership, government ownership, and distributed ownership.

This thesis utilizes both stock price and financial performance data from companies listed on the Helsinki Stock Exchange (NASDAQ OMX Helsinki) during an unforeseen event, the global COVID-19 crisis. This thesis focuses on a crisis period when higher management and governance is needed to capture the possible effects of different ownerships on corporate performance. Consequently, COVID-19 pandemic provides favorable circumstances to study the ownership effect on stock prices and firm financial performance. The study period will include years of 2017-2019.

The research question for this thesis is: *Does a large owner have a positive effect on corporate financial performance during crisis in terms of return on assets or Tobin's Q?*

To answer the research question, this thesis introduces multiple hypotheses later in chapter 3 where evidence on previous studies is reviewed for different ownership categories. However, a null hypothesis is set at this stage.

H0: Ownership has no effect on company financial performance during crisis in terms of return on assets or Tobin's Q.

Finally, the motivation for this thesis is to gain an insight for both investors and policy makers on the effects of corporate ownership and firm performance as this thesis investigates if there is a difference between concentrated and distributed ownership during the COVID-19 crisis. As previous literature remains inconclusive to some extent regarding different ownership effects and their effects on performance, this thesis will add to existing research in the Finnish context by focusing on financial distress. Furthermore, the results of this thesis can provide implications for investors when making investment decisions as it provides evidence particularly for period when higher management and better decision making is expected. Additionally, the findings can be useful for policy makers by demonstrating the possible effects of different forms of ownership. Logically if one ownership category is found to be highly outperforming others, it would be more than fair to expect companies to try to attract those investors. Hence, based on the results, firms and policy makers can take initiatives to attract specific ownership categories.

2 Corporate management and agency theory

A shareholder theory provides a universal assumption for firms and their management is the aim to maximize a company's expected profits. Often, management is provided incentives, such as bonuses, to adapt their actions with this goal and generally, the board of directors is responsible for setting the compensation plans for the management. Further, the board of directors sets management their bonuses based on pre-determined targets and metrics and when reached, management is compensated. As management is compensated on pre-determined metrics, literature has increased an issue if management will go above the metrics to maximize corporate profits or settle with the reached targets. Consequently, literature has introduced agency theory and agency costs, which try to explain and manage conflicts that might occur between agents and principals (Berle and Means, 1932).

This thesis applies agency theory as the theoretical framework to study the relationship between corporate ownership and firm performance. Furthermore, similar to this thesis, numerous researchers have used agency theory framework when examining the relationship between a company management and company performance (see e.g. Anders, 2008, Berle and Means, 1934; La Porta et. al, 1999, Shleifer and Vishny, 1997).

2.1 Agency Theory

Agency theory is frequently introduced when studying the relevance of a company's top-level management as it focuses on the relationship between two parties. Furthermore, agency theory presents a concept where a company's top-level management are seen as agents, who based on delegated decision-making power, act on behalf of the ultimate beneficial owners of a company, stockholders (Berle and Means, 1932). Hence, generally, stockholders are not directly responsible for the final decision-making that is happening within a company since the decision-making is delegated to agents. Consequently, agents who act on behalf of these stockholders receive a compensation for their actions.

Berle and Means (1932) were the first ones to introduce agency theory in the context of corporate ownership while examining the growth of large companies in the United States. Berle and Means (1932) proposed the theory in the early 1930s when company ownerships started to become more diverse. However, despite the increasing diversification, decision-making power and control continued to be in the hands of the same few individuals. Hence, Berle and Means (1932) propose the idea of agency theory where actual stockholders delegate their decision-making power to agents.

In order to thoroughly assess the influence of ownership type, this thesis must consider agency cost, which can be described as redundant expenses that occur when an agent acts in conflict with the stockholders' interests. Agency costs arise from numerous circumstances such as when extra monitoring is required due to conflicts between the management and stockholders. As agents act in favor of the principal, it is almost impossible for agents to act in the best interest of the principal without any agency costs (Jensen and Meckling, 1976). Further, according to agency theory, a company with a large owner is more likely to act as a better monitor for the company's management and thus manage the agency problem by having both, larger financial interest and actual financial resources to make the management more vigilant (Anders, 2008). Consequently, a large owner who has an incentive to monitor the management offers smaller shareholders a solution to the free-rider problem, which is an issue that arises for companies with distributed ownership (Shleifer and Vishny, 1997). Furthermore, free-rider problem arises when the ownership is distributed and shareholders are not controlling the management, which in return results in little monitoring and in return potentially lower performance (Raff, 2011). In companies where management holds complete ownership, agency costs do not arise as the decision making is not outsourced to agents but lay in the hands of the stockholders.

Earlier studies examining agency costs and company ownership, authors have focused on managerial ownership where stockholders hold management roles (Agarwal & Singh, 2020; Rashid, 2016; Huu Nguyen et al., 2020, Bouras & Gallali, 2017). Further, prior

research has focused on managerial ownership and agency costs in Asian countries where ownership is generally more concentrated. In addition to Asian area, Bouras and Gallali (2017) did a comparative study for French and American markets where in French ownership is generally more concentrated. Despite regional similarities in Asian countries, research findings remain inconsistent on the effects of managerial ownership and agency costs.

In addition to direct agency costs, agency theory is used to describe agency cost of debt. Anderson et al. (2013) defines agency cost of debt as an extra cost that arises from a disagreement between equity and debt claimants regarding the risk aversion. Further, Anderson et al. (2013) used agency cost of debt to understand the effect of founding family ownership in publicly listed companies. Moreover, the authors employed agency theory to propose that family-owned companies generally tend to participate in less risky and lower expected-return projects. As a result, the authors suggests that the more cautious approach in terms of investments is observed specifically in family-owned companies because family owners stand to gain or lose the most in case of success or failure as families generally heave higher interest in ensuring the company's future for further generations.

2.1.1 Issues of Agency Theory

Even though various of authors use agency theory as the theoretical framework when analyzing corporate ownership, agency theory has its downfalls. Agency conflicts that arise between managers and stockholders are influenced by the equity ownership structure of a company. It is generally suggested that larger owners have higher motivation to monitor managers, however, in the meanwhile this might lead to exploitation of smaller shareholders (Anders, 2008). On the other hand, if a company ownership is dispersed into multiple smaller shareholders, the ability to monitor the management decreases which in return can generate agency costs (Erkens et al., 2012). However, enhancing the monitoring of the management to reduce agency costs might result in contrary result as costs of monitoring rises (Jensen and Meckling, 1976).

Furthermore, evidence has also been introduced to suggest that agents tend to have shorter focus than principals which again results in agency costs.

Evidence on the shareholder exploitation was studied by Tran (2020) as the author conducted an analysis on the relationship between shareholder protection and corporate cash holdings during the global financial crisis. By utilizing the agency motive, Tran (2020) argues that the financial crisis increased possibilities for managers to exploit shareholders through spending more companies cash holdings. Hence, Trans' (2020) evidence provides some foundation for this thesis as it proposes the idea that of monitoring during crisis. Moreover, Trans (2020) suggests higher corporate governance regulations to control managers' behavior during a crisis period as increased monitoring of managers is needed during crisis period to control cash more efficiently.

Furthermore, Barroso Casado et al. (2016) addressed the shareholder protection from the perspective of having multiple large shareholders in comparison to one large shareholder. Moreover, if having numerous large shareholders increases or reduces the company performance. The authors examined this effect in the Swiss environment by using agency theory and principal-principal conflict. The study provides evidence that overall shareholder protection increases when there are multiple large shareholders because possible principal-principal conflicts in fact drives companies to adopt more formal corporate governance mechanisms in contrast to one large shareholder. Barroso Casado et al. (2016) suggest that concentrated ownership increases shareholder protection only for the one large shareholder whereas having multiple large shareholders results in having generally higher governance mechanisms and shareholder protection.

3 Corporate ownership and performance

In today's modern world, there are four major categories owning publicly listed companies. These are government, private companies, institutional investors, and private individuals including family ownership. Institutional investors including pension and mutual funds hold the largest share of holdings globally, 41 percent of the total global market capitalization (OECD, 2019). Government ownership is found to be the second largest category with 14 percent of global market capitalization and is most common in China, followed by countries such as Saudi Arabia, Malaysia, and Norway. Last two main categories, private companies and individuals take up together 18 percent of the world's market capitalization. Furthermore, it is notably more common for companies to have large shareholders than ownership being dispersed. Worldwide, more than half of companies have ownership concentrated for three or less owners, collectively holding more than 50 percent of the ownership.

A company ownership can be concentrated or dispersed among stockholders. Concentrated ownership often suggests an ownership structure where a clear majority stockholder can be identified. Dispersed ownership on the other hand describes a situation where the decision-making power is distributed among multiple investors. As introduced before, this thesis aims to find whether concentrated ownership, more specifically family-ownership can outperform other companies during crisis times. However, understanding how concentrated ownership arises is important to understand. Regularly large owner can be thought of holding the majority of the company's stock, above fifty percent. However, Berle and Means (1932) introduced that this is not the case as owners with smaller ownership percentages can still put pressure and influence on decisions and governance mechanisms.

Preceding literature has studied ownership and firm generally in two ways. First, by using the percentage of shares owned (see e.g. Bouras and Gallali, 2017; Chu, 2011; Erkens et al., 2012; Huu Nguyen et al., 2020; Tsouknidis, 2019; Yu, 2013) or second, by categorizing companies by its large owners using various of ownership percentage thresholds (see

e.g. Anderson and Reeb, 2003; Anders, 2008; Barosso Casado et al., 2016; Beuselinck et al., 2017; Ding et al., 2021). This thesis uses the latter. Furthermore, to investigate the relationship between ownership and performance, it is necessary to categorize companies into forms of ownership. However, before categorizing ownership, it is necessary to define a clear definition for classification used in this study. Previous research defines large owner with various thresholds suggesting that there is no one single percentage that provides owner enough control. To illustrate, authorities in Finland, Financial Supervisory Authority (FSA) and in the United States, the Security and Exchange Commission (SEC), require stock listed companies disclose information on all owners holding five percent or more of a company's shares. Hence, many authors tend to use this five percent rule when defining a large blockholder. However, this is not always the case.

Berle and Means (1932), the researchers who were the first ones to introduce the idea of the separation of ownership and control suggested that in the United States an owner is considered to have enough control with 10% ownership. Anderson and Reeb (2003) who studied family ownership identified all blockholders holding over 5% of shares in addition to categorizing companies with family owners. Similarly, Barosso Casado et al. (2016) distinguished that an owner is classified as large shareholder if their ownership stake in the company reaches or exceeds 5%. Villalonga and Amit (2006) collected information on all blockholders holding more than 5% share. La Porta et. al (1999) classified owners based on two thresholds, first, general rule that an owner is classified as a controlling shareholder if it holds over 20% of voting rights. Second, an owner can be classified as large if it holds over 10% of the votes. Furthermore, a newer study by Ding et al. (2021) who studied company stock returns during COVID-19 and firm characteristics used an ultimate controlling owner, an owner holding over 50% of voting rights, when categorizing individual or families, governments, banks and other financial institutions, and dispersed owned companies. However, a different definition was used for asset management companies as the authors included all asset management company owners holding over 5% of the outstanding shares. Amore et al. (2022) who

studied family ownership in Italy define family firm by at least 25% ownership as the ownership in Italy tends to be highly concentrated compared to e.g. the United States. Alternatively, Ikäheimo and Lumijärvi (2018) who analyzed family-owned companies on behalf of the Finnish Pörssisäätiö categorized family-owned companies by using at least 10% voting rights.

