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**THE INFLUENCE OF BLOCKHOLDERS ON FIRM PERFORMANCE: EVIDENCE
FROM FINLAND**

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<p>Abstract</p> <p>This thesis empirically tests if corporate ownership structure affects firm value focusing primarily on the firm's large group of investors classified as blockholders. It initially examines if a mere presence of blockholder in a firm has an impact on firm performance. Additionally, it explores the impact of the largest shareholder on firm performance by splitting the largest shareholder into different groups using dummy variables to evaluate the performance of each group in contrast to non-blockholder. Besides, this study evaluates the firm performance when the fraction of the largest blockholder ownership is at least 50% to at most 50% of the firm's shares. Finally, it estimates the impact of the multiple blockholders on firm value using three estimates applying three variables: 1. the number of blockholders, 2. the cumulative fraction of blockholder ownership, and 3. the Herfindahl Index.</p> <p><i>Data and methodology-</i> this thesis uses annual blockholder ownership and annual financial reporting data of 114 non-financial listed firms in the Helsinki Stock Exchange (NASDAQ Helsinki) for the 2017- 2020 period. We primarily use- the pooled OLS, and the random effects model for statistical analysis. But finally, we use the Fixed effects model with them to assess the concentration of ownership. This thesis utilizes Tobin's q as a proxy to measure firm performance.</p> <p><i>Findings-</i>the study reveals that a mere presence of blockholder in a firm is negatively related to Tobin's q. But the coefficient of the <i>presence of blockholder</i> is not statistically significant at 5% ($P > 0.05$) significance level in any of the regression models. Furthermore, a large blockholder retaining <i>at least</i> (\geq) 50% of the firm's stock is negatively related to Tobin's q and the coefficient is statistically significant at 5% ($P \leq 0.05$) significance level in the pooled OLS. Moreover, an increase in <i>the number of blocks</i> and in <i>the cumulative ownership</i> are significantly and negatively associated with Tobin's q in the pooled OLS ($P \leq 0.01$), whereas in the random effects model, the coefficients are negative and significant at 5% ($P \leq 0.05$) and 1% ($P \leq 0.01$) significance level, respectively. Finally, it shows that the Herfindahl Index is negatively associated with \lnTobin's q, and the coefficient is statistically significant at 5% ($P \leq 0.05$) significance level in all three panel regression models.</p>			
<p>Keywords Blockholder, Multiple blockholders, Concentration of ownership, statistically significant, the Herfindahl Index</p>			

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1 INTRODUCTION

A business environment characterized by the prevalence of asymmetric information, managers of some firms may have an inadequate stake in their firms. Therefore, they may not have strong incentive to try hard or the effort they put may just not be good enough. But who has an incentive to monitor the manager to improve firm performance? Some studies (Shleifer & Vishny, 1986; Bhagat, Black, & Blair, 2004; and Edmans, 2014) postulate that a large shareholder (also known as the blockholder) has adequate incentive to monitor the actions of the management.

We in this paper primarily attempt to address the monitoring role of the large shareholders by examining some important questions pertaining to *the blockholder ownership*. In essence, we analyze whether the blockholders in a firm contribute to the solution of agency problem by greater monitoring, thereby increase firm value as they can play a crucial role in governance (Shleifer & Vishny, 1986,1997; Edmans, 2014) or the blockholders exacerbate agency problem by enhancing their private benefits through the exploitation of minority shareholders and by other means (Barclay & Holderness, 1989; Shleifer & Vishny, 1997). However, before embarking on the discussion of the main issue, first the paper presents a background and the motivation of this study.

The structure of corporate ownership and its impact on firm performance have received significant attention since Adolf Berle and Gardiner Means published their famous book, *The Modern Corporation and Private Property*, in 1932 (Chen, Hexter, & Hu, 1993). Some authors (Demsetz,1983;Fama,1980) asserted that modern interest in ownership structure and its implication on firm performance originated in the work of Berle and Means (1932). Furthermore, Monks and Minow (2004, p.112) postulate that most people begin the study of public corporation's ownership structure with Berle and Means.

Berle and Means (1932, p.66) asserted that the separation of ownership from control most fundamentally altered the position of ownership from an active property owner to a passive agent, and the owners virtually have no power to exert to affect the underlying property. Ownership of corporate wealth has become highly dispersed in the modern corporation (Berle and Means 1932, p.69) and the control is concentrated at the helm of managers. For nearly half a century (untill circa 19080s), their hallmark work on the modern corporation fixed the image

of it as one run by professional managers who are not accountable to stockholders (La Porta, Lopez-De-Silanes, & Shleifer, 1999).

Furthermore, Berle and Means (1932, p.117) claimed that due to the rapid rise in ownership dispersion among the largest U.S. corporations, a new phenomenon has formed pertaining to their control “No longer are the individuals in control of most of these companies, the dominant owners. Rather, there are no dominant owners, and control is maintained in large measure apart from ownership.” As per their thesis, the separation of ownership from control ensued highly dispersed ownership. Moreover, the concern of Berle and means succinctly pointed by Demsetz and Lehn (1985, p.1173) “diffuseness of ownership is said to render the owners of shares powerless to constrain professional management.” Thus, Berle and Means (1932, p.66) recognized that in the modern corporations, “if profits must be distributed either to the owners or to the control”, it would distribute only an acceptable return to the risk takers, while the rest would go to those who control the corporations as an inducement for their work.

Moreover, the modern corporations created from the separation of ownership from control as per them, are primarily to serve the interest of the management, while the shareholder is just the recipients of the wages of their investment, which infers “that corporate resources are not entirely used in the pursuit of shareholder profit.” Demsetz and Lehn (1985,p.1173). Thus, it is presumed that dispersed ownership structure is adversely related to firm value, inferring a positive relation between the concentration of ownership by the large shareholders (blockholders) and firm performance. After all, large shareholders as the dominant owners have both power and incentive to monitor the actions of the management (Shleifer & Vishny, 1986; Bhagat, Black, & Blair, 2004; and Edmans, 2014).

Unlike Berle and Means (1932), Bhagat and Jefferis (2002) explain that though the business form emerged from the separation of ownership from control has some flaws (agency problems), this corporate form consistently demonstrates to constitute a superior form of organization. Furthermore, some post-war social economists considered this form of ownership as the harbinger of democracy (Bell, 1960; Dahrendorf, 1960). Moreover, Fama (1980) suggests that the separation of ownership from control in large firms, can be an efficient form of economic organization, because in the market, the firm is controlled by competition from other firms, which forces every individual member of an organization to improve performance. Thus, market forces and market for corporate control can mitigate agency problem (Fama,

1980; Jensen & Ruback, 1983). Moreover, Shleifer and Vishny (1986) assert that the presence of one large shareholder can enhance firm performance by minimizing agency cost and managerial discretion. Likewise, Edmans(2009) and Edmans and Manso (2011) posit that strong blockholder can act as an effective governance mechanism, in particular to solve managerial myopia.

Incidentally Demsetz (1983) affirms that even if shareholders are diffused, it should not negatively affect firm value. In a world where everyone desires to maximize her own utility, it is irrational to ponder that the owners of valuable capitals will relinquish control to egocentric managers who do not serve their interest. Furthermore, empirical evidence on the influence of ownership structure on firm performance is considerably diverse. Some empirical studies (e.g., Demsetz & Lehn,1985; and Demsetz & Villalonga, 2001) find no significant relation between the concentration of ownership and firm performance. But Kapopoulos and Lazaretou (2007); and Chung, Lee, and Shen (2019) disclose that concentrated ownership improves firm profitability. Additionally, Cronqvist and Nilsson (2003) detect a significant negative association between controlling blockholder ownership and firm operating performance. Also, Thomsen, Pedersen, and Kvist (2006) disclose a significant negative effect between blockholder ownership (more than 10%) and firm value in Continental Europe. Finally, Konijn, Kräussl, and Lucas (2011) shows a significant adverse association between the the presence of multiple of blockholders and firm value.

The brief background of the theoretical and empirical studies presented above demonstrates that we have conflicting evidence on whether the ownership concentration by the dominant shareholders has an impact on firm performance.

Motivation-during the fall 2020, I enrolled for the corporate governance course, in which we were presented a journal article by Slovin and Sushka (1993). The article investigates how ownership concentration influences firm value and control of public firms by examining a sample of 85 deaths of the inside blockholders of the listed US companies. One of the major findings of their study profoundly caught my attention. They reveal that *the share price response to the death of inside blockholder* whose equity holding exceeds 10% of firm shares is significantly positive. This article largely prompted me to contemplate and examine the impact of the firms' large group of investors on firm performance, though I initially intended to investigate the impact of inside blockholders on firm performance.