This thesis distinguishes five ownership categories to study the effect of ownership and company performance. Furthermore, following for example La Porta et al. (1999) and Berle and Means (1932), this thesis adopts threshold of 10% which is considered to give the owner sufficient interest but also power and control to significantly influence decisions without having full control. Further, to clarify the categorization in this thesis, companies are grouped only by its largest shareholder(s), with each company categorized to a single category. Hence, this thesis does not address the issue of principal-principal problem, where more than one large principal may act each pursue their own interests. Concentrated ownership is divided into three primary categories: private family, institutional, and government ownership. If there is an owner who is not family, institution nor government, it is categorized as concentrated ownership. Companies that do not have a single owner exceeding the 10-% ownership threshold are classified as distributed ownership companies. More detailed sampling methods are presented in chapter 5 under section 5.2. Further, these five ownership categories are used to examine the performance of a company using both market and accounting measures.

3.1 Concentrated ownership

Concentrated ownership in general has received plenty of attention from researchers all over the world. Many have studied different ownership types, their prevalence but also influence on company performance from various perspectives. For example, La Porta et al. (1999) found that that both, in developing economies and in countries where there is weak shareholder protection, ownership tends to be more concentrated, and the effect is especially notable in the case of smaller companies. Further, La Porta et. al (1999)

show that family ownership is most prevalent in countries with poor shareholder rights. Yet, family ownership prevails as a common ownership structure in countries where shareholder rights are high.

Furthermore, ownership concentration is typical for many corporations and the majority owners of many companies are families, institutional investors, and the state. Concentrated ownership however can lead to agency issues if larger owners extrapolate minority shareholders (Anders, 2008). On the other hand, large owners have higher influence on the decisions made within the company and increased motive to participate in activities leading the company to increase its value in the long-term.

Corporate ownership is generally recognized as an important factor of corporate governance as numerous researchers have investigated the relationship of corporate ownership and firm performance (Barrosso Casado et al. (2016); Sheilfer & Vishny, 1997). Corporate governance on the other hand, if effective, is generally considered to have a positive impact on company performance. Barrosso Casado et al. (2016) for example show that shareholder protection, i.e., corporate governance measures are more frequently adopted when the number of large shareholders rises. Moreover, the authors conclude that increasing the number of large shareholders results in increased corporate governance mechanisms, generally in order to avoid principal-principal problem where one principal takes advantages from another. The results support the fact that minority shareholders might be better off with companies where there are more than one large shareholder as rising corporate governance mechanisms should influence company performance positively.

There are several viewpoints in favor and contrast to concentrated ownership and most of researchers use agency theory as a theoretical framework when studying the connection. Concentrated ownership is often analyzed by different ownership types including family, managerial, institution, state, and foreign owners. Some studies have focused only on specific owners (see e.g. Anders, 2008; Anderson et al., 2003; Anderson

et al., 2019; Bouras & Gallali, 2017; Chu, 2011; Chung & Zhang, 2011; Rashid, 2016; Smith & Amoako-Adu, 1999) while others focus on all concentrated ownership types in general (see e.g. Barroso Casado et al., 2016; La Porta et al., 1999). Among the different ownership categories, family-owned companies have attracted the highest research focus, primarily due to its unique form and longstanding historical presence.

Company performance and ownership association

Corporate performance and ownership association is often studied using a specific owner, e.g., family ownership (Amore et al. 2021; Anderson et al., 2003; Anders, 2008; Chu, 2011, Jarchow et al. 2023). Thomsen and Pedersen (2000) argue that the identity of the owners is as important as ownership concentration on its own. However, Singal and Singal (2011) show opposite an emphasize only the importance of concentrated ownership. Singal and Singal (2011) find from the Indian market that companies with concentrated ownership outperform distributed owned companies no matter of the owner identity. Thomsen and Pedersen (2000) who studied over 400 of the largest companies in Europe on the other hand highlight that owner identity had an importance in terms of market-to-book values, asset returns and sales growth. Furthermore, in general the authors concluded that concentrated ownership is positively correlated with economic performance until a certain point after which effects become negative.

Based on previous literature on dispersed ownership, this thesis introduces the following first hypothesis:

H1: Concentrated ownership has a positive effect on company financial performance during crisis.

3.2 Family ownership

Literature has defined family ownership in various of ways. To illustrate, Ikäheimo and Lumijärvi (2018) use 10% holding on voting rights to categorize a company as family

owned. Anders (2008) define family ownership if a founding family member serves alternatively as a supervisory board member or an executive or if over 25% of the voting rights is controlled by members of founding family. La Porta et al. (1999) on the other hand define that one can be considered as a controlling shareholder if 20% or more of the voting rights directly or indirectly is controlled by one shareholder. Similar to Anders (2008), Chu (2011) defined family ownership by the top management. Further, Chu (2011) used four management positions; family CEO, family top manager, family chairperson and family director, to study the effect of family ownership on performance. Both Anderson and Reeb (2003) and Villalonga and Amit (2006) initially define family firms without ownership or control but instead using founders and their families positions as an officer, director or blockholder. However, when conducting further analysis, Villalonga and Amit (2006) also point additional qualification conditions where a minimum of 20% voting rights qualifies as family firm. Amore et al. (2022) on the other hand use 25% rule when defining family ownership in the Italian context as ownership tends to be highly concentrated in Italy.

European Commission's definition of family ownership for publicly listed companies defines that a company is categorized as a family business if more than 25% of the decision-making power is exercised by an individual or their family (European Commission, n.d.). Furthermore, in line with the European Commission, Finnish Family Firm Association defines publicly listed family firms as having 25% share of the voting rights brought by the company's shares. Hence, depending on the author and the economy, family ownership can have many definitions (see for example Villonga & Amit 2006, Anderson & Reeb 2003 and Anders 2008).

As stated before, this thesis uses 10% threshold to define a large owner. However, when defining family ownership, it adopts the European Commission's and the Finnish Family Firm Association's definition of family ownership for publicly listed companies as it studies the influence of ownership in the Finnish context. A company is categorized as family-owned if one or more individuals in the same family hold over 25% of the

company's voting rights. Furthermore, similar to Ikäheimo and Lumijärvi (2018) and for the sake of clarity of this thesis, this research considers solely voting rights brought by company's shares and not management positions when defining family ownership.

A transparent owner such as a well-known family with public recognition can have both positive but also negative effects on a company. During crisis periods investors generally pay closer attention but also demand transparency from the decision makers and owners of a company. This can be advantageous for family-owned businesses, as they are often more likely to preserve the company and its reputation to pass the company into further generations (see e.g. Anderson et al. 2003). However, founding families might face higher pressure concerning preserving reputation as it is seemed to have longer lasting economic outcomes compared to non-family firms where top-management changes occur more frequently (Anderson and Reeb, 2003). On the other hand, with good reputation family-owned companies may have better relations to other parties including banks and thus capital as they generally sustain longer term relationships with stakeholders which can be passed on through generations. Moreover, Jarchow et al. (2023) suggests that family-owned companies might be willing to expose some profits as they are willing to risk long-term cash flows to guarantee the continuance of the company when facing crisis. Furthermore, given their tendency to hold positions longer within the companies, families are more willing to have longer-term investment and managerial horizons (Anderson and Reeb, 2003).

On the other hand, researchers have raised concerns regarding family ownership and how they might expropriate smaller shareholders (see e.g. Anderson and Reeb, 2003; Chu, 2011; Fama & Jensen, 1985; La Porta et. al, 1999). To illustrate, Anderson and Reeb (2003) imply that families can expropriate company wealth in various of ways including conducting transactions with related parties, with excessive compensations or unique dividend distributions. Continuing with La Porta et. al (1999) who suggest that situations where family owners have large control, coupled with weak shareholder rights and weak monitoring, family owners can more easily engage in the expropriation of minority

shareholders. Hence, even though many talk in favor of families, family ownership can have its downfalls as well.

Company performance and ownership association

Whether family ownership is beneficial or not and under which conditions, is still debatable. For example, Anders (2008) found that in Germany publicly listed family-owned companies led to outperforming results, however, only if the founding members remained active in the executive or board positions. Hence, Anders' (2008) study suggests that family firms have the potential to outperform the market, but only in situations where there is a close relationship. Moreover, Anderson et al. (2003) finds family firms outperforming other large shareholding companies while studying the S&P 500 companies. The authors conclude similar positive results using both accounting and market-based measures to measure performance. However, the authors illustrate a founder effect though a founder effect was found.

La Porta et al. (1999) found family ownership to be the most conventional ownership category, especially in medium sized companies where family-ownership accounts for 45 percent for companies worldwide. Furthermore, with substantial family ownership the likelihood of other large shareholders decreases, resulting in a diminished ability to monitor the ultimate shareholder. This in return could be harmful for the minority shareholders.

Furthermore, family ownership can have potential costs to a company. Prior researchers have highlighted that family ownership can result in decisions that favor their own interest over those of the other shareholders (Chu, 2011; Fama & Jensen, 1985). Moreover, family ownership is generally associated with taking more risk averse approaches, leading family-owned companies to adopt less risky strategies. This in return might generate lower returns and ultimately be contrary to the companies' ultimate goals, maximize profits. Furthermore, Shleifer & Vishny (1997) introduced the

idea that family-owned companies might rather act as a family employment company where family members are employed regardless of qualities.

Bopaiah (1998) propose that family ownership is associated with a reduced likelihood of moral hazard problems, which, in turn, is perceived as advantageous by lenders. Smith and Amoako-Adu (1999) conducted research in the Canadian stock market focusing on the family succession on corporate value. Their findings indicate that when a family successor was appointed as a CEOs and presidents, stock prices experienced a decline over the days around the appointment. Notably, no significant effect was observed when non-family insiders or external candidates were appointed. The results were particularly notable when the family members appointed were of a younger age. However, when analyzing the stock performance, Smith and Amoako-Adu (1999) found that companies with external successors exhibited a more prolonged period of negative stock performance following the transition. This in return is linked to the fact that companies with external successors often encounter higher rate of senior management turnover following the succession.

Similar to this thesis, Jarchow et al. (2023) conducted research which analyzed family firm performance during crisis times. Using German listed companies, the authors found family-owned companies to specifically outperform other ownership types during crisis period in terms of both, accounting and market-based measures. Furthermore, the authors showed that the higher the equity ownership among a family, the better the performance during crisis periods.

Based on previous literature on family ownership, this thesis introduces the following second hypothesis:

H2: Family ownership has a positive effect on company financial performance during crisis.

3.3 Institutional ownership

Pension funds, insurance companies, mutual funds and other large financial institutions are typically categorized as institutional owners who play a crucial role in the stock markets. Institutional owners with significant ownership percentage are broadly considered to increase the shareholder value of a company, generally by taking part in influencing management decisions and increasing management monitoring. According to agency theory the occurrence of agency conflict is less likely when the management is monitored, and generally institutional owners actively oversee and monitor their investments (Cornett et al. 2007). Consequently, the probability of agency conflicts and agency costs with institutional owners should be lower compared to dispersed ownership.

Conservatism regarding financial reporting can also be associated with institutional owners because of higher likeliness in monitoring the management (Ramalingegowda & Yu, 2012). Furthermore, institutional ownership can benefit minority shareholders as investors search for investments with lower agency costs. Ramalingegowda and Yu (2012) suggests that conservative financial reporting results in governance benefits that institutional investor value more than private investors.

In addition to conservatism, Anderson et al. (2019) and Chung and Chang (2011) discovered that the quality of corporate governance influences the ownership stake of institutional investors. The authors propose that companies who place higher importance on corporate governance experience larger holdings by institutional owners. The same effect is observed when foreign institutional owners are involved (Anderson et al., 2019). Furthermore, minority shareholders can benefit from institutional investors given the increased importance on corporate governance, which increases company monitoring and hence agency issues. Furthermore, it can be argued that corporate governance plays a critical role for companies owned by institutional investors, consequently benefitting minority shareholders.

Moreover, institutional ownership can provide investors understanding about the company's outlook for the future as generally, institutions invest in companies with clear prospects or high potential for the future (Ramalingegowda & Yu, 2012). Chung and Zhang (2011) imply that institutional investors prefer companies whose stocks are liquid as they generally invest larger amounts than individual investors and price impact of trades can result in substantial consequences. Institutional owners generally invest in matured lower risk companies with long investment horizons. Hence, a lack of institutional owners may indicate diminished confidence or potential for a company from institutional owners.

Company performance and ownership association

Prior literature on institutional ownership and its influence on corporate performance is contradictory. However, in general there is an expectation that institutional ownership has positive association with corporate performance (Boyd & Solarino, 2016). Boyd and Solarino (2016) did a comprehensive analysis on prior literature regarding scholars on institutional investors and concluded the positive effect between institutional owners and firm performance. However, literature consists of some contradictions as well.

Tsouknidis (2019) analyzed the U.S. listed shipping companies and institutional owners between 2002 and 2016 and found a negative correlation between institutional investors and company performance. Contrary to the common belief that that institutional investors diminish agency problems and therefore increase company value, Tsouknidis (2019) point to the other direction. According to the author, in the shipping industry, faster decisions-making and flexible management is more valuable. Even though the results are not universal, they highlight possible negative effects of institutional owners. Moreover, as this study focuses on crisis period when fast and unconventional decisions are required, Tsouknidis (2019) proposes that institutional investors may not excel in those areas.

A positive impact on the operational performance of large corporations was linked with institutional investors by Cornett et. al (2007) when examining S&P 100 companies. Moreover, both the number of institutional investors and the ownership percentage demonstrated a positive correlation with company performance. However, this positive correlation was evident only among investors where there is no business relationship to the company. Hence, contrary to Tsouknidis (2019) the results by Cornett et al. (2007) support the theory that institutional investors can increase performance, especially if it can monitor the company.

Based on general expectation of previous literature on institutional ownership, this thesis introduces the following third hypothesis:
H3: Institutional ownership has a positive effect on company financial performance during crisis.

3.4 Government ownership

In the past couple decades, government controlling in companies has risen making government owned companies one of the largest and most rapidly growing enterprises (OECD, 2020). In addition to family-owned companies, governments are among the most prevalent owners worldwide, especially in emerging countries and countries with weak privatization (La Porta et al., 1999). Moreover, government is a typical owner in industries where there is a national or public interest, such as energy-, oil-, airline-, banking-, telecommunications-, and gas industries.

Government owned companies have a rich historical relevance in Finland. However, the Finnish government has diminished their ownership stakes in Finnish publicly listed companies. In recent years, the Finnish government has decreased their buying contrast to selling's, nonetheless, the government's role as an owner in the Finnish stock market is considerable. Government participation extends across multiple sectors in Finland. The government holds companies both directly and through its investing company, Solidium Oy (Prime Minister's Office Finland, 2023). The energy sector holds the highest

share of government portfolio at 55 percent ownership, followed by the basic industry and industrial goods and services at 13 percent. The financing industry holds also at 13 percent from the governments portfolio. Information technology and telecommunications have the fourth largest share in the government's portfolio, with 7 percent value. Furthermore, in 2022, the Finnish governments holding portfolio was valued at 41 billion euros (Prime Minister's Office Finland, 2022).

Considering this thesis' focus is on the COVID-19 period, it should be considered that government owned companies might be in a distinct situation compared to its competitors. Government owned companies are often regarded as less efficient in comparison to other ownership structures; however, this might not apply in the case of crisis when there is a higher possibility of failing (Beuselinck et al., 2017). Often governments can act as the rescuer in case of crisis when others are not investing. Furthermore, compared to other companies, government owned companies may have lower probability to fail due to increased monitoring and enhanced access to government support and financing from banks when facing failure. On the other hand, government owned companies might experience higher number of decisions that are less advantageous to the company compared to private ownership. Moreover, government owned companies typically promote job opportunities and therefore supports employment. Overall, government managed companies help economies in general to advance, however, possibly at the expense of a company.

Company performance and ownership association

Early year studies on government ownership and performance generally suggest that there is either no or a negative link between government ownership and company performance (Boyd & Solarino, 2016). Most studies considering government companies are received from the Asian market, more specifically from China as government ownership is common in the Chinese economy because of reforms when government owned companies were corporatized. However, since Split Share Structure Reform in 2005-2006, government ownership has decreased in the Chinese market.

Yu (2013) received a complex relationship when analyzing the Chinese market as they found a U-shaped relationship between government ownership and performance. Superior performance was identified among companies with a higher level of government ownership compared to companies where the ownership is distributed among multiple stockholders. The findings are explained by the greater connections and access to government support among companies where government ownership is higher. Moreover, the Chinese Split Share Structure Reform had a positive influence on the performance as it increased the profitability ratios of government owned companies.

Unlike Yu (2013), Anders (2008) show that companies with government owners tend to experience negative relationship with return on assets. The authors find significant evidence that companies where government plays the controlling shareholder experience lower accounting performance measures as companies with dispersed ownership. Goldeng et al. (2008) conducted a comparative analysis of privately owned companies and those with government ownership in Norway. Contrary to Yu (2013) and similar to Anders (2008) the authors distinguished a clear underperformance in government owned enterprises when analyzing Norwegian company accounting information between 1990 and 1999. Moreover, unlike most studies on company ownership, Goldeng et al. (2008) data set consisted of the full population of companies in Norway whereas most commonly studies have focused on analyzing publicly listed companies. Higher effects were found when studying accounting measures compared to market prices which in return suggest that management plays a key role in company performance. These findings are important, and they suggest that privately owned companies are better at attracting talent and competence to the company compared to state ownership.

Going further and analyzing ownership structures during crisis periods, Beuselinck et al. (2017) who analyzed government ownership in the European context using listed companies in 28 countries found government owned companies experiencing lower

stock price reductions relative to non-government owned companies. However, it is noteworthy that the results were only observed in countries with low corruption and high investor protection. Results by Beuselinck et al. (2017) could on the other hand be applied in the Finnish context as Finland ranks second in the Global Corruption Index in 2022 (Transparency International, 2022). Similar to Beuselinck et al. (2017), Ding et al. (2021) find government-controlled companies overperforming dispersed ownership structures during crisis times.

Previous literature on state ownership has mainly resulted negative or non-relevant relationships between ownership and financial performance during stable economy. However, government ownership may provide positive outcomes during crisis times because of its unique position compared to other ownership categories. Hence, this thesis introduces the following fourth hypothesis:
H4: Government ownership has a positive effect on company financial performance during crisis.

3.5 Distributed ownership

Companies that do not have a single significant shareholder that could use either direct power or influence on the company management are categorized as distributer ownership. Further, distributed ownership companies are generally the minority in stock exchanges and in Finland they account roughly 12% of all companies listed on the Finnish OMX Helsinki stock exchange. As previously introduced, corporate governance mechanisms often increase as there are large owners in a company, hence, when ownership is distributed among multiple smaller shareholders, one could question whether corporate governance mechanisms exist. Moreover, when ownership is distributed among multiple smaller shareholders, the conflicts between large and majority shareholders tend to decrease. Furthermore, companies with distributed ownership specifically face free-rider problems that can in return effect company performance negatively (Raff, 2011). Such free-rider problems do not affect companies with large owners as much as they have incentives to monitor the management.

La Porta et al. (1999) defines distributed ownership as a company that is widely held among multiple investors. Furthermore, the authors establish that a company lacks a controlling shareholder if no single shareholder, whether directly or indirectly, holds more than 10% ownership. The authors present that distributed ownership can be found more commonly in rich countries but also in countries with good shareholder rights. However, even though Finland holds high shareholder rights, distributed ownership companies account only 12 % of the total sample using 10% ownership categorization. Furthermore, La Porta et al. (1999) showed that distributed ownership becomes more scare as company size diminishes implying that companies listed on the stock exchange are likely to have the most widely dispersed ownership structures.

Company performance and ownership association

Previous literature has put little focus specifically on distributed ownership and its possible effects on corporate financial performance, however, many studies have considered distributed ownership when examining the possible outperformance of other ownership categories. Further, previous literature often suggests concentrated ownership generating higher profitability compared to distributed ownership. For example, Anders (2008) concluded that distributed ownership does not overperform family companies in the German context. Cornett et al. (2007) on the other hand suggest that institutional investors can enhance company performance, especially if it can monitor the company implying the main point, having a large owner has its benefits.

Many studies show concentrated ownership having a positive influence on corporate performance by outperforming companies with distributed ownership type during both stable economy and crisis times (see e.g. Anders, 2008; Jarchow et al., 2023, La Porta et al., 1999). Furthermore, Perrini et al. (2008) used data from the Italian market to find whether ownership concentration influences company ownership. Like this study, the authors use Tobin's Q as the performance measure. Perrini et al. (2008) show that concentrated ownership companies are outperforming, likely due to the idea of greater

ability in monitoring the company. The authors show that ownership concentration among five largest shareholders is positively correlated with company performance measured by Tobin's Q. Similarly, to Perrini et al. (2008) but from a distinct market, India, Singal and Singal (2011) find concentrated ownership outperforming distributed ownership structures. Furthermore, the authors use both stock returns and return on assets to measure corporate performance from 2001 to 2009 and find that only ownership concentration matters, not the actual ownership category. However, even though majority of research talk in favor of concentrated ownership, Nagar et al. (2011) show that among privately held companies in the context of the United States, companies where control was more distributed performed better in terms of EBITDA. Similarly, Anders (2008) found government owned companies to be less profitable than companies with distributed ownership suggesting that concentrated ownership itself does not in all cases result in superior performance.

As previous literature suggests that in most cases concentrated ownership outperforming distributed ownership companies, fifth hypothesis is set as following.
H5: Distributed ownership has a negative effect on company financial performance during crisis.

4 Corporate performance and crisis

In addition to understanding the general effect of corporate ownership, this thesis tries to answer whether a company ownership matters during a crisis period. Furthermore, understanding firm behavior and success factors in corporate performance during crisis periods increases the interpretation on what makes a company sustainable in the long term. Despite the diversity of crises and their impact on the economy, existing literature has introduced general insights on corporate ownership and its relationship to performance (see e.g. Amore et al., 2022; Ding et al., 2021; Jabbouri and Jabbouri, 2021; Perwitasari et al., 2022). Literature on corporate performance during crisis periods focuses mainly on the financial crisis in 2008 and it has put emphasis on different ownership categories, most studied being family-ownership. Furthermore, scholars have analyzed the global financial crisis in many markets (Beuselinck et al. ,2017; Jabbouri and Jabbouri, 2021; Jarchow et al., 2023; Saleh et al., 2017). The 2008 global financial crisis has its roots from the United States, but its effects have spread around economies having dramatic negative effects on company performances and returns on investments.

Besides the global financial crisis, some researchers have started to address the COVID-19 crisis when analyzing the corporate adaptability to external challenges (Amore et al., 2022; Ding et al.,2021; Perwitasari et al., 2022). COVID-19 crisis was result of coronavirus SARS-CoV-2 spreading globally and the crisis has its roots from China where the spread of the virus started in late 2019. Quickly in the beginning of 2020 the virus had spread across the globe and affected millions of people globally. For the economy, the crisis had severe effects to businesses by lowering demand, increasing the number of bankruptcies, job layoffs and effecting the general trade and supply chains. Moreover, many companies experienced dramatic changes in stock prices, some more than others. Government support was provided in many countries to help companies survive and other actions such as new business innovations and business models were required.