Additionally, I choose Finland as this topic appears yet to be widely explored in the context of the Finnish corporate ownership structure. After all, most studies investigated this topic are primarily conducted in an environment, which is quite different from Nordic setting. In Finland, controlling owners have significant power over corporation. They play a major role in corporate governance (Jakobsson & Korkeamäki, 2014). The Nordic corporation has largely been characterized by a dominance of concentrated ownership and by the use of control enhancing mechanism by large investors. Still private benefits extracted from control by large shareholder(s) has been reported to be low (Ilmonen, 2016). Large controlling shareholdings combined with the low level of private benefits appears to be a competitive corporate governance model (Ilmonen, 2016). Thus, this paper is motivated to explore one of the Nordic countries, namely, the Finnish corporate ownership structure as it is also characterized by the prevalence of blockholders.

To reiterate, initially we affirm that our study attempts to investigate some important questions relating to *the blockholder ownership*. Thus, we investigate issues related to the largest blockholder and multiple blockholders of the firms. Concurrently, we also intend to compare them with the dispersed shareholder that is firm without the presence of blockholders. Hence, this paper emerges to take a holistic approach to study the corporate ownership structure and its effect on firm performance. At a modicum, the paper investigates the following questions-

1. Does a mere presence of blockholder in a firm influence firm value?
2. Does it affect firm performance when the largest blockholder holds at least 50% of the firm's equity?
3. Does the size of the largest blockholder affect firm value (using continuous variable)?
4. Does the number of blockholders in a firm have an influence on firm value?
5. Does the cumulative blockholder ownership impact firm value?
6. Does the ownership concentration by at most five blockholders have an impact on firm value?

Based on the above questions. The study initially examines if a mere presence of blockholder in a firm has an impact on firm performance that is it evaluates firm performance between two groups- firm with blockholder and firm without blockholder, using firm without blockholder as a reference. Additionally, it analyzes the influence of the largest shareholder on firm performance by splitting the largest shareholder into four different groups using dummy

variables to evaluate the performance of each group in contrast to non-blockholder. Besides, this study assesses the firm performance when the fraction of the largest blockholder ownership is at least 50% to at most 50% of the firm's stock. Also, this study examines how a firm performs using the largest blockholder fraction as a continuous variable. Finally, it estimates the impact of *the multiple blockholders, popularly known as blockholder dispersion* on firm value using three estimates employing three variables- 1.the number of blockholders, 2. the cumulative block ownership, and 3.the Herfindahl Index (also known as Herfindahl–Hirschman Index).

This study employs panel data regression models to examine the influence of blockholder ownership on firm performance. The data used in this thesis contains annual blockholder ownership and annual financial reporting data of 114 non-financial listed firms in the Helsinki Stock Exchange (NASDAQ Helsinki) for the period 2017- 2020. In order to perform statistical analysis, we primarily use two panel data models- the pooled OLS, and the random effects model. In the end, we employ the fixed effects model along with the Pooled OLS, the Random effects model to examine the ownership concentration using the Herfindahl Index. This thesis uses Tobin's q as a proxy to measure firm performance.

According to the descriptive statistics of our study we find that in 2020, 96% of the non-financial listed firms in Helsinki Stock Exchange have blockholders who own at least 5% of the firms' share, 68% of the firms have multiple blockholders, and 27% of the firms have at least four blockholders; and these shareholders on average cumulatively retain approximately 34% of the common equity. The finding of our study is consistent with the previous studies. In contrast to Berle and Means (1932), Holderness (2009) postulates that diffuse ownership in the United States is a myth. He finds that 96% of the U.S. public firms have blockholders who own at least 5% of the firm's common stock, whereas Edmans and Manso (2011) disclose that 88% of the firms in the U.S. have the presence of blockholders, 70% have multiple blockholders, and 26% have at least four blockholders. Finally, Bhagat et al., (2004) collect ownership and performance data of a sample of circa 1500 of the largest US firms for a period between 1983 and 1995 and document a significant secular rise in blockholding over the period of their study.

Empirical evidence- in here we briefly explain the main findings of our study in the context of previous research. We have presented the results of this study comprehensively in the empirical section.

In relation to the presence of blockholders, the study reveals an insignificant relation at the conventional level of confidence between the *presence of blockholder* and firm value in the random effects model, whereas it is only statistically significant at 10% significance level in the pooled OLS. Our study is consistent with McConnell and Servaes (1990). They also detect an insignificant relation between the presence of a blockholder and Tobin's q .

Furthermore, a major blockholder holding at least (\geq) 50% of the firm's share is negatively related to Tobin's q and the coefficient is statistically significant at 5% ($P \leq 0.05$) significance level in the Pooled OLS. Our finding is consistent with Shleifer and Vishny (1997) who show that large shareholder can impair the value of the firm if they pursue private benefits rather than creating value.

Moreover, an increase in *the number of blocks* and an increase in *the cumulative ownership fraction* are negatively associated with Tobin's q both in the pooled OLS and the random effects model and the coefficients of both variables are highly significant at 1% ($P \leq 0.01$) significance level in pooled OLS, whereas in the random effects model the coefficients are significant at 5% ($P \leq 0.05$) and 1% ($P \leq 0.01$) significance level, respectively. Our study is in line with the theoretical model of Pagano and Roell (1998) who show that multiple large shareholder may form controlling coalition to gain private benefits.

Finally, the study finds that *blockholder dispersion* in a firm is negatively related to \ln Tobin's q and the coefficient is statistically significant at 5% significant level in all three regression models. Our finding is consistent with Maury and Pajuste (2005) and Konijn et al. (2011). Their study also exhibits negative and statistically significant relation between the blockholder dispersion and Tobin's q .

As per the short description of our study, we have strong evidence to claim that corporate ownership structure affects firm value. It is, however, crucial to emphasize that though we have

carefully chosen a number of control variable, yet the study may suffer from omitted variable bias. Additionally, the study fails to address the endogeneity concern.

Acknowledging these limitations, we organize the thesis as follows: the thesis includes 9 sections. In section 2, the thesis briefly explains how the separation of ownership from control creates agency problem. Then, it reviews the pertinent literature in the context of agency theory. Additionally, our dataset is based on the Finnish corporation, therefore, in section 3, it includes relevant literature primarily in the context of Finnish corporate ownership structure and its corporate governance system. After presenting these two sections, in section 4 and 5, we introduce the major research on the topic of our thesis that is the largest blockholder and the dispersion of blockholders. In section 6, we define the key variables of our study and in section 7, we present the descriptive statistics of our study. In section 8, we provide a short overview of the panel data and the models that we use in order to empirically test the association between the ownership variables, control variables and Tobin's q . Finally, in section 9, we conclude.

2 THEORETICAL FRAMEWORK

2.1. Separation of ownership and control - a source of agency problem

Berle and means (1932, p. 6), claimed that the separation of ownership from control results in a situation “where the interests of owner and of ultimate manager may, and often do, diverge, and where many of the checks which formerly operated to limit the use of power disappear.”. Furthermore, they (Berle and means, 1932, p. 6), assert that this separation has led the management to control over the property but not necessarily for the benefits of the shareholders. Though the shareholders own the business, managers control it, and make important corporate operational decision. Moreover, the separation of ownership from control produce dispersed ownership. Thus, there are no dominant owners (Berle & Means, 1932, p. 117) .Thousands or even hundreds of thousands of investors jointly own a typical public firm, they cannot, however, collectively make day to day operational decision. Thus, corporation needs specialized management team for making constant operating decision. The question is if the owners of the firm do not participate actively in the operating process, why would the managers heed to the interest of the owners? Thus, this separation of ownership and control creates a problem. Additionally, if the shareholders do not actively monitor the action of the managers and managers own less than 100% stakes in the company. Manager may engage in self-serving indulgence for themselves with perks, power and other benefits as she does not bear the full costs of her consumption (Jensen & Meckling, 1976). This phenomenon is labeled as the principal agent problem or the agency problem, in which the shareholders are the principal and managers are the agents who are hired by the shareholders to act on behalf of them.

2.2. Agency theory- A general overview

Already in 1776, Adam Smith the original agency theorist (Smith, 1776/2007, p. 575), in *An Inquiry into the Nature and Causes of the Wealth of Nations* notably warns that when manager handles other people’s money than their own, to some extent, negligence and profusion must always be present. Among many studies of agency theory, Jensen and Meckling (1976) appears to be most cited, they refer an agency relationship as a contract under which one (the principal) or more persons (the principals) take another person (the agent) to execute some tasks for them which include delegating the agent to have some authority over decision making. Additionally, they point that if both the agent and the principal simultaneously desire to maximize their utility, the agents will not always protect the interest of the principal. Thus, they infer that

agency cost arises when it involves the cooperative effort by two or more individuals even in the absence of clear-cut principal-agent relationship.

In any case, agency theory generally explains how an individual behaves when she enters into a relationship in an environment where there is an existence of external influence, divergent interest among engaging parties and asymmetric information (Grossman & Hart, 1983; Bamberg & Spremann, 1987). Perrow (1986), in his writing on the economic theories of organization, refers agency relation as a contract between two parties, namely the principal and the agent. The agent contracts to complete certain tasks for the principal, and in turn the principal contracts to reward the agents accordingly. Moreover, in order to exist an agency relationship, as per Arrow (1985, p. 1), it involves “the presence of two individuals. One (the agent) must choose an action from a number of alternative possibilities. The action affects the welfare of both the agent and another person, the principal”.

As per above presentation, the diagram beneath summarizes how the agency relationship originates. It shows that in order to perform a task (service), the principal (owner) appoints another player, the agent to complete the tasks on behalf of her which initiates agency relationship between the principal and the agent.

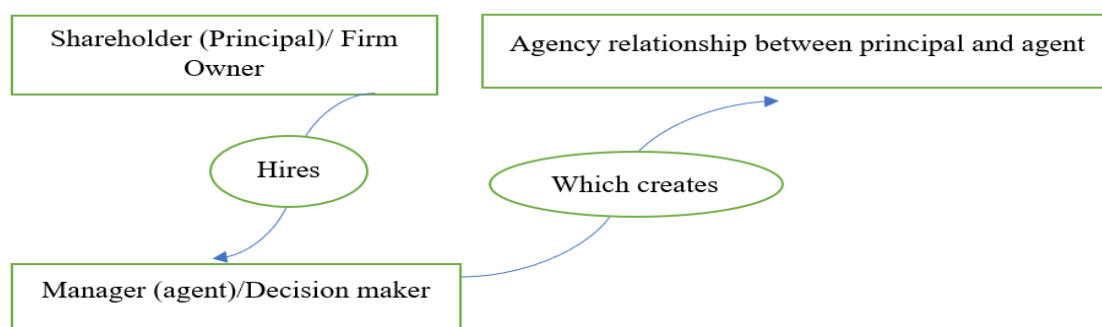


Figure 1: Agency relationship between the principal and the agent

Above all, the source of agency problem results from the fact that the agents who are hired by the principals have insufficient ownership in their firms (Edmans, 2014). Thus, if the share of manager’s ownership grows (high level of managers wealth is tied in the firm), he or she is expected to put enough effort to improve firm performance.

As we see, research on agency theory is extensive. But the insight of Jensen and Meckling (1976) appears to be relevant for this paper. They model how lower managerial stake induces them to increase their non-pecuniary spending as they themselves do not incur the cost. This egocentric behavior by managers creates agency cost. Because dispersed shareholders can neither observe the behavior of managers free nor have incentive to monitor the managers as they own tiny fraction of the firm. Blockholders, however, are expected to monitor the action of the managers, because their large ownership in the firms give them adequate incentives to bear the monitoring costs of managers. Additionally, large controlling shareholders have sufficient voting power to influence corporate decision.

2.3. The agency cost of outside equity

To put simply, agency cost results from the divergence of interest between the principal and the agent (Jensen & Meckling, 1976). The principal, however, can limit divergences by designing appropriate incentive and by incurring monitoring cost. Additionally, the principal will pay the agent to expend resources (bonding cost) in order to ensure that the agent's action will not harm the principal or if such actions are taken by the agents, the principal will be reimbursed. But it is almost impossible for the principal to observe the agent with zero cost. In most cases, the principal and the agent will incur positive monitoring cost and bonding cost. Moreover, the decision an agent makes will have some divergence from the maximum welfare of the principal refers as the residual loss on which this paper explores. To reiterate, Jensen and Meckling (1976) classify agency cost as the sum of the monitoring expenditure by the principal, bonding expenditure by the agent and the residual loss.

In here, Jensen and Meckling (1976) studies the effect of outside equity on agency cost by assessing the behavior of a manager when she retains 100 percent of the residual claims of a firm with her behavior when she holds less than 100 percent (selling of a portion of claims to outsiders). The issue that seeks our attention here involves not only pecuniary benefits but also non-pecuniary benefits such as the arrangement of a lavish office space, the attraction of the office staff, the amount of charitable donation, personal relations with personnel, exploitation of utilities. If a manager manages her wholly owned business, she will make operating decisions that maximize her utility. In this case, her consumption mix of pecuniary and non-pecuniary benefits is optimum (marginal utility equals marginal costs) as she bears the all the costs of her actions. Thus, in this case, the question of agency cost is not raised.

If owner-manager sells a portion of residual claims on the corporation and owns less than 100 percent of the equity of a firm, in such a case, it incurs agency cost due to the divergence of interest between owner-manager and the outside shareholders. For example, if a manager owns only 80 percent of the residual claims, she will use resources to the point where marginal utility gained from a dollar's expenditure of the company's resources equals the marginal utility of an additional 80 cents and not one dollar (Jensen & Meckling, 1976). The outside shareholders, can, however, minimize (probably not eliminate them completely) such activities by spending resources on monitoring. Overall, as the owner-manager's fraction of the stock falls, her fractional claim on the outcome declines. As a result, she will tend to appropriate firms' resource profusely in the form of perquisite. Furthermore, as managers' claims fall, she may not devote significant effort to search for challenging activities such as seeking for new profitable ventures resulting in important conflict. She may even avoid such a venture if it demands a great deal of effort or triggers trouble from her part. Thus, such an intentional managerial avoidance may substantially lower the value of the firm.

In order to show the source of the agency cost of equity and who ultimately bears them, this paper uses the formal analysis of Jensen and Meckling (1976). The model has a number of permanent assumptions:

1. No tax.
2. No trade credit.
3. Non-voting outside equity.
4. No complex financial claims such as warrants, convertible bonds or preferred stocks can be issued.
5. Outside owners gains utility only through the effect of the wealth or cash flows of the firm.
6. One period world.
7. The entrepreneur-manager's money wage is held constant.
8. Only one manager holding ownership interest in the firm.

Furthermore, the model includes several temporary assumptions, for example, the size of the firm is fixed, and the existence of uncertainty and the presence of diversifiable risk are ignored. As our prime interest on the residual loss, consequently, the model dropped the effects of external debt, monitoring and bonding activities. Finally, Jensen and Meckling (1976) define the following terms-

$X = \{x_1, x_2, \dots, x_n\}$ = vector of amounts of all factors and activities in the firm from which the manager receives non-pecuniary benefits (e.g., office space, air conditioning); x_i is classified such a way that manager's marginal utility is positive for each of them.

$C(X)$ = the total dollar cost incurred for providing any given amount of these items

$P(X)$ = the total dollar value to the business of the productive gains of X

$B(X) = P(X) - C(X)$ = net dollar gains to the firm of X ignoring any effects of X on the equilibrium pay of the manager. The optimal level of quantities of the factors and activities X are defined by X^* such that

$$\frac{\partial B(X^*)}{\partial X^*} = \frac{\partial P(X^*)}{\partial X^*} - \frac{\partial C(X^*)}{\partial X^*} = 0$$

Thus, the excess non-pecuniary benefit for any vector $X \geq X^*$ (in which at least one element of X is greater than its respective element of X^*), $F \equiv B(X^*) - B(X) > 0$ is the dollar cost of the firm incurred for the provision of increment $X - X^*$ (managerial utility). We assume the level of X that maximize the manager's utility as \hat{X} . Thus, the excess non-pecuniary benefit of the manager from the perspective of firm is $F \equiv B(X^*) - B(\hat{X})$. For a given level of managerial ownership, α , the manager will choose the amount that maximize her utility. A low level of equity stake, α , will differ more from X^* as she bears only $\alpha C(X)$ of cost of the total cost of the firm. The graph below shows the value of the firm (V) on the vertical axis and the value of the manager's non-pecuniary benefits on the horizontal axis (F) holding the size of firm and the manager's wage as fixed. When the owner retains the whole equity of the firm ($\alpha=1$) and the slope of the budget line is -1, and the value of the firm is V^* where the indifference curve U_2 is tangent to VF , and the level of pecuniary benefits stand at F^* . So, we observe that even if managers own the whole equity, still there exists excess non-pecuniary benefits. It does not, however, generate any agency cost as the manager herself bears the total costs associated with her level of expenditure on non-pecuniary benefits.

If the owner sells the entire holding but continues as manager, and if the equity purchasers are able to force the manager with zero cost to consume the same level (F^*) of non-pecuniary benefits as he consumed as owner, in such case, the new buyer will be willing to pay the price

amounting to V^* for the entire equity. We, however, generally can hardly enforce such an identical behavior on the former owner at zero cost.