The COVID-19 pandemic provides researchers a new topic to analyze, namely the potential impact of company ownership on the adaptability of a company during crisis

and, consequently, its overall performance. Moreover, crisis situations demand higher levels of monitoring, adaptability, and innovativeness, emphasizing the importance of obtaining the right assets. Previous literature has concentrated on identifying firm characteristics such as industry, corporate social responsibility, and corporate governance (Ding et al., 2021) that may have influenced the company's performance. Furthermore, there has been early research focusing on firm ownership characteristics and their influence on company performance from specific markets (Amore et al., 2022; Ding et al., 2021; Perwitasari et al., 2022) but the research has not yet focused for example to the Nordics. Hence, this thesis will add to the existing literature by analyzing the effect of ownership during COVID-19 crisis in the Finnish context.

4.1 Global financial crisis

Using accounting-based measures to analyze company financial performance during the global financial crisis, Jarchow et al. (2023) found evidence in Australian market that family firms tend to outperform other dispersed ownership structures, however only during crisis times. The results are consistent with literature suggesting superior performance with concentrated ownership during stable economy (Anderson et al., 2003; Barroso Casado et al., 2016; La Porta et al., 1999). Moreover, supporting Jarchow et al. (2023), Saleh et al. (2017) find positive and significant relationship between firm performance and ownership concentration as they show family firms outperforming other companies with dispersed ownership. Jabbouri and Jabbouri (2021) on the other hand find controversial results from the emerging markets as family ownership is found to increase the likeliness of exportation of minority shareholders. Furthermore, the authors showed institutional ownership having a positive influence on corporate performance both pre- and post-crisis. Jabbouri and Jabbouri (2021) explain the results with the monitoring ability of institutional owners. Contrary results to Jabbouri and Jabbouri (2021) were presented by Erkens et al. (2012) from a global sample during the financial crisis as the authors find negative relationship between institutional investors and firm performance. Beuselinck et al. (2017) analyzed government ownership in the European context using listed companies in 28 countries and found government owned

companies experiencing lower stock price reductions relative to non-government owned companies. However, it is noteworthy that the results were only observed in countries with low corruption and high investor protection.

4.2 COVID-19 crisis

Family-owned companies were found to receive significantly higher CAPM-adjuster abnormal returns during the COVID-19 crisis in contrast to non-family companies (Amore et al., 2022). Higher returns were observed among companies without other large minority investors and in companies with more than one active family member. Hence, Amore's et al., (2022) results suggest that high family involvement leads to increased performance during crisis period. Similarly, Perwitasari et al. (2022) analyzed ownership structure in the Indonesian market, discovering a positive impact on performance from both family and institutional owners. Families can more easily supervise and control the company whereas institutions are expected to reduce business risk resulting in higher performance. Ding et al. (2021) used a global data set across 61 economies to study the effect of ownership during COVID-19 using stock returns. The authors found consistent results with Amore et al. (2022) and Perwitasari et al. (2022) in terms of family ownership, however, institutional ownership, specifically hedge funds, were found to influence stock returns negatively. Furthermore, providing even further insights on different ownership categories, Ding et al. (2021) present government-controlled companies overperforming dispersed ownership structures because of potentially better opportunities to provide both managerial but also financial support. However, despite insightful early-on results of the pandemic by Ding et al. (2021), it is noteworthy that the authors study these firm characters only for a five-month period from January 2022 through May 2020 and hence the results might not hold in the long-term.

5 Data and Methodology

Previous research on company ownership and firm performance has primarily focused on large economies and literature from the Nordics and specifically from Finland remains little. Furthermore, possible effects of crisis, and specifically COVID-19 crisis have not received much attention as the economy has recently begun to recover from the COVID-19 crisis. However, there are researchers who have explored the effects of the COVID-19 crisis and ownership on performance (see e.g. Amore et al., 2022; Ding et al. 2021; Perwitasari et al., 2022) but none from the Nordic or Finnish context. Moreover, previous research on crisis periods has focused mainly on the global financial crisis (Beuselinck et al., 2017; Erkens et al., 2012; Saleh et al., 2017) and specifically on family ownership (see e.g. Jarchow et al., 2023; Jabbouri and Jabbouri, 2021; Saleh et al., 2017). Furthermore, this thesis investigates if company ownership can influence financial performance during an uncertain period when higher management and decision-making is required. Previous literature has illustrated that during crisis times particular ownership types may outperform others in terms of both market value and financial performance. For example, government owned companies are in a unique situation compared to other ownership types as generally they have deep pockets and better enhanced access to financing if required (Ding et al., 2021). Furthermore, family-owned companies are inclined to make decisions influencing the company's long-term targets, given their stronger motivation to ensure the company's continuance for further generations (Amore et al., 2022). This, in turn, reassures investors the company's incentives to overcome the crisis period.

This thesis will provide further understanding on ownership effects during a newer crisis in a new market. This thesis focuses on companies listed on the NASDAQ OMX Helsinki between the years 2017 and 2022 when NASDAQ OMX Helsinki had 139 different stocks listed on the stock exchange. However, due to firm and industry specific factors, initial public offerings (IPO's), buyouts and other exits from the public markets, further processing for the data sample is required. This chapter will go over more detailed overlook on the sampling method used in section 5.2. Moreover, as the study aims to

find results on ownership structure and its effects on performance during a crisis period, the study considers both, years prior to COVID-19 and years when the COVID-19 pandemic was at its greatest. Due to the pandemic happening in recent years and hence the lack of sufficient financial data, this thesis is not able to take into consideration the most recent fiscal year and the end of COVID-19 which was declared by the World Health Organization to be May 2023 (World Health Organization, 2023). Thus, a data period for this study is set between 2017 and 2022.

5.1 Research methods

Similar to Anders (2008) this thesis analyzes the ownership effect on performance by using both market-based and accounting measures in order to capture an inclusive and uniform understanding of a company's performance during pre- and crisis periods. Moreover, by using a market-based measure in addition to accounting measure this thesis will include an external viewpoint to the company performance as it is ultimately based on investors' expectations. Accounting measures on the other hand are internal assessments based on financial data. Further, this thesis uses return on assets (hereafter ROA) as the accounting measure and Tobin's Q as the market-based measure.

ROA is an accounting measure, which provides an understanding of the company's profitability while considering the company's debt. ROA is a measure expressed as a percentage that weights the company's return on the capital it utilizes. Furthermore, ROA is calculated by dividing the company's net profit by its total assets. Higher ROA suggests better asset efficiency and performance, hence the higher the ROA the better. ROA serves investors with knowledge on how efficiently an organizations management utilizes its assets to generate income and it has been widely used in literature covering firm performance (see e.g. Anderson and Reeb, 2003; Anders 2008; Barroso Casado et al., 2016; Cornett et al., 2007; Jarchow et al., 2023; Villalonga and Amit 2006). Alternatively, to ROA, return on equity (hereafter ROE) is a measure that indicates investors the level that the investment is generating income. ROE provides knowledge on the company's ability to manage the company's equity and hence it assesses the

magnitude of how much the company has received return on equity for the given financial year. Consequently, as this thesis studies the company ownership and its possible effects on the management oversight, ROA is regarded as more appropriate performance measure. Similar to Anders and Reed (2003) this thesis calculates ROA using two mechanisms. First, using company net income divided by total assets. Second, using earnings before interest, tax, depreciation, and amortization (EBITDA) divided by total assets.

Equations for ROA:

$$ROA1 = Net\ Income\ /\ Total\ Assets \tag{1}$$

$$ROA2 = EBITDA\ /\ Total\ Assets \tag{2}$$

where,

Net Income = net sales - operating expenses - other business expenses - taxes - interest on debt + other income

EBITDA = net sales + interest expense + taxes + depreciation + amortization

Total assets = book value of total assets

Analyzing company market performance can be done using measures such as total shareholder return (TRS), market-to-book ratio (MB), price to earnings (PE), and Tobin's Q. However, building upon prior research on corporate ownership and company performance, Tobin's Q is used in the market-based approach of this thesis as it is probably the most common measure of performance in ownership studies (see e.g. Anderson & Reeb, 2003; Anders, 2008; Barroso Casado et al., 2016; Tran, 2020). Furthermore, Tobin's Q, which is calculated by the market value of assets divided by replacement value of assets, is an appealing measure for company value as it illustrates whether a company has been successful in its investment decisions. It also reflects the company's outlook for the future (Cornett et al., 2007).

Equation for Tobin's Q:

$$Tobin's\ Q = (\ Market\ Value\ of\ Company)/\ (Total\ Assets) \quad (3)$$

where,

Market value of company = company share price multiplied by the number of outstanding shares

Total assets = book value of total assets

5.2 Sampling method

The data set used in the thesis is panel data with multiple observations from each company. The data is gathered from Refinitiv Eikon database, where data from publicly listed companies is available. Data is collected for the whole sample period. Moreover, both company stock and financial data can be downloaded directly from Refinitiv Eikon resulting in a very little hand-collecting need and possibility to have errors in data collection. Consequently, the reliability of the data or manipulation issues do not raise concerns. Moreover, the stock data is publicly available data that is affected by multiple attributes, and financial data is based on company performance and audited to check its validity.

After obtaining the data from Refinitiv Eikon database, similar to previous literature on the topic (see e.g. Anderson and Reeb, 2003; Villalonga and Amit, 2006) the first step is to exclude companies in the financial sector as their balance sheet differs widely from non-financial companies making it hard to compare. Second, companies that either had IPO's during the study period or who delisted from the stock exchange are excluded so that these companies will not manipulate results and that the study sample remains the same during the study period. Third, to exclude outliers in the control variables, this thesis winsorizes the data by the upper and lower 1%. Hence, companies with values

above 99-percentile, receive a value of the 99-percentile and companies with values below the 1-percentile, receive a value of the 1-percentile.

A few companies on the OMX Helsinki Stock Exchange have listed two classes of shares, each with different voting rights which need to be considered when choosing which stock to choose in the sample. To illustrate, Kesko Oyj's class A shares come with 10 votes per share, while class B come with 1 vote per share. Metsä Board Oyj's class A give 20 votes per share and class B 1 vote per share. Moreover, OMX Helsinki Stock Exchange has also companies with dual class shares from which only one is stock, a stock with less voting rights listed on the stock exchange. Take for example Sampo Oyj and Kone Oyj, both companies have class A shares that hold more voting rights and that are mainly held by the founding members. Generally, there are more stocks outstanding with lower voting power and they have higher liquidity and trading volume. Furthermore, the majority of companies with dual class shares are family-owned, with family members holding shares with higher voting rights. As this study tries to provide answers for both policy makers and private investors, it includes shares that have higher trading volume. Hence, from companies with two dual-class shares listed on the stock exchange, this thesis considers a company share with lower voting power when analyzing stock prices. In the long run, dual-stock prices follow the same pattern and hence should not disrupt the results. Companies in the sample with dual class shares that are both traded on the stock exchange are Ilkka, Kesko, Metsä Board, Oriola, Orion, Raisio, SSAB, and Stora Enso. All companies in the data sample with dual-class shares and their voting rights can be identified in Appendix 2.