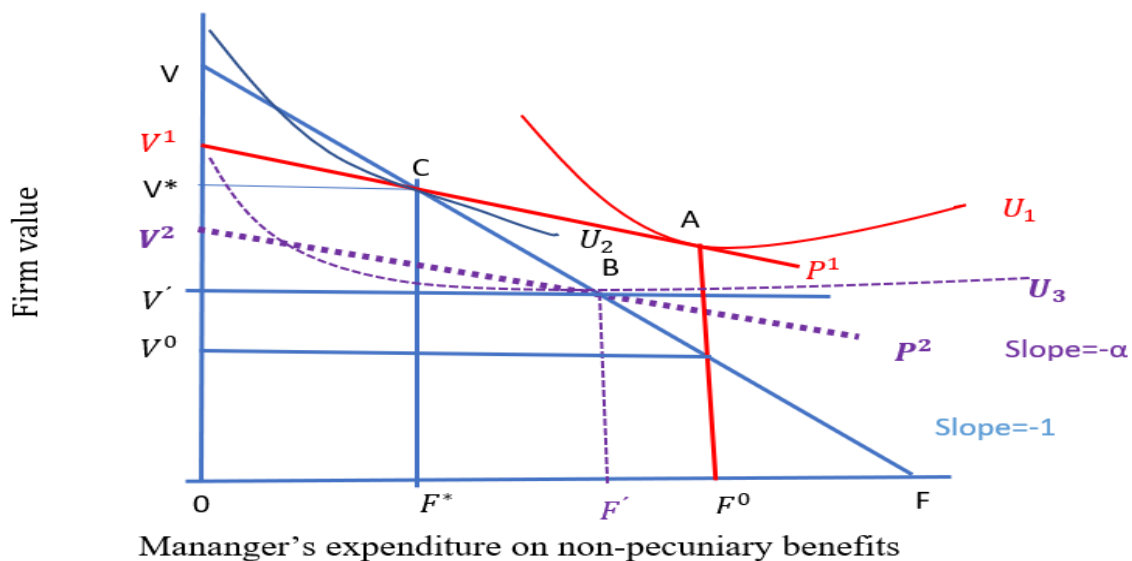


Figure 2. the value of firm (V) and managerial level of non-pecuniary consumption (F) recreated by the author adapted from Jensen and Meckling (1976, p. 316).

If the former owner sells a portion of the holding, $1-\alpha$, ($0 < \alpha < 1$) at a price $(1-\alpha)V^*$ to an outsider, and retains for herself a share, α as an owner, she will no longer incur the full cost of the non-pecuniary benefits that she consumes. As outsider owns a claim $(1-\alpha)$ of the equity, the cost of consuming \$1 non-pecuniary benefits to owner-manager is no longer \$1. Instead, it will be $\alpha \times \$1$. Furthermore, if the owner-manager can freely choose the level of non-pecuniary consumption, F , (subject to the loss depending on her level of ownership), she can maximize her utility by increasing the level of perquisites. Then, she will shift to point A, and the owner manager's expenditure of non-pecuniary benefits increase from F^* to F^0 . Besides, due to the increasing consumption of perquisites, the firm value drops from V^* to V^0 .

Rational investors are aware that a reduction in managerial ownership will increase her non-pecuniary benefits. Thus, the outside buyer will not pay $(1-\alpha)V^*$ for $(1-\alpha)$ of the equity. To recap, when manager sells $(1-\alpha)$ of the equity, her utility will be maximized when V_2P_2 is tangent to some indifference curve (e.g., U_3) in figure above. Thus, the price that is acceptable for both buyer and seller requires the tangency to occur along VF implying a price for a claim $(1-\alpha)$ of the firm to be V' . The deviation between V^* and V' is the drop in the market value of the firm due to the agency relationship, which we define earlier as the residual loss. The welfare

loss incurred by the owner-manager, however, is less than the residual loss by the value to her of the rise in non-pecuniary gains ($F' - F^*$).

The presentation above ignores the effect of monitoring and bonding activities to control the behaviour of owner-manager. Still, this partial analysis of Jensen and Meckling (1976) depicts well how the conflict between the manager and owner occur when the manager owns less than 100 percent of the firm. As per Schneider (1987, p-483), agency cost aims to “minimize the difference between the realized money equivalent of the principal’s welfare and that money equivalent of the principal’s maximum welfare, which could be achieved by actions of agent.” So as to reduce this difference, the principal will incur the monitoring costs and the agent will incur the bonding costs. According to Rozeff (1982), as long as the total costs incurred from monitoring and bonding to the respective parties do not exceed the resultant reduction of the residual loss, both the manager and the agent will be willing to bear these costs.

Moreover, a number of mechanisms are in place to govern, or regulate the actions of managers. Some of these means are internal to the firm, for example, the board of directors and executive compensation scheme, whereas others are external, namely, the market for corporate control, the competitive environment, formal and informal institutions (Walsh & Seward, 1990; Certo et al., 2010).

This paper, however, investigates how the firms’ large group of investors influence the value of firm focusing on the corporate ownership structure of the Finnish listed firms (Nasdaq Helsinki). Thus, it requires to understand not only the major shareholder and the dispersion of ownership but also the Finnish corporate ownership structure and its corporate governance. Therefore, the following section includes a short introduction of the Ownership structure and the corporate governance system with a special focus on the Finnish listed firms.

3 OWNERSHIP STRUCTURE AND GOVERNANCE SYSTEM

The ownership structure in a firm plays a key role in determining the degree to which the interests between principal and agent are aligned (Dalton et al., 2003). Firms are generally owned by a diverse group of investors in order to accomplish their financial objective (with few exceptions). The owners, however, may vary in relation to their trading style, legal and regulatory environment, and their capacity to collect and process information (Certo et al., 2010). In this section, this paper primarily analyses the ownership structure and corporate governance of Finnish listed firms with an emphasis on the problems created by the separation of ownership and control.

In recent years, corporate governance regulation has become globally more aligned due to the internationalization of capital markets and corporate ownership. Moreover, as the US and the UK plays a central role in the financial markets, the governance system migrated towards the Anglo-American system. For example, in Europe, the regulatory change has converged European countries closer to the British system (Jakobsson & Korkeamäki, 2014; Lekvall, 2017). The corporate governance system of Anglo- American Countries, however, differs considerably from that in the rest of the world. Governance system in the Anglo- American Countries is primarily concentrated on the dispersed ownership and managerial power. On the other hand, in the continental Europe, the norm is controlling ownership. In the U.S., management tends to control the firm, whereas in the U.K., Boards of directors appear to possess the control of the companies (Jakobsson & Korkeamäki, 2014). They argue that even though Anglo- American system has improved transparency and power of minority shareholders, its regulatory framework is not effective in countries where management power is neither accepted nor feasible (Jakobsson & Korkeamäki, 2014).

In Finland, controlling owners have considerable power over corporation. The annual general meeting (AGM), which is provided by the corporate law, can replace the board at any time and the board can as well replace the management of the firm. This implies that the controlling owners who control the AGM hold ultimate power over the company. As a result, a controlling owner plays a central role in corporate governance in Finland and in the Scandinavian countries. Hence, mimicking the Anglo-American model that tends to limit controlling ownership, runs the risks of creating power vacuums in Finnish corporate governance. (Jakobsson & Korkeamäki, 2014)

3.1. Finnish stock market and its evolution

Korkeamäki et al. (2013) described that like many other countries, capital market regulation in Finland was reformed in the aftermath of the 1930's crisis and has been revising gradually since then. The Finnish stock market, however, in the 1970's was small, illiquid and underdeveloped, and the ownership structure of Finnish firms was similar to a bank system.

The commercial banks each had their spheres of influence, in which they exercise their power, supplied equity and debt financing. Furthermore, Finnish investors were not permitted to hold foreign securities before January 1, 1986, while at most 20% of the share of any Finnish firm were allowed to be retained by foreign shareholders. In addition, no short selling was allowed, and prior to 1988 it was difficult to even proximate a short position of restricted or unrestricted stocks in the Finnish market (Hietala, 1989). As a result, at the end of 1970s, stock market capitalization to GDP in Finland stood below 10%, a level that typically implies for an emerging market with undersized stock market (Korkeamäki et al., 2013). The equity market in the late of the 1980s, however, experienced a dramatic expansion by a wave of deregulation, change in tax policies and the accessibility of the corporate financing. For instance, stock market capitalization to GDP in a ten-year period between 1985 and 1994 rose from 9.2% to 42.3%. Furthermore, the restriction of Finnish investors to buy foreign equities was removed in 1986 (Hietala, 1989). In December 2020, Finland market capitalization to its nominal GDP stood at 121.86% , whereas in 2008, it was only 59.42%. The graph beneath partly marks the recent development of the Finnish equity market to its nominal GDP.

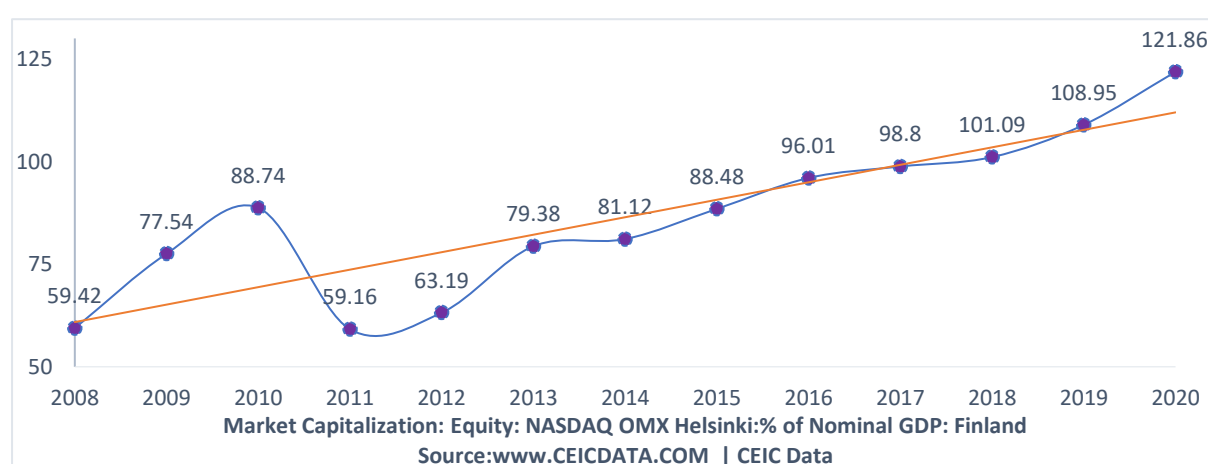


Figure 3. Finland's Market Capitalization: % of Nominal GDP from 2008 to 2020, recreated by the author

3.2. Controlling ownership in Finnish listed companies

Jakobsson and Korkeamäki (2014) revealed that in the 1970s, approximately 25% of the Finnish listed firms had a single investor with more than 50% ownership stake, and nearly half of them had the largest owner with higher than 25% share of the firm. Up until 1995, the controlling ownership statistics remained remarkably similar. They identify two reasons for this phenomenon. Firstly, the Finnish banking crisis in the early 1990s instigated restructuring of the several listed firms, and in 1995, due to mergers, some of the listed firms were majority-owned by other firms.

Secondly, the number Finnish listed firms has grown from under 50 in the 1970s to 73 in 1995. But the entrepreneurs often hold the controlling share of newly listed companies. By 2005, the number of listed firms has increased to 143, and about half of the listed firms had an owner with more than 25% ownership, but the proportion of the firms with a majority owner has reduced to circa 18%. Perhaps it is worth mentioning- 10 out of the 143 companies listed on the Helsinki Stock Exchange, Finnish government was the largest owners. On the other hand, Swedish government was the top owner in two companies (Telia Sonera and Nordea). Even though controlling ownership experiences a decreasing trend, it is still pervasive in Finland.

3.3. Institutional ownership in Finland and in other settings

Financial institutions like large pension funds naturally acts as an investor, rather than controlling owners, whereas a wealthy person (high net worth individuals) and families typically acts as controlling owners. A large fraction of pension fund's assets is invested in the fixed income securities, and these funds are usually quite diversified and invested both at home and at a great extent abroad. But their stock holding level is not that high that would allow them to control the firm. (Jakobsson & Korkeamäki, 2014)

The Swedish "Industrivärlden" is the representative of the wealthy individuals and families and invests in a concentrated portfolio of registered Swedish companies. The company holds a high ownership level that gives the firm either a controlling stake or it has a controlling share in each of the firms it invests. The portfolio is diversified such a degree so that no individual asset can ruin the investment company. Thus, when any of the firms in the portfolio faces difficult time, the controlling owner usually step in to restructure the company rather than liquidating its investments. Jakobsson and Korkeamäki (2014) find that throughout the investment sphere, institutional investors appear to take a role as investors instead of

controlling owners. Moreover, holding a controlling stake associates with added cost. The cost of controlling involves the cost of active managerial engagement, portfolio concentration, and illiquidity of the holding. Due to the higher costs of the controlling ownership, institutional investors have high incentive to free ride while they allow others to control. Jakobsson and Korkeamäki (2014) emphasize that institutional investors incline to “vote with their feet”, instead of acting as controlling owner. Moreover, Chena et al. (2019) also assert that Financial institutional investors exert their ownership rights via two channels – influencing with voice such as through board representation or voting with their feet.

However, Jakobsson and Korkeamäki (2014) do not imply that financial institutions do not add value to the shareholders. They do create value. Aghion et al. (2013) affirm that innovation is the main driver of growth. A high level of institutional ownership is associated with more innovation. Appel et al. (2016) mention that passive institutional investors are crucial component of U.S. stock holding. They describe that passive mutual funds affect company’s governance choices, leading to more independent directors, dismissal of takeover defenses, and greater equality in voting rights. They assert that passive institutional ownership is connected with enhancements in companies’ long-term performance.

We are currently, however, observing a massive shift towards active to passive investing. According to Fichtner et al. (2017), the passive index fund industry is dictated by the “Big Three”- Black Rock, Vanguard, and State Street. The big three together comprises the largest shareholder in 88 percent of S&P 500 companies. Unlike active funds, the Big Three hold comparatively illiquid and permanent ownership position. The following excerpt is a speech at the Harvard Law School delivered by the former Chairman and CEO of Vanguard-

We’re going to hold your stock when you hit your quarterly earnings target. And we’ll hold it when you don’t. We’re going to hold your stock if we like you. And if we don’t. We’re going to hold your stock when everyone else is piling in. And when everyone else is running for the exits. That is precisely why we care so much about good governance. (Bill McNabb, 2015)

As per above, we can gauge that these asset management companies do not appear to ‘vote with their feet,’ but the big three attempts to find other ways to act on corporate action.

According to Aggarwal et al. (2015), institutional investors can exercise power through proxy voting mechanism. Moreover, they infer that institutions value their vote and employ the proxy process to influence corporate governance. All in all, we should note that these studies are conducted in a setting where manager has the controlling power. Thus, they are not quite applicable to the Finnish setting.

3.4. Foreign Ownership in Finland and in other settings

The Finnish government assists and guides foreign companies in establishing a business in Finland free of charge through the investment in Finland Bureau. The rationale behind such a policy is that foreign held firm possesses sophisticated technological, managerial, or marketing knowledge, which may have a spill over effect on the purely domestic businesses (Pesola, 2011). Foreign investors can either purchase a fraction of share in the Finnish listed companies or a Finnish firm can be acquired by a foreign investor. Foreign buyer who makes portfolio investment in the Finnish stock market typically are not a controlling owner. As a result, their influence in the firm is relatively less significant. However, when Finnish firms becomes a wholly owned subsidiary of a foreign firm, the effect in such a case is significant. In some cases, foreign ownership may lead a firm to include an international member in the corporate board (Jakobsson & Korkeamäki, 2014).

A number of international studies show that foreign ownership has a positive effect on firm performance. Huang and Shiu (2009) reveal a strong foreign ownership effect in Taiwan. They find that high foreign ownership stocks outperforms stocks with low foreign ownership. Additionally, their study finds that foreign ownership is highly positively correlated with firm research and development (R&D) expenditure, and it is simultaneous and subsequently results in firm superior performance. Moreover, Hasan and Xie (2013) studies the foreign bank entry and bank corporate governance in China. Rather than permitting complete control of domestic banks, China allows foreign investor to involve in the local banks as minority shareholder. Foreign investors, however, are expected to contribute to improve bank corporate governance and innovate technological support. Their study shows that active presence of foreign investors in bank management yields an improvement in corporate governance model in Chinese banks and increases firm performance.

3.5. Government ownership

According to [“Finnish Prime Minister’s Office”](#) (n.d), the State holds ownership in several Finnish companies and control the responsible and professional management of its holdings. The objective of ownership steering is to accomplish a long-term growth ownership value. It is founded on the Limited Liability Companies Act and the principles of good governance. Historically the role of Finnish Government in corporate ownership appears to be quite significant. Pedersen and Thomsen (1997) studied the ownership structure of 100 largest firms in 12 European countries and revealed that Finnish government ownership stood at 27.6%, which was among the highest in European countries. Additionally, Faccio and Lang (2002) made an extensive study about the ultimate ownership and control of more that 5000 companies in 13 Western European countries and found that Finland had the highest state held firms (15.76%) and the United Kingdom had the lowest (0.08%).