Company ownership data must be collected by hand to some extent because of the dual-class shares. Ownership data is mainly retrieved from Refinitiv Eikon company specific profiles. In accordance with the Finnish legislation, the ownership details of a company are considered public information, and it shall be updated and available in the company's headquarters. Furthermore, stock listed companies are required to disclose all owners with over 5% holdings making the availability of the data easier. Refinitiv Eikon database

has collected the ownership data from the companies and the data is retrieved one company at a time resulting in little manual processing. Furthermore, as stated earlier, some OMX Helsinki stock listed companies have dual-class shares. For those companies, ownership data is hand collected by checking the company's websites and annual statements for the largest owners to make ownership categorization correctly. Typically, companies list down their largest owners by votes and by shares on their websites to see who has the ultimate controlling power. In addition, all owners that are categorized as "Corporation" by Refinitiv Eikon are checked using Orbis database, which provides information on non-listed company shareholders. The purpose to check these companies is to find any possible private individual or family controlled holding companies. To illustrate, at the end of December 2017, SRV had a corporate owner, Kolpi Investments Oy, with a stake of 19% in total shares. Kolpi Investments Oy is ultimately controlled by one private individual, Ilpo Kokkila, who was one of the founding members of SRV suggesting that SRV is a family company. Furthermore, the next three largest owners after Kolpi Investments Oy are private individuals belonging the same family, based on their last name. Hence, all together Kokkila family holds over 50% of the shares making the company family owned even though the largest owner does not itself own more than 25%. Similar checking of the largest owners is done to all companies to see if similar last names hold together over 25% company votes. Furthermore, Cargotec Oyj's three largest owners were holding companies, who together held over 27% of the voting rights. After investigating the ultimate owners of these holding companies from Orbis database, it turned out that each of these were controlled by different family members of the Herlin family. Hence, even though there are no direct ownership of 25% by one individual, these three family members together hold over 25% and thus, Cargotec Oyj is categorized as family-owned company. Finally, because of the need for hand-collecting regarding ownership data, there is an acknowledgement of the potential for errors in the data collection process.

Following, companies are categorized by their largest owners using the thresholds presented and justified prior. A company is categorized only to one ownership category

even if there are more than one owner from different categories holding over 10%. Hence, if a company has more than one owner holding over 10% of shares outstanding, excluding family members, a company category is appointed by its largest shareholder. To simplify this study, companies are assigned to a single ownership category throughout the entire data period. Furthermore, the changes driven by owners may require time, which why the study focuses on the entity and its category that has served as the longest-standing owner. The majority of companies experienced no changes in terms of the largest owners during this period, simplifying the categorization process. Notably, three companies underwent ownership changes three times, and nine companies experienced a single change in ownership category. Companies with multiple changes in ownership category are excluded from the sample due to the complexity of categorization. However, for companies with no more than one ownership change, the category is determined by the owner who held the largest stake for the longest duration. In cases where both owners concurrently held the company, particular emphasis is given to years' post-2020, as this thesis' emphasis is in evaluating the influence of ownership during the COVID-19 pandemic. To illustrate, between years 2017 and 2019 SRV Corporations was held by a family, however in 2020 the largest share was sold to a Pontos Group, a private equity company who remained as the largest holder util the end of the study period. Hence, as an institution held the company during COVID-19, SRV Corporation is categorized as institution held company.

Concentrated ownership can include owners such as private individuals who own less than 25% and thus are not categorize as family corporation, both domestic and foreign corporations, cooperatives, foundations, associations, and other similar business entities. Institutional owner is used when Refinitiv Eikon has categorized the stockholder as "*Investment Advisor*", "*Hedge Fund*", "*Sovereign Wealth Fund*", "*Pension Fund*", "*Insurance Company*", "*Bank and Trust*", "*Private Equity*" or "*Venture Capital*". Government is selected as the ownership category if the owner is the government directly or its controlling company, Solidium Oy. Finally, a total sample of 92 companies is received for the analysis to which further description is given in chapter 6 under

descriptive statistics. Appendix 1 illustrates final categorizations for all OMX Helsinki stock listed companies used in this thesis.

5.3 Variables

This thesis uses two dependent variables, which will both be tested independently with the ownership categories. Further controlling for the results is done using various of controlling variables.

5.3.1 Dependent variables

This thesis examines both, market-based and accounting-based measures to measure company performance during the COVID-19 crisis. Furthermore, when conducting market-based OLS regression, this thesis uses Tobin's Q as the dependent variable and performing accounting-based regression, ROA acts as the dependent variable.

5.3.2 Explanatory variable

Ownership categories which have been assigned based on largest owners retrieved from Eikon. Ownership is categorized into five categories, however, if a company's ownership is concentrated, it must also belong to another ownership category. This thesis includes a dummy variable to denote each ownership category. Hence, if a company has an individual holding more than 25% it belongs to a family ownership category and receives a value of 1 and if the conditions are not met, it receives a value of 0. Ownership categorization, definitions and company examples from the sample are presented in Table 1.

Table 1. Ownership categories, definitions, and examples

Explanatory variable	Definition	Example companies
Concentrated	Over 10% owner can be identified but who is not a family, institution, or government	Afarak Group, Alma Media, Aspo, Citycon, Dovre Group, HKScan, Huhtamäki, Incap, Innofactor

Explanatory variable	Definition	Example companies
Family	Individual or family holding over 25% of voting rights in terms of stock holdings	Biohit, Cargotec, Digitalist Group, Honkarakenne, Kone, Lehto Group, Martela, Noho Partners, Reka Industrial, Talenom, Withsecure
Institutional	Pension fund, hedge fund, mutual fund, insurance company. Over 10% ownership	Glaston, Konecranes, Tecnotree, Wartsila
Government	State or government owned entity. Over 10% ownership	Fortum Oyj, Finnair Oyj, Neste, Elisa, Metso, Outokumpu
Distributed	No owners holding more than 10%	Bittium, Nokia, Nokian Tyres, Orion

5.3.3 Control variables

This thesis incorporates several control variables to adjust industry and company-specific characteristics that could affect company performance. Controlling variables include company size, which is measured as the natural logarithm of total assets. Company age is expressed as the natural logarithm of the number of years since establishment of the company. Industry classification is done using the Industry Classification Benchmark (ICB), which is a global industry classification methodology that includes 11 industries. There are eleven industries in the Nasdaq OMX Helsinki stock exchange, but this thesis uses ten industries as it excludes the financial sector. Industry variable is expressed by using a dummy variable, which will be included in the regression equation. Last, a year dummy is used for each year of the study period.

5.4 Regression equation

The thesis uses a regression analysis to test the hypotheses presented earlier in chapter 3. A simple linear ordinary least squares (OLS) regression is implemented to study the effect of ownership on company performance controlling for age and firm specific characteristics. Furthermore, OLS regression model is implemented as it can be used to

examine the relationship between one dependent variable and one or more independent (explanatory) variables. Moreover, when dealing with statistical problems, the correlations are always subject to some level of uncertainty and hence, a 5% risk level is accepted but testing is done using 1%, 5%, and 10% risk levels. The OLS regression model used in this thesis is similar to Anderson and Reeb (2003) and is the following:

$$Performance_{it} = \beta_1 + \beta_2 Concentrated_{it} + \beta_3 Family_{it} + \beta_4 Institution_{it} + \beta_5 Government_{it} + \beta_6 Distributed_{it} + \beta_7 Size_{it} + \beta_8 Age_{it} + \beta_9 IndustryDummy_{it} + \beta_{10} YearDummy_{it} \varepsilon_{it} \ , \quad (4)$$

where

Performance is Tobin's Q and ROA using Net income or EBITDA;

Concentrated is a dummy variable that receives a value of 1 if it is in the concentrated ownership category, elsewhere the value of 0;

Family is a dummy variable that receives a value of 1 if it is in the family ownership category, elsewhere the value of 0;

Institution is a dummy variable that receives a value of 1 if it is in the institution ownership category, elsewhere the value of 0;

Government is a dummy variable that receives a value of 1 if it is in the government ownership category, elsewhere the value of 0;

Distributes is a dummy variable that receives a value of 1 if it is in the distributed ownership category, elsewhere the value of 0;

Size is the natural log of total assets;

Age is the natural log since the establishment;

Industry is the ICB code;

Year is a dummy variable that has value of 1 for each year;

ε is the error term;

i is the firm and *t* is time.

6 Empirical results

This chapter begins with presenting the descriptive statistics on the data set used in this thesis. It then proceeds to performing the correlation analyses where the hypotheses presented in chapter 3 are tested and discussed. Last, it will discuss limitations that might affect the results.

6.1 Descriptive statistics

After cleaning the data for industry and time in the stock exchange from the original 132 companies, 92 companies remain in the data set resulting in 552 observations. The sample includes companies from ten industries excluding the financial industry. Figure 1. presents the historical performance of all companies in the OMX Helsinki Stock Exchange index between the study period. Looking at Figure 1. the beginning of the COVID-19 pandemic can be easily identified by a significant plunge in the market in the beginning of 2020. However, as seen from the Figure 1., the market adapted quickly and started to grow and surprisingly, eventually surpassing the price levels prior COVID-19 crisis suggesting that even in difficult times, companies managed to increase performance and investor expectations remained positive.

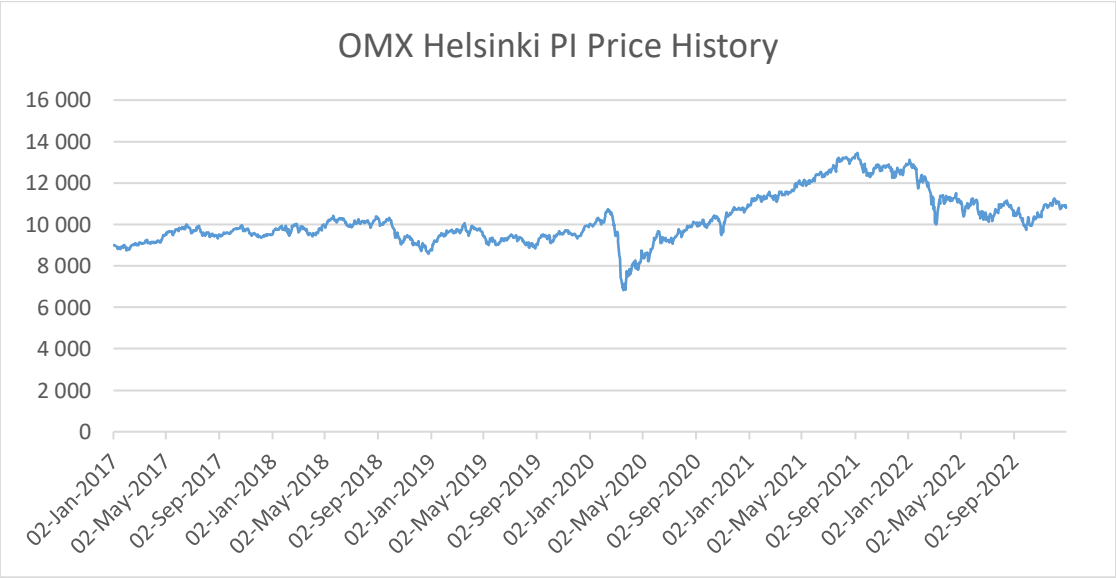

Figure 1. Historical performance of the Helsinki Stock Exchange index between 2017 and 2022

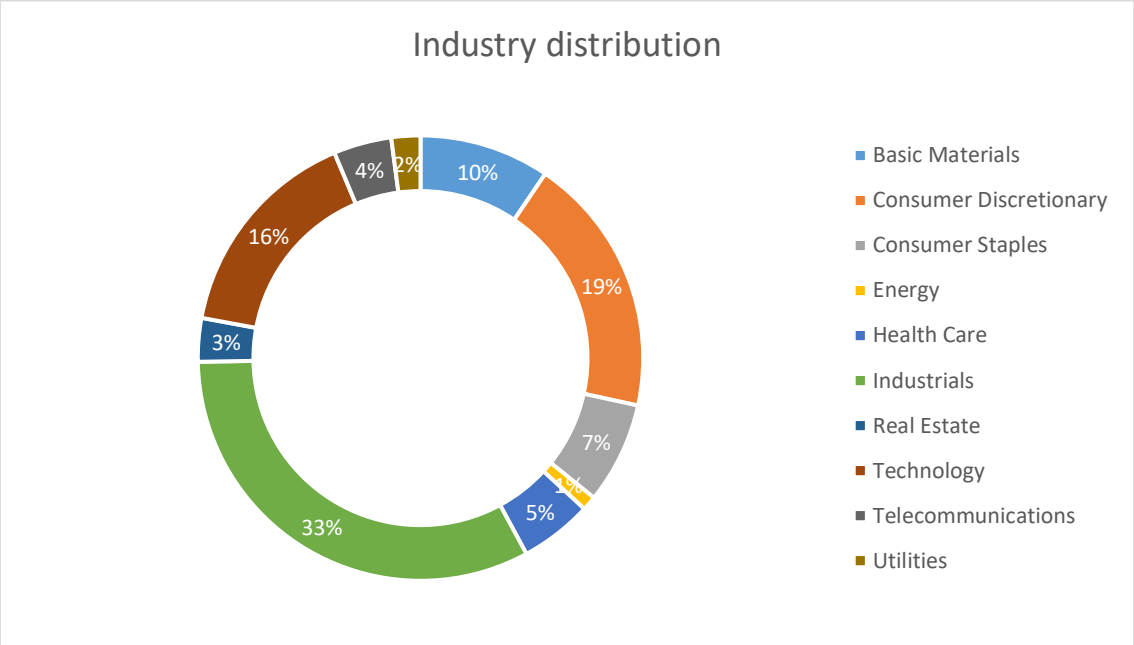

Figure 2. Industry distribution of the sample firms

Figure 2. above illustrates the industry distribution in the data sample. The majority of OMX Helsinki stock exchange companies, 33% operate in the industrial sector including 31 companies in total. Second largest sector presented is the consumer discretionary with 18 companies, followed by the technology sector with 15 companies. Smallest sector in the sample, energy sector included one company, which is in government ownership.