Academic investigations, however, suggest that government ownership mostly has a negative effect on company’s performance for a number of reasons. For example, government maybe focuses on the issues of providing employment over economic efficiency or recruit someone based on her political ideology (Boycko et al.,1996; Kruger, 1990). Furthermore, media seems to follow government owned-companies strictly, and this can trigger myopic decision making to please media and win the electorate. Additionally, government ownership distorts market competition. When a company has both economic and political objective, it tends to prevent other entrants from entering the market leading to an inefficient allocation of resources in the economy. Dewenter and Malatesta (2001) conducted an intensive study of government owned-firms and assert that state firms exhibit inferior profitability. Goldeng, Grunfeld, and Benito (2008) use a comprehensible panel comprising almost all companies registered in Norway in the 1990s and reveal that overall, privately owned enterprises significantly outperform state-owned enterprises. Moreover, a recent study by Hesary et al. (2020) covering more than 25000 firms worldwide shows that government-owned firms tend to be less profitable than private-owned firms.

But, as per Finnish Government, the ownership is to secure Finland’s strategic interest. Besides, it stresses that government ownership will be assessed based on overall benefit to the national economy, enhancement of the operations and value of government-owned firms, and the effective allocation of resources.

3.6. Family Firms

We cannot straightforwardly define family business due to its range and ubiquity. After all, family business ranges from extremely large complex corporation to quite small owner-manged business. Common definitions typically require the family to hold a majority of the firm's shares, one or more members of a family to be engaged in the management of the company, the family to have power to exercise considerable influence on the firm, or other criteria. (Howorth & Robinson, 2021)

Family ownership is a predominant model globally, which implies that Finland is no exception to the rest of the world (Mörttinen, 2017). One of the previous studies by Faccio and Lang (2002) find that nearly 50% of all Finnish firms are family firms, while Tourunen (2009) reveals that family business accounts for 20% GDP and 23% of overall employment in Finland. A recent report of the Finnish Family Firms Association approved by Mörttinen (2017) emphasizes that family businesses are ubiquitous in Finland, and they are the primary source of employment in many Finnish regions. Amongst the Finnish non-financial companies, 22 % can be classified as family businesses. Furthermore, 20 % of large-sized corporations, 38 % of medium-sized firms and 75 % of small-sized businesses are family owned in Finland. All in all, family enterprises contribute considerably to employment and GDP in Finland, for example, family businesses stand for 30 % of total business sector value added and 37 % of business sector number of employees. Incidentally, Talouselämä annually publishes the list of 500 largest Finnish firms in terms of their turnover. The list includes both privately held and publicly held firms and it shows that in 2012, 122 (24%) of the companies in Talouselämä are family businesses. Additionally, among 77 publicly listed firms within the largest 500 companies, 17 (22%) of them are family firms (Jakobsson & Korkeamäki, 2014).

Some international studies also confirm the rampant presence of family ownership. Anderson and Reeb (2003) investigate the association between founding family ownership and firm performance on S&P500 and find that family firms outperform non-family firms. Additionally, they find that family firms are present in one-third of the S&P500. Furthermore, family businesses account for 29 % of GDP and 27 % of total employment in the United States (Astrachan & Shanker, 2003). As per Flören et al. (2010), family businesses are estimated to account for 53 % of GDP and 49 % of total employment in the Netherlands, whereas in Sweden, family businesses account for 20 % of GDP and 25 % of total employment (Johansson et al., 2009).

4 BLOCKHOLDER

The empirical literature typically classifies a blockholder as owners with a 5 % ownership stake (Thomsen et al., 2005; Holderness, 2009; and Edmans, 2014), because this level of ownership is the threshold for a mandatory registration in the United states with the Security Exchange commission (SEC) and in Finland with Finnish Financial Supervisory Authority (FIN-FSA-Finanssivalvonta [FIVA]). Blockholders are a diverse class comprising various types of investors such as hedge fund, pension fund, mutual fund, individual, and corporation (Edmans, 2014).

In the previous section, we have presented different forms of ownership structure primarily from the perspective of Finland. This section presents how the presence of blockholder can mitigate the manager-shareholder agency conflict.

4.1. Monitoring by blockholder(s)-

In section two, we have demonstrated that due to the the separation of ownership and control in the publicly traded corporations, it creates agency conflict between managers and shareholders. In Particular, when manager owns less than 100% of the firm's ownership, she has incentive to take actions that will increase her own benefits at the cost of other shareholders. Thus, her decisions are in conflict with the interest of the rest of the shareholders. Moreover, the manager's pursuance of private benefits has been made possible due to prevalence of diffused shareholders. But the blockholders can work effectively to reduce the agency conflict.

Hellinga et al. (2020) assert that blockholders are assumed to be informed investors, and they improve management's focus on investing in activities that enhance the corporation's fundamental value albeit it hurts short-term profitability. The importance of blockholders can be best interpreted by the studies of Porter (1992) and Graham, Harvey, and Rajgopal (2006). Porter (1992) concerns that the pressure to meet the quarterly financial result may prompt the management to pay short-term focus. Moreover, Graham et al. (2006) underpin the Porter's concern. For example, they find that in order to meet the wall street estimates, 60% of CFO would defer investing in a valuable new project, and 40% of CFO would offer incentive to customer to purchase early. Thus, the presence of blockholder in an organization can mitigate managerial myopia.

Additionally, Shleifer and Vishny (1986) expect firm value to increase monotonically with the intensity of block size. As the incentive of intervention depends on the block size, a higher number of blockholders can weaken the strength of voice. After all, splitting a block among multiple blockholders reduces the effectiveness of direct intervention (Winton, 1993; Edmans & Manso 2011). Diffused shareholder with negligible interest in the firms are unlikely to incur the sizeable monitoring costs, instead they take a free ride from the monitoring costs of others (blockholders), resulting in an under provisioning of monitoring activities in equilibrium. In such a case, a large blockholder, however, internalizes more of the gains of monitoring and thus an ownership structure with one large blockholder is optimal. (Konijn et al., 2011)

4.2. Blockholder monitoring mechanism

In section three, we have described that the corporate law in Finland allows the blockholder to exercise its legal right on the firm's Annual General Meeting (AGM) through the shareholders voting. Apart from the legal rights bestowed by law, shareholders can influence governance through two important mechanisms, specifically, the direct intervention within a firm, and trading a firm share, otherwise known as exit (Hirschman, 1970; Edmans, 2014). Intervention involves actions (e.g., offering advice on strategic options or preventing managers from unworthy mergers or removing a poor performing manager) taken by the investors to improve firm performance. When a firm underperforms their peers for quite some time, blockholders typically informally approach to the management to seek a behind the scene agreement on governance changes. This quiet tactic usually works. If management disputes the informal agreement, the blockholder can approach the supervisory board or the voice option (Black, 1998). Furthermore, if managers deteriorate the firm value, blockholders can liquidate their holding triggering a plunge in stock prices, and thus penalizing the manager ex post (Edmans, 2014).

In the following, we elaborate the two established governance mechanisms that are typically applied by the blockholders to correct managerial inefficiency or induce a change in management or strategy.

4.2.1. Theories of Voice/Intervention

As per traditional perspective of corporate governance, large shareholders can correct managerial inefficiency and implement profitable projects through the direct intervention, otherwise known as voice (Hirschman, 1970) in firm's operation, thereby create value for the

corporation. Large shareholders have both power and incentive to engage in costly monitoring activities to reduce the agency conflict between the managers and the shareholders of the company. According to Shleifer and Vishny (1986), the presence of one large shareholders can improve firm performance by reducing agency cost and managerial discretion. Additionally, the blockholder engages in costly monitoring and assumed to have exclusive access to superior technology that rises her the probability of finding a optimum operating strategy that gives her excess benefits over the costs.

All in all, the voice option characterizes as informal influences, also known as informal jawboning. In this case, the blockholder directly and informally communicates with the firm management such as writing letters to obtain financial information, shows its displeasure with the managerial decision made by the management, and proposes improvement with the management (Black, 1998; Edmans, 2014). Furthermore, a management that has information about the enormous power of its blockholder, it often informs its blockholder about the important issues and comply with the interest of the blockholder (Connelly et al., 2010). The use of informal influence, however, depends largely on the intensity of relationship, and it is higher when the blockholder and its portfolio firm have long-term relationship. This informal monitoring mechanism is also beneficial to the management. As long as the actions of the managements adhere to the interests of the blockholder, they are safe and prevented from public condemnation (Connelly et al., 2010). Furthermore, Becht, Franks, Mayer, and Rossi (2009) report a unique analysis of private engagement by the Hermes UK fund and find that as opposed to shareholders proposal at company's annual meeting, private and informal influences are predominantly executed for active monitoring. These engagements includes frequent meetings and phone calls with chairmen, CEOs, and CFOs. The fund also privately reach other blockholders to inform its monitoring objective and garner support for its activities. If activism and collaboration by informal influence fails, only then, monitoring owners will adopt public initiatives (MacNeil, 2010). Hence, conflicts that cannot be resolved in informal meeting, may be decided on the firm's AGM through the shareholder's vote.

Prior to AGM, blockholders can also engage in hostile media campaign against management Connelly et al. (2010) to denounce managerial behavior or decision in public, and garner support from other shareholders. As a result, the management will face immense pressure and requires to provide convincing reason for its particular type of behavior or decision (Urban, 2015).

As elucidated above, blockholders can use direct intervention/voice option to show their concern if they uncover that management of the firms engage in value destroying activities. But implementation of an intervention by blockholders is not typically easy as blockholders differ in many aspects- for example, firms controlled by non-diversified blockholders invest more conservatively than firms controlled by highly diversified large shareholders (Faccio et al., 2011). Additionally, some blockholders might only be interested in picking the best stock in stead of launching a proxy fight or offering strategic advice. Moreover, the firm can use the corporate resources to confront the proxy fight, while the blockholders bear the full cost by themselves. Lastly, most blockholders owns small stake in their firm, particularly in the US (Edmans, 2014). All in all, intervention may not always be successful. Consequently, if large shareholder is aware that management is not acting in the best interest of shareholders, it is probably rational to sell the shares (Admati & Pfleiderer, 2009). Thus, next we describe how the large shareholders can use the exit option to mitigate the conflict of interest between managers and investors.

4.2.1. Theories of Exit/Trading

Even if the blockholders cannot intervene in a firm's operation, they can still exert governance by trading firms share or exit (Admati & Pfleiderer, 2009; Edmans, 2009). Blockholders can improve governance mechanism and act against managerial myopia through trading blocks and exit their holdings (Edmans, 2009; Edmans & Manso, 2011). Likewise, Palmiter (2002) infers that blockholders possibly are able to affect managerial decisions through the threat (actual or implied) of selling their shares and driving down the price of the targeted firms. But Edmans (2014) implies that only the threat of intervening or threat of selling is perhaps adequate to persuade managers to maximize value, actual exit or trade is not necessary.

Unlike myopic investors, a blockholder has the incentive to collect information about the fundamental value of the company and learn if the week short term performance is due to mismanagement or capital investment that will pay off in the future. If it is former, then blockholders benefit from relinquishing their holdings, thereby depressing the share prices. On the other hand, if it is later, then the blockholders do not unload their stake, which gives positive signal to other shareholders, and eases the drop in share prices triggered by the poor result. Thus, large shareholders reward the management to adopt long term policy over an excessive focus on myopic outcome. (Edmans, 2009)

Above all, the effectiveness of the threat to exit as a monitoring mechanism depends largely on the costs to the management associated with the blockholder's exit or the credibility of the threat. Admati and Pfleiderer (2009) suggests that if managers' reward is tied to share prices and the exit of a large shareholder has a negative impact on share price, then presence of large shareholder who can trade on private information, may potentially be able to discipline management and enhance corporate governance. The credibility of threat, however, appears to depend on the stock market liquidity. A high degree of liquidity enables large shareholders to sell its stake without experiencing a significant drop in price. Liquidity induces more trade by informed traders. However, the opposite can also happen—when the stock is highly liquid, a given large shareholder trade has a minor effect on equity prices (so does the manager's wealth) as it is veiled by liquidity traders (Admati & Pfleiderer, 2009).

But critics raise question about the credibility of the threat to exit. As per the theory of efficient markets, the corporate financial result is already incorporated into its equity prices. Therefore, blockholders cannot benefit from selling its holdings with the depressed share price. As a result, the selling will hurt both the management and large shareholder (Admati & Pfleiderer, 2009). The question, however, is if the market is truly efficient. After all, in a highly efficient market, trading should have no effect as falling the price below its fundamental value would instantly attract other investors that would leave no impact on the price. Moreover, according to Coffee (1991), a large shareholder holding 30% or more of a firm's stock, certainly understands that its investment is non-liquid even if a deep active market exists. Thus, any attempt to dispose the substantial portion of holding in the market is likely to give negative signal collapsing share price. Coffee (1991, p.1361), simultaneously expresses that ““exit” may mean diminished “voice””.

4.3. Empirical research on the presence of Blockholder(s) and firm performance

The previous sections discuss the theoretical background of ownership structure with a particular focus on blockholder(s) and their monitoring mechanism. Given this theoretical setting, this section includes a review of the existing empirical studies on the influence of large shareholder or concentrated ownership on several response variables. As explained earlier, Berle and Means (1932) assert that as the size of the corporation expands, stockholdings become dispersed. Even in the mid-1980s, it was assumed that ownership of the publicly listed firms in the US is dispersed (Denis & McConnell, 2003; Stulz, 2005; and Tirole, 2006). However, empirical support for this proposition is extremely limited, and ownership structure

in the US is not as dispersed as it was once assumed (Holderness, 2009). Moreover, the empirical literature does not appear to find a ubiquitous association between the concentrated ownership and firm performance (Demsetz & Lehn, 1985; Demsetz & Villalonga, 2001).

The prediction of Berle and Means (1932) on the positive association between ownership concentration on firm performance was first empirically tested by Demsetz and Lehn (1985). It is, however, worth mentioning that this empirical study is the extension of Demsetz's (1983) previous study, where he views the ownership structure of a corporation as an endogenous in relation to firm performance. Anyway, they explicitly investigate the consequence of the ownership of the largest shareholders on performance using a cross-sectional dataset containing a sample of 511 regulated and non-regulated US firms between the period 1976 and 1980. Their statistical measurement of ownership concentration was based on percentage of shares held by the five largest shareholders, 20 largest shareholders and the Herfindahl Index (adding up the squared percentage of shares controlled by each investor). They use a linear regression of an accounting measure of profit rate to test the prediction of Berle and Means (1932). Their empirical study does not find any significant relationship between the ownership concentration and firm performance. Thus, their study casts doubt on the Berle and Means thesis.

Additionally, Holderness and Sheehan (1988) analyze on the effect of ownership concentration using a sample of 114 NYSE or AMEX listed corporations. In particular, they examine the impact of majority shareholders (owning at least half but less than entire firm by entities or individuals) on the firms. They find no evidence of an expropriation of corporate resources by majority shareholders. Moreover, their result shows no difference in performance measured by accounting return and Tobin's Q between majority owned and widely held firms implying no advocacy on the view that a firm monitoring by blockholders limit managerial discretion and create more value relative to a firm without a blockholder. Finally, they infer that expropriation does not act as an incentive for concentrated ownership.

One interesting study by Slovin and Sushka (1993) who examine how ownership concentration influences firm value and control of public firms by examining a sample of 85 deaths of the inside blockholders of the listed US companies. Their finding implies that the share price response to the death of insider blockholder whose equity stake exceeds 10% of firm shares is significantly positive. Additionally, the blockholders deaths open the firms to hostile as well

as friendly takeover. Their finding is consistent with the Stulz (1988) who predicts that firm value increases at decreasing rate as insider control of voting rights rise.

Furthermore, Demsetz revisit his previous study in 2001 with Villalonga albeit in multi-dimension setting. Like his previous study with Lehn in 1985, Demsetz and Villalonga (2001) treat ownership structure as an endogenous variable and investigate two dimension of this structure: the fraction of shares held by management and the fraction of share held by the five largest owners. Their sample consists of a 223 firm, a random subsample of the original Demsetz and Lehn study. The finding of Demsetz and Villalonga (2001) supports the view that ownership structure is endogenous, but they find no statistically significant association between ownership concentration and firm performance measured by Tobin's q .

Unlike Demsetz and Lehn (1985) and Demsetz and Villalonga (2001), Morck et al. (1988) ignore the endogeneity issue and study the association between corporate ownership structure and firm performance measured by Tobin's q and accounting profit rate using a 1980 cross-section of 371 Fortune 500 firms, they do not find statistically significant relation in the linear regressions. They, however, find evidence of non-monotonic relation when they estimate using a piecewise linear regression of Tobin's q on insider ownership- Tobin's q first increasing, then decreasing and increasing once more depending on level of ownership of shares owned by insiders. For example, the estimated piecewise regression is positive for management ownership between 0% and 5%, and negative for management ownership between 5% and 25%. It is again positive when management stake is more than 25%.

McConnell and Servaes (1990) investigate the cross-sectional relation between Tobin's q , insider, institutional and blockholder ownership for a sample of 1,173 firms in 1976 and for a sample of 1,093 firms in 1986. All firms in the samples are registered on either the New York Stock Exchange (NYSE) or the American Stock Exchange (AMEX). For both samples, they find a significant relation between Tobin's q and the fraction of shares owned by corporate insiders, but it diminishes as managers and board of directors' ownership becomes more concentrated. The relation between Tobin's q and insider ownership is upward sloping until insider holding approaches 40% to 50% and then it is slightly downward sloping. They also find a significant association between Tobin's q and the fraction of shares held by institutional investors. They, however, do not find any significant relation between the presence of a blockholder or the proportion of equity held by blockholders and Tobin's q . Their result is

consistent with Morck et al. (1988) when the insider ownership is 0% to 5%, but beyond 5% their results are not consistent with them. No significant relation is captured above 5% and the ownership form is not endogenized.