Almost 90% of the sample companies have at least one owner holding over 10% of voting right suggesting that the ownership in the Finnish stock exchange is highly concentrated. The largest ownership category in the data sample is concentrated ownership covering corporations, foundations, associations, and similar entities as owners. The category additionally includes private individual owners with voting rights over 10% but falling below 25%. Concentrated ownership category consists of on average of 37 companies. Family ownership, where over 25% of the voting rights is in the hands of one family, takes the second position, representing almost 30% of companies in the data sample. During the data period, there are on average 28 family companies. Institutional, government

and distributed ownership each cover roughly 10% of the companies in the data sample. On average there are 11 companies in institutional ownership category, 9 government held companies, and 11 companies who do not have an owner holding over 10% of the voting rights. More detailed ownership distribution is illustrated in Figure 3. below.

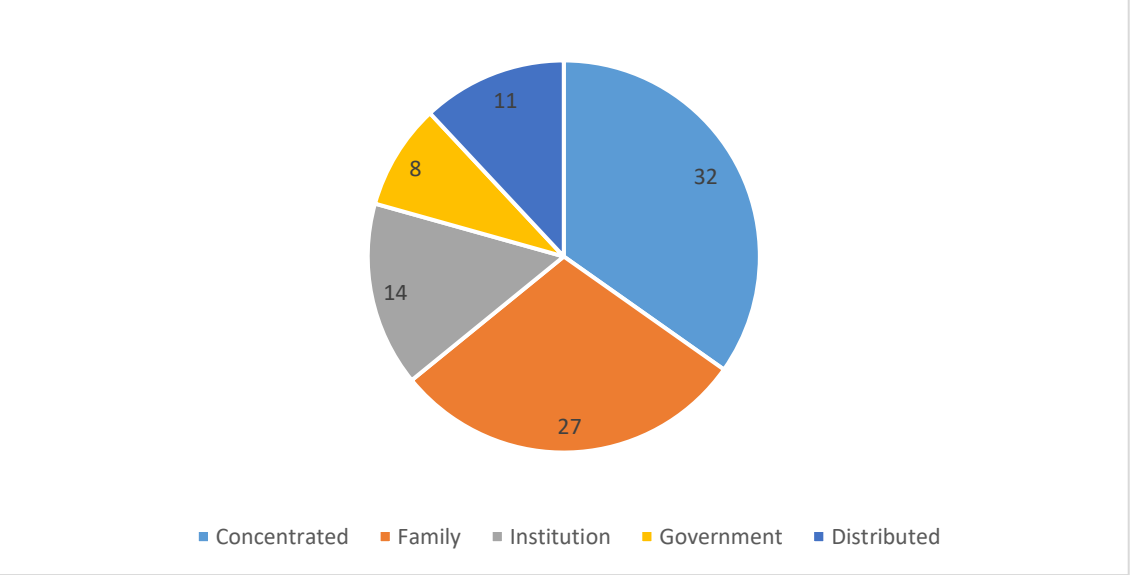

Figure 3. OMX Helsinki ownership distribution between 2017 - 2022

Table 2. presents both market-based and accounting-based performance measures used in this study for the whole sample during the study period. In terms of company performance, companies in the OMX Helsinki stock exchange have on average return on assets of 2.7% in terms of net income and 9.9% in terms of EBITDA. When looking at market-based measure of firm performance, Tobin's Q, the value is on average 1.22 suggesting that companies during the data period tend to be overvalued. The Tobin's Q mean is 0.76 and minimum and maximum values are 0.04 and 10.94, respectively. There is higher standard deviation in terms of Tobin's Q relative to ROA measures in the data sample. The average age in the sample is over 44 years suggesting that companies in the OMX Helsinki stock exchange are generally well established. In terms of age, there are wide variations as the most established company is 126 years old whereas the youngest only 6 years measured in 2022.

Table 2. Descriptive statistics for the sample period 2017-2022

Variable	Mean	Median	Standard deviation	Minimum	Maximum
ROA1	0,031	0,036	0,0947	-0,362	0,295
ROA2	0,102	0,105	0,0959	-0,243	0,356
Tobin's Q	1,252	0,751	1,5745	0,043	11,130
Assets	12,830	12,529	2,161	8,904	19,009
Age	44,214	34,000	31,124	6,000	126,000

Note: Sample includes 92 companies and there are 552 observations in total

Table 3. Performance measures measured by ownership category between 2017-2022

Variable	Concentrated	Family	Institution	Government	Distributed
Mean ROA1	0,0428	0,0188	0,0144	0,0409	0,0434
Median ROA1	0,0388	0,0389	0,0239	0,0475	0,0354
Mean ROA2	0,1084	0,0934	0,0914	0,1148	0,1124
Median ROA2	0,1092	0,1077	0,0917	0,1055	0,1113
Mean Tobin's Q	1,2689	1,1146	1,5725	1,0375	1,1595
Median Tobin's Q	0,8085	0,8211	0,6397	0,7212	0,8628

Note: Sample includes 92 companies and there are 552 observations in total

Table 3. summarizes performance measures by ownership category. In contrast to previous literature (e.g. Amore et al., 2022; Perwitasari et al.,2022), based on both return on assets measures, family held companies seem not to overperform other ownership categories. In terms of return on assets using net income, government held companies had the highest mean and median values of 4.09%% and 4.75% whereas family-owned companies had values of 1.88% and 3.89% respectively. Furthermore, institution ownership had the lowest median ROA values using both net income and EBITDA as the numerator. During the study period, the market expectations were the lowest for companies with government ownership as both mean and median Tobin's Q values were 1.04 and 0.65, respectively. On the other hand, having an average Tobin's Q value of 1.04, it suggests that government held companies were valued mostly right by the market. Companies with institution ownership had the highest average Tobin's Q value of 1.57, however, in terms of median, institution held companies performed worst. Companies with distributed ownership on the other hand were the valued the highest in terms of median Tobin's Q. When looking at the market-based results, it is noteworthy that

median values remain below 1, suggesting that in terms of mean, companies during the study period were undervalued. Mean values however remain above 1.

Table 4. Mean performance measures measured by industry between 2017-2022

Variable	ROA1	ROA2	Tobin's Q	Number of companies
Basic Materials	0,038	0,094	0,542	9
Consumer Staples	0,028	0,103	0,883	7
Consumer Discretionary	0,041	0,119	0,912	18
Energy	0,123	0,200	2,644	1
Health Care	0,076	0,156	3,639	5
Industrials	0,037	0,103	1,112	29
Real Estate	-0,017	0,012	0,364	3
Technology	-0,007	0,075	1,913	14
Telecommunications	0,028	0,116	0,955	4
Utilities	0,032	0,107	0,754	2

Note: Sample includes 92 companies and there are 552 observations in total

When looking at the industry performance measures in Table 4., both energy and health care industry have the highest mean performance measures. In terms of both return on assets measures, the energy sector has highest values but health care sector in terms of Tobin's Q. However, it is noteworthy that in the energy sector, there is only one company in the data sample and in the health care sector there are five companies. Real estate and technology sectors have the lowest performance measures in terms of return on assets with net income of -1.7% and -0.7%, respectively using net income as the numerator. In terms of Tobin's Q as the performance measure, the real estate sector has the lowest mean value of 0.364, followed by the basic material sector at a value of 0.54. Real estate sector, however, consists of three companies in the data sample whereas technology sector has 14 companies in the data sample.

6.2 Correlation analysis

The values within the correlation matrices can range from -1 to 1. A value of 0 denotes no correlation between the two variables. The closer the correlation is to 1, the stronger the indication of linear relationship. Consequently, a value of 1 suggests a perfect

positive correlation, while -1 indicates a perfect negative correlation. If two variables have perfectly negative correlation, an increase of one unit in variable one results a decrease of one unit on variable two.

The correlation analysis is performed for all performance measures. Company ownership is received using a dummy variable. Furthermore, both, company size and age are measured as natural logarithm. Age is a hard number, calculated in 2022 from the establishment of the company.

Upon reviewing the correlation matrix in Table 5. below, it can be inferred that all performance measures, return on assets and Tobin's Q measures are positively correlated with one another and the correlations are significant at the 1% significance level. Return on assets is measured by using both, net income and EBITDA, as the numerator. Tobin's Q values show the investor's expectations on the company's business measured by the market capitalization divided by a book value of total assets. The positive correlation with ROA and Tobin's Q measures suggests that an improvement in the company's accounting-based performance measured by ROA, leads to an increase in investors' expectations for the company.

Company size measured by assets and company age are negatively correlated at the 1% significance level, suggesting that as the company gets older, its asset base diminishes. Furthermore, concentrated and family-owned companies are negatively correlated with company size whereas government and institution owned companies and size have a positive correlation. These coefficients indicate that companies where the government or institution is the majority holder tend to have large asset base. Furthermore, these results are logical as often, government is a majority owner in industries that are crucial for the economy and that have large asset bases, such as the airline or energy industries.

Companies with concentrated ownership have positive correlations with all performance measures, however, only significant at the 10% level in terms of return on assets

measured by net income. Family-owned companies on the other hand have negative correlation coefficients with all performance measures but only significant at the 10% level in terms of ROA1. These results are contrary to e.g. Anders (2008) and Jarchow et al. (2023) who showed families having a positive impact on performance. Institutional ownership and Tobin's Q correlation coefficient suggest contrary results with Perwitasari et al. (2022) who found hedge funds to have a negative influence on stock prices during COVID-19. Furthermore, this thesis shows that institutional ownership is valued by the market as it is positively correlated with Tobin's Q at the 10% significance level. Institutional ownership and return on assets coefficients on the other hand are negative but not significant. Government and distributed ownership act opposite to institutional ownership suggesting that the market does not have high expectations for such companies but correlation coefficients for return on assets measures are positive, although, not significant.

Table 5. Correlation matrix.

	ROA1	*ROA2*	*Tobin's Q*	*Assets*	*Age*	*Concentrated*	*Family*	*Institution*	*Government*	*Distributed*
ROA1	1									
ROA2	0.889***	1								
Tobin's Q	0.364***	0.435***	1							
Assets	0.123**	0.063	-0.169***	1						
Age	-0.083*	-0.059	-0.175***	-0.233***	1					
Concentrated	0.088*	0.045	0.015	-0.093*	0.082	1				
Family	-0.085*	-0.061	-0.050	-0.314***	0.133**	-0.471***	1			
Institution	-0.076	-0.049	0.090*	0.038	-0.071	-0.309***	-0.273***	1		
Government	0.031	0.040	-0.039	0.454***	-0.131**	-0.225***	-0.199***	-0.131**	1	
Distributed	0.047	0.038	-0.018	0.142***	-0.115**	-0.269***	-0.238***	-0.156***	-0.114**	1

Note: Sample includes 92 companies and there are 552 observations in total. *P-values for correlation coefficients are presented using asterisks. ***, **, * denotes statistical significance at the 1%, 5%, and 10% levels.*

6.3 Regression analysis

The main objective of this study is to find if there is a relationship between company ownership and company performance. This thesis uses ordinary least squares (OLS) regression model to test for the hypothesis. Multicollinearity should not be present in the regression models as all performance measures are regressed separately with independent and controlling variables. As the regression analysis used in this thesis includes dummy variables for all ownership categories, a reference category is needs to be set. Hence, this thesis uses the distributed ownership as the reference category in the regression model. Furthermore, there are ten industry categories to which nine dummies are introduced and technology sector is used as the reference category in industry.

First regression is conducted without any controlling variables and the results are presented in Table 6. below. The regression analysis uses distributed ownership as the reference category. Without controlling for any variables, based on Table 6. it seems that in terms of ROA1 distributed ownership outperforms other ownership categories as all coefficients are negative. However, results are significant only at the 10% level for family and institution held companies. When looking at the ROA2, results show insignificant negative coefficients, expect for government owned companies. Using Tobin's Q as the performance measures, concentrated and institution held companies receive positive coefficients whereas companies with family or government ownership have negative coefficients relative to distributed ownership category. The model however only explains 1.8%, 0.9%, and 1.1% of the return on asset measures and Tobin's Q values, respectively, when no controlling variables are included in the regression model.

Table 6. Regression summary for categorical variables for the whole data period (2017 – 2022)

	Dependent Variable		
	ROA1	ROA2	Tobins
	(1)	(2)	(3)
Concentrated	-0.001	-0.004	0.109
	(0.013)	(0.014)	(0.224)
Family	-0.025*	-0.019	-0.045
	(0.014)	(0.014)	(0.230)
Institution	-0.029*	-0.021	0.413
	(0.015)	(0.016)	(0.259)
Government	-0.002	0.002	-0.122
	(0.018)	(0.018)	(0.298)
Constant	0.043***	0.112***	1.160***
	(0.012)	(0.012)	(0.193)
R2	0.018	0.009	0.011
Adjusted R2	0.011	0.001	0.003
Residual Std. Error	0.094	0.096	1.572
F Statistic	2.499**	1.200	1.455

Note: Sample includes 92 companies and there are 552 observations in total.

First regression with controlling variables is performed for the whole data period. Later, two more regressions are introduced to analyze company performance prior and during the COVID-19 pandemic. Table 7. presents regression results for the whole data sample. In terms of all performance measures, concentrated ownership seems to show superior performance compared to other ownership categories suggesting that hypothesis null hypothesis can be rejected and hypothesis one accepted. However, results are only significant in terms of Tobin's Q. Furthermore, unlike previous research (Anderson et al., 2003; Barroso Casado et al., 2016; La Porta et al., 199; Jarchow et al., 2023), the regression results show family ownership have on average 2.1% and 1.8% lower returns in terms of return on assets measured by net income and EBITDA, respectively, suggesting that family-owned companies do not overperform. When looking at Tobin's Q, family-owned companies have a positive coefficient relative to the reference group, but smallest among other concentrated ownership categories. However, results are not significant, and based on these results, hypothesis two cannot be accepted. Institution or government held companies show no significant results from any of the performance measures in this regression model.

In terms of industry, energy sector seems to be performing the best during the study period in terms of return on assets. However, it should be noted that the energy sector includes only one company and results are therefore based on only its performance. Real estate has significant negative coefficients for each performance measure suggesting that companies in the real estate industry are not overperforming the reference group. Other industries show significant positive results for Tobin's Q coefficients which implies that after the real estate sector, technology sector was the second worse off. Furthermore, in terms of company age, there is a negative association at all performance measures, however, coefficient for ROA2 is not significant. This regression model explains 11.5%, 10.6% and 28.2% of the return on asset measures and Tobin's Q values, respectively, when size, year and industry dummies are included in the regression model.

Table 7. Regression summary for the whole data period (2017 – 2022)

	Dependent Variable		
	ROA1	ROA2	Tobin's Q
	(1)	(2)	(3)
Concentrated	0.026	0.023	0.766***
	(0.016)	(0.016)	(0.242)
Family	-0.021	-0.018	0.106
	(0.017)	(0.017)	(0.253)
Institution	-0.027	-0.016	0.224
	(0.017)	(0.018)	(0.266)
Government	-0.030	-0.018	0.224
	(0.021)	(0.022)	(0.327)
Assets	0.007**	0.003	-0.064
	(0.003)	(0.003)	(0.044)
Age	-0.011*	-0.003	-0.455***
	(0.007)	(0.007)	(0.100)
Constant	-0.020	0.056	3.714***
	(0.046)	(0.046)	(0.702)
R2	0.115	0.106	0.282
Adjusted R2	0.076	0.067	0.251
Residual Std. Error	0.092	0.092	1.401
F Statistic	2.998***	2.745***	9.087***

Note: Sample includes 92 companies and there are 552 observations in total.

Table 8. below presents regression results for the period prior the COVID-19 outbreak when economy is experiencing relatively stable period. Similar to the whole data period, there are only significant performance measures in terms of Tobin's Q and for the concentrated ownership category. The Tobin's Q coefficient for concentrated ownership category is smaller prior the pandemic compared to the whole data period, suggesting that the positive effect of concentrated ownership was higher during the pandemic. This result is in favor of rejecting the null hypothesis as there is evidence that company ownership can influence corporate performance. Furthermore, comparing to the whole data period, family-owned companies experienced larger negative return on assets coefficients comparing to the whole data period. All ownership categories experienced lower Tobin's Q coefficients for the period before COVID which could suggest that the market expectations were generally higher during the pandemic, which on the other hand is something one could think the other way around. Similar to the regression for the whole data period, age has a negative coefficient for performance measures whereas assets positive coefficients, excluding Tobin's Q. Industry coefficients show corresponding results for years 2017 to 2019 as for the whole data period as health care industry experience highest positive coefficients, however, return on assets are insignificant. Comparing to the whole data period, prior COVID regression coefficients are higher for all industries. This model covering years prior the COVID-19 pandemic explains 12.2%, 10.2% and 27.3% of the return on asset measures and Tobin's Q values, respectively, when company size measured by natural log, year and industry dummies are included in the regression model.

Table 8. Regression summary prior the COVID-19 pandemic

	Dependent Variable		
	ROA1	ROA2	Tobin's Q
	(1)	(2)	(3)
Concentrated	0.019	0.010	0.673**
	(0.021)	(0.021)	(0.321)
Family	-0.028	-0.026	0.092
	(0.022)	(0.022)	(0.336)
Institution	-0.029	-0.013	0.166
	(0.023)	(0.023)	(0.352)

Government	-0.030	-0.024	0.167
	(0.028)	(0.029)	(0.433)
Assets	0.007*	0.004	-0.076
	(0.004)	(0.004)	(0.058)
Age	-0.016*	-0.005	-0.445***
	(0.008)	(0.009)	(0.132)
Constant	0.003	0.066	3.800***
	(0.059)	(0.061)	(0.915)
R2	0.122	0.102	0.273
Adjusted R2	0.064	0.043	0.225
Residual Std. Error	0.092	0.095	1.439
F Statistic	2.101***	1.730**	5.689***

Note: Sample includes 92 companies and there are 276 observations in total.

The final regression model in Table 9. covers years from 2020 to 2022 and hence includes the data during a crisis period. During the COVID-19 crisis data period, only concentrated ownership had positive performance coefficients in terms of return on assets relative to the reference category, distributed ownership. Furthermore, looking at return on asset measures for family companies, the return on assets coefficients are negative and hence it could be suggested that performance weakened during the crisis period and families did not overperform distributed ownership category. Results are similar with Jabbouri and Jabbouri (2021) who show that families are more likely to expropriate minority shareholders during crisis. However, in contrast to the results of this thesis, Amore et al. (2022) showed increased performance measures among family companies during the COVID-19 pandemic. Moreover, measured by return on assets, like families, institution, and government ownership categories both have negative coefficients. However, like previous regression results, performance measure coefficients for other categories besides distributed ownership in the third regression analysis are not statistically significant. All ownership categories had the highest coefficient measured by Tobin's Q during the crisis period which is a bit of a surprise as the stock market experienced a high ow decline in the beginning of COVID-19 outbreak. On the other hand, as presented in Figure 1. the Finnish stock market picked up quickly and rose back to its original levels after a year since the dramatic fall. Furthermore, surprisingly the Finnish stock exchange continued to grow during the pandemic and above levels prior the outbreak. Similar to

Beuselinck et al. (2017) the results in Table 9. show that government owned companies do not experience large price reductions in times of crisis as Tobin's Q coefficients increased during the crisis period. This effect can be a result of investors believing government held companies and their ability to stand even with unexpected events happening on the market. Nevertheless, while government held companies experienced a rise in the Tobin's Q coefficients, both institutions and families achieved greater increases in Tobin's Q. Furthermore, results in Table 9. follow Goldeng et al. (2008) who showed that accounting performance of government owned companies decreased during crisis times although results are not significant.

Furthermore, company size has a positive coefficient in terms of ROA measured by net income implying that larger companies were better off during crisis period when measuring company size by its assets. The effect of size is higher during crisis period suggesting that companies with larger asset bases can utilize it better relative to companies with smaller asset bases. This model covering years during the COVID-19 pandemic explains 12.8%, 12.2% and 28.7% of the return on asset measures and Tobin's Q values, respectively, when size, year and industry dummies are included in the regression model. These coefficients are smaller compared to the whole data period and prior the COVID-19 pandemic suggesting logically that larger variance was experienced during the pandemic.

Table 9. Regression summary during the COVID-19 pandemic

	Dependent Variable		
	ROA1	ROA2	Tobin's Q
	(1)	(2)	(3)
Concentrated	0.027	0.027	0.920***
	(0.021)	(0.021)	(0.334)
Family	-0.024	-0.023	0.188
	(0.022)	(0.022)	(0.349)
Institution	-0.027	-0.025	0.334
	(0.023)	(0.023)	(0.367)
Government	-0.042	-0.033	0.306
	(0.029)	(0.028)	(0.454)
Assets	0.009**	0.005	-0.056

	Dependent Variable		
	ROA1	ROA2	Tobin's Q
	(1)	(2)	(3)
	(0.004)	(0.004)	(0.061)
Age	-0.002	0.003	-0.482***
	(0.009)	(0.009)	(0.138)
Constant	-0.101	0.019	4.156***
	(0.062)	(0.061)	(0.976)
R2	0.128	0.122	0.287
Adjusted R2	0.071	0.064	0.240
Residual Std. Error	0.095	0.093	1.498
F Statistic	2.231***	2.108***	6.113***

Note: Sample includes 92 companies and there are 276 observations in total.

As performance measures are only significant for concentrated ownership, hypothesis H2 to H5 are not accepted. However, concentrated ownership shows significant positive results both prior and during crisis. Hence, hypothesis H1, that states concentrated ownership has a positive effect on company financial performance during crisis, is accepted. The null hypothesis that ownership has no effect on company financial performance during crisis in terms of return on assets or Tobin's, is rejected.

Companies with concentrated ownership include owners such as corporations, foreign corporations, associations, foundations, and private individuals who own less than 25% of the voting rights. The results of this thesis follow Singal and Singal (2011) who showed that concentrated ownership outperforms companies with distributed ownership and hence concentrated ownership can significantly impact company performance. Furthermore, similar to Singal and Singal (2011) this thesis finds no significant performance differences for companies with either family, government or institutional ownership. The results of this thesis can be linked to the agency theory as companies with a large owner can reduce agency costs as they are more likely to act as good monitors for the management. Hence, it is coherent that concentrated ownership companies have a significant positive effect on company performance.

Previous literature by Amore et al. (2022) found family-owned companies outperforming non-family companies during COVID-19 measured by CAPM-adjusted abnormal returns, however, this thesis finds no significant results showing families over or underperforming. Furthermore, unlike Ding et al.'s (2021) research, this thesis shows no results that institutions have a negative influence on stock returns as Tobin's Q for institutions is positive. Moreover, the regression coefficient for institutional ownership increased during the COVID-19 period suggesting that institutional ownership can outperform companies with distributed ownership, and they can potentially be valuable investments during crisis periods.

7 Conclusion

In the beginning of 2020, the global financial markets including Finland experienced a shock when the COVID-19 virus started to outbreak globally. The spread of the virus affected multiple companies worldwide and some experienced the effects higher than others. Prior literature has presented various theories what could have an effect on the company's performance (see e.g. Anderson et al., 2003; Barroso Casado et al., 2016; La Porta et al., 1999) and some have specifically focused on ownership effects during crisis situations such as the financial crisis or COVID-19 pandemic (Amore et al., 2022; Ding et al. 2021, Jabbouri & Jabbouri, 2021; Perwitasari et al., 2022). Like Anderson et al. (2003), this thesis shows how different majority stockholders can influence a company's performance measured by both financial and market performance.

This thesis focuses on the Finnish environment as it provides the study an interesting market where changes in the ownership structures have changed significantly during the past decades. Furthermore, company ownership in Finland has become less focused as state and banks have sold many of their holdings in stock listed companies, however, still leaving the market concentrated. Now, almost 90% of the data sample companies have a large owner holding over 10% of the company's voting rights. Largest ownership categories in the data sample are concentrated ownership, which includes both domestic and foreign corporates, private individuals, associations and much more. Second largest owners in the Finnish stock exchange are families, who hold almost 30% of the companies in the data sample.

The results of this thesis show that companies with concentrated ownership show superior results to companies with distributed ownership between years of 2017 to 2022 measured by both return on assets and Tobin's Q. However, results are only significant in terms of the market-based measure, Tobin's Q. Accounting-based ROA measures show no significant results in terms of ownership. Concentrated ownership showed outperforming performance prior and during the pandemic suggesting that regardless

of the economic cycle, concentrated ownership improves performance. Furthermore, family, institution and government ownership categories showed positive coefficients in terms of Tobin's Q relative to distributed ownership category suggesting that no matter of the ownership type, having an owner holding over 10% of voting rights results in overperforming companies with distributed ownership. However, results were not significant.

Company age was negatively associated with firm performance and significant in terms of Tobin's Q suggesting that the market valued younger companies more. The negative coefficient of age increased during the COVID-19 pandemic implying that during crisis times, surprisingly younger companies performed better because one could think that companies with longer history could adapt and maintain more stable position in times of unexpected events. Furthermore, company size has a small positive coefficients in terms of return on assets measured by net income suggesting that larger companies performed better during the whole study period and especially during crisis as the positive coefficient increased during crisis period regression.

The findings of this study contribute to the market research on the relationship between company ownership and performance, especially in Europe and the Nordic countries. Furthermore, it adds to the literature of crisis periods in general and to the most recent global crisis, COVID-19 pandemic. Both policy makers and investors can find value in the results of this thesis. Policy makers can use the results of this study to promote investor rights and enhance corporate governance guidelines. As previously introduced, company ownership is a part of corporate governance and corporate governance on the other hand is linked to company performance (Shleifer & Vishny, 1997). Hence, having an effective owner can increase company performance which on the other hand influences economic growth which is a factor that policy makers should seek for when making decisions. Furthermore, as investors aim to maximize their profits, considering ownership can be fruitful. Including company ownership during the investment decision making process can itself bring value to the investor as this study suggests concentrated

ownership leads to superior performance at all times during the economic cycle. Thus, according to the results of this study, investing in companies with concentrated ownership should bring the investor better results whereas investing in companies with distributed ownership structure. According to agency theory, having a large owner can increase the monitoring ability, decrease principal-principal problems, and increase general corporate governance mechanisms which in return, if effective can increase company performance.

When considering the results of this thesis, it is noteworthy that this thesis is written with some limitations. The thesis uses the largest shareholder as an estimated measure of the company's ownership framework. As a result, the study does not capture the whole ownership structure and therefore the ultimate beneficial owners of each company. Furthermore, companies can potentially have other large holders from different ownership category that could have an impact on the company's performance. As some of earlier literature include multiple large shareholders and their effects (e.g. Barroso Casado et al., 2016), this thesis focuses only on the largest shareholder. Furthermore, as this thesis only categorizes companies into one ownership category, it does not consider potential impacts for owners who managed the company for a short duration during the study period. Moreover, this study relies on cashflow rights instead of real voting rights which might influence the results as ownership control is not investigated to the last controller. On the other hand, having this estimated measure is widely common in academic literature and should not disrupt the results of this study relative to them. Furthermore, this study is conducted in a relatively small market, the Finnish stock market, which results in a few observations as there is no more companies listed on the stock exchange. From the total 139 companies only 92 were included in the data sample resulting in 552 final observations.

Finally, as previously noted, this study is not written without limitations and hence, there are multiple suggestions for further research to extend the topic of corporate ownership and firm performance. As this thesis uses ownership categorization method, future

research could also replicate the study but use the percentage of total shares like e.g., Bouras and Gallali (2017) and Chu (2011). Moreover, future studies can extend the ownership categories for example to include corporate and foreign owners as their own category. By doing so, results could offer more in-depth analysis of which owners might impact the company's overall performance as concentrated ownership category in this thesis include various legal entities. Furthermore, as presented earlier, family-owned companies have a great number of definitions. Hence, defining family with e.g. founding or management members can potentially bring differencing results. Moreover, covering only one small Nordic market in this case did not bring much valuable or significant results. Thus, for future research, this study could be extended to include for example all the Nordic markets or Europe. If focusing on the Finnish market, future literature could include both stock-listed and non-listed companies to receive higher number of observations. Finally, logically the study period could be extended to cover more years to receive higher number of observations and the end of the COVID-19 pandemic in 2023.

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Appendices

Appendix 1. Sample by investor type and industry

Name	Industry	Ownership category
AFARAK GROUP	Basic Materials	Concentrated
ALMA MEDIA	Consumer Discretionary	Concentrated
APETIT	Consumer Staples	Distributed
ASPO	Industrials	Concentrated
ASPOCOMP GROUP	Technology	Concentrated
ATRIA	Consumer Staples	Concentrated
BIOHIT	Health Care	Family
BITTIUM	Technology	Distributed
BOREO	Industrials	Family
CARGOTEC	Industrials	Family
CITYCON	Real Estate	Concentrated
COMPONENTA	Basic Materials	Concentrated
DIGIA	Technology	Family
DIGITALIST GROUP	Technology	Family
DOVRE GROUP	Industrials	Concentrated
ELECSTER	Industrials	Family
ELISA	Telecommunications	Government
ETTEPLAN	Industrials	Family
EXEL COMPOSITES	Industrials	Distributed
FINNAIR	Consumer Discretionary	Government
FISKARS	Consumer Discretionary	Family
FORTUM	Utilities	Government
GLASTON	Industrials	Institution
HKSCAN	Consumer Staples	Concentrated
HONKARAKENNE	Consumer Discretionary	Family
HUHTAMAKI	Industrials	Concentrated
ILKKA	Consumer Discretionary	Concentrated
INCAP	Industrials	Concentrated
INNOFACTOR	Technology	Concentrated
INVESTORS HOUSE	Real Estate	Concentrated
KEMIRA	Basic Materials	Concentrated
KESKISUOMALAINEN	Consumer Discretionary	Distributed
KESKO	Consumer Staples	Concentrated
KESLA	Industrials	Family
KONE	Industrials	Family
KONECRANES	Industrials	Institution
LASSILA & TIKANOJA	Utilities	Distributed
LEHTO GROUP	Industrials	Family
MARIMEKKO	Consumer Discretionary	Concentrated
MARTELA	Consumer Discretionary	Family

METSA BOARD	Basic Materials	Concentrated
METSO CORPORATION	Industrials	Government
NESTE	Energy	Government
NOHO PARTNERS	Consumer Discretionary	Family
NOKIA	Telecommunications	Distributed
NOKIAN RENKAAT	Consumer Discretionary	Distributed
NURMINEN LOGISTICS	Industrials	Institution
OLVI	Consumer Staples	Concentrated
ORIOLA	Health Care	Distributed
ORION	Health Care	Distributed
OUTOKUMPU	Basic Materials	Government
OVARO KIINTEISTOSIJOITUS	Real Estate	Concentrated
PIHLAJALINNA	Health Care	Institution
PONSSE	Industrials	Family
PUNAMUSTA MEDIA	Consumer Discretionary	Family
QPR SOFTWARE	Technology	Institution
QT GROUP	Technology	Concentrated
RAISIO	Consumer Staples	Concentrated
RAPALA VMC	Consumer Discretionary	Family
RAUTE	Industrials	Concentrated
REKA INDUSTRIAL	Industrials	Family
REVENIO GROUP	Health Care	Institution
ROBIT	Industrials	Family
SAGA FURS	Consumer Discretionary	Concentrated
SANOMA	Consumer Discretionary	Concentrated
SCANFIL	Industrials	Family
SIILI SOLUTIONS	Technology	Institution
SOLTEQ	Technology	Institution
SOTKAMO SILVER	Basic Materials	Distributed
SRV YHTIOT	Industrials	Institution
SSAB	Basic Materials	Institution
SSH COMMUNICATIONS SECURITY	Technology	Concentrated
STOCKMANN	Consumer Discretionary	Institution
STORA ENSO	Basic Materials	Institution
SUOMINEN	Consumer Staples	Concentrated
TALENOM	Industrials	Family
TECNOTREE	Technology	Institution
TELESTE	Telecommunications	Concentrated
TELIA COMPANY	Telecommunications	Government
TOKMANNI GROUP CORP.	Consumer Discretionary	Concentrated
TRAINERS HOUSE	Technology	Family
TULIKIVI	Industrials	Concentrated
UPM-KYMMENE	Basic Materials	Distributed
VAISALA	Industrials	Concentrated
VALMET	Industrials	Government
VERKKOKAUPPA COM	Consumer Discretionary	Family

VIKING LINE	Consumer Discretionary	Family
WARTSILA	Industrials	Institution
WETTERI	Technology	Family
WITHSECURE	Technology	Family
WULFF-GROUP	Industrials	Family
YIT	Industrials	Concentrated

Appendix 2. Companies with dual class shares

Name	Stock class	Votes	Used in thesis
ILKKA	I	20	No
	II	1	Yes
KESKO	A	10	No
	B	1	Yes
METSA BOARD	A	20	No
	B	1	Yes
ORIOLA	A	20	No
	B	1	Yes
ORION	A	20	No
	B	1	Yes
RAISIO	K	20	No
	V	1	Yes
SSAB	A	1	No
	B	1/10	Yes
STORA ENSO	A	1	No
	R	1/10	Yes