Cho (1998) analyses the relation among ownership structure, investment, and corporate value using cross-sectional data. He initially replicates Morck et al.'s study and finds a significant relation between insider ownership and corporate value, which is consistent with Morck et al. (1988). He also finds non-monotonic relation between insider shareholdings and investment. The relation between management shareholding and investment is positive for ownership levels less than 7%, negative for levels between 7% and 38%, and positive for levels more than 38%. As per this analysis, it infers that ownership structure affects investment and, thus, corporate value. This specification, however, ignore endogeneity effect. In order to address the potential endogeneity effect, he estimates a system of three equations-ownership structure, investment, and corporate value using the two-stage least squares (2SLS) method. His estimate for this system of simultaneous equation shows that Tobin's q has an effect on ownership structure but not vice-versa.

Himmelberg et al. (1999) extend the empirical specification used by Demsetz and Lehn (1985) by adding a number of additional variables (such as firm size, capital intensity, R&D intensity, advertising intensity) to explain the variation in ownership structure. Furthermore, rather than using cross-section data, they use panel data model to allow for the estimation of the unobserved (time-invariant) firm effects. Particularly, they use panel data to test the hypothesis that managerial ownership is associated with observable and unobservable firm features influencing contracts. Assuming unobservable firm characteristics as constant over time, they treat the unobservable variables as fixed effects and employ panel data techniques to estimate the parameter coefficients. The ownership structure is measured by the shareholdings of top-level managers as a fraction of common outstanding equity. Their measure of performance is Tobin's q , and use quadric and linear piecewise form that other previous studies had already adopted when measuring performance. Their findings imply that managerial ownership is negatively related to capital to sales ration and R&D to the stock of property, plant and equipment, (K), whereas it is positive for advertising to (K) and capital expenditure to (K). However, their find suggest that a large fraction of variation in managerial ownership is due to unobserved firm heterogeneity, and when they control for both observed and unobserved firm

characteristics, they find no evidence that changes in managerial ownership has an effect on firm performance.

Holderness et al.(1999) explore a related study as McConnell and Servaes (1990), Morck et al. (1988) and Demsetz and Lehn(1985) using a sample of 1500 publicly traded firms in 1935 and a comparable sample of 4200 companies in 1995 and detect that the percentage of average managerial ownership in the publicly listed firms is higher in 1995 (21%) than in 1935 (13%). This observation contrasts with Berle and Means (1932) vision of the widely held corporations, in which stockholdings are diffused and control is concentrated in the hands of management (Cronqvist & Nilsson, 2003). Furthermore, strikingly similar to Morck et al., they find a significant relation between managerial ownership and firm performance in their 1935 data. However, the relation is weaker in their 1995 sample.

Bhagat et al. (2004) collect ownership and performance data of a sample of circa 1500 of the largest US firms for a period between 1983 and 1995 in order to closely investigate the performance effect of the large block of shareholders. They document a significant secular rise in blockholding over the period of their study. However, their results are mixed when it comes to firm performance. It is positive during the subsample of 1987-1990. But they find no robust relationship in period between 1991 and 1995. The positive performance as they suggest perhaps due to the presence of a cohort of large blockholders in the late 1980s who identified a profitable business strategy or used their influence to encourage restructuring that translated to the performance.

Kapopoulos and Lazaretou (2007) using a sample of 175 Greek listed firms, examine whether there is a significant evidence to support that variations in firms' ownership structures produce systematic variations in firm performance. Their study is analogous to Demsetz and Lehn (1985). Whatever, they test this hypothesis by evaluating the influence ownership structure on corporate performance, measured by profitability. First, they model ownership structure, as an endogenous variable. Second, they study two separate measures of ownership structure demonstrating different groups of shareholders with diverging interests. Empirical results reveal that a highly concentrated ownership structure produces a higher firm profitability. They additionally detect that superior firm performance dictates a less dispersed ownership structure.

An important study by Lilienfeld-Toal and Ruenzi (2014) analyse the relationship between the CEO ownership and stock market return. They find that approximately 10% of the CEOs of S&P 500 firms are blockholders (freely held 5% or more of their firm's equity in 2010). These investments of "owner-CEOs" typically constitute a major fraction of the respective CEO's personal wealth, giving a strong incentive for managers to improve firm value. They construct portfolios of firms with owner-CEOs based exclusively on public information, for instance, a value-weighted portfolio- going long in companies, in which the CEO voluntarily holds more than 10% of the firm's stock and short in firms, in which CEO has no-ownership generates annual abnormal returns of circa 5% in the period 1988 to 2010. They assert that the results are consistent even after controlling for the effect of the Fama and French (1993) three factors model and the Jegadeesh and Titman (1993) momentum factor. They further explain that the source of abnormal returns perhaps due to several reasons, but one of the explanations is the asymmetric information arguments. CEO might find the firm's equity as undervalued and take an ownership position to gain from trading relying on private information or the CEOs might want to signal about the prospect of the project to outside investors by investing themselves.

Using the Finnish tax return data of CEO wealth and indebtedness from the Finnish tax authority for CEOs of all listed firms on the Helsinki Stock Exchange as of 2002 to 2005, Korkeamäki et al. (2017) study the impact of managerial power on CEO's tendency to pursue their personal leverage preference on the companies they manage. They find a link between CEO's personal leverage and that of their companies. Furthermore, the presence of blockholder also reduces the connection implying that blockholders perform monitoring activity.

Hellinga et al. (2020) tests empirically the theoretical argument of Edmans(2009) and Edmans and Manso (2011), which claim that large shareholder can act as an effective governance mechanism, especially to solve managerial myopia. In order to conduct empirical analysis, Hellinga et al. include firms from S&P500 list with some specification for the period 2005-2012. Their finding suggests that blockholders can be effective in mitigating agency problems. Furthermore, they reveal that blockholders with market liquidity can minimize managerial shortsightedness.

While the previous studies do not provide unambiguous support for blockholder monitoring effect on firm performance, several studies in fact find that the presence of blockholders is detrimental to firm performance. Cronqvist and Nilsson (2003) conduct a detailed analysis of

the agency costs of controlling minority shareholder (CMS) using a panel of 309 Swedish firms registered on the Stockholm Stock Exchange (SSE) during 1991- 1997. They find that approximated agency costs of controlling shareholders are 6% - 25% of corporation value measured by Tobin's q for the median firm among the various types of controlling owners. Moreover, their findings show a significant negative connection between controlling blockholder holding and firm operating performance, and firms with family CMSs are nearly 50% less likely to be taken over in contrast to other firms.

Thomsen et al. (2006) use Granger tests to investigate the relationship between blockholder ownership and the values of the largest companies in the European Union and the US. In order to conduct the test, they use a broader sample of data from the Worldscope electronic database comprising of all EU and US firms that had net sales and net assets over US \$2 billion in 1998, and for which an annual time series data was available during the period 1990–1998. They find no significant relationship between blockholder ownership and firm value measured by Tobin's q in the Anglo-American firms. In contrast, in Continental Europe, they reveal a significant negative effect between blockholder ownership (more than 10%) and firm value. The justification for insignificance test result in the Anglo- American firms lies in high of investor protection in the US and the UK, which possibly restrict the extraction of private benefits by blockholder. On the other hand, the authors assert that in Continental Europe, “the market responds positively when blockholder ownership is reduced, which could reflect improved liquidity, or weaker entrenchment and fewer private benefits at the expense of minority shareholders” (Thomsen et al., 2006, p. 262). Thus, as per them, this finding reveals evidence of conflicts of interest between blockholders and minority shareholders in Continental Europe.

A recent study by Breugem and Corvino (2021) who employ a sample of the universe of firms listed in the Italian Stock Exchange from January 2004 to December 2016 and estimate private benefits of control. They find that the control benefit constitutes circa 2% of the market value of equity and 4% of the market value of the block. Their reported private private benefits of control are similar to the finding of Albuquerque and EnriqueSchroth (2010) for block transactions in US firm. Moreover, Breugem and Corvino (2021) claim that their findings are representative one though they have employed data from the universe of companies registered in the Italian Stock Exchange.

5 MULTIPLE BLOCKHOLDERS (BLOCKHODER DISPERSION)

The presence of multiple blockholders are widespread (Holderness, 2009; Konijn et al., 2011) in the US. Holderness (2009) finds that 74% of firms have multiple blockholders, whereas Edmans and Manso (2011) reveals that 70% have multiple blockholders in the US. The presence of several large shareholders is also common in Europe. Faccio and Lang (2002) find that 39% of firms have at least two blockholders in European companies. Using Finnish data, Maury and Pajuste (2005) detect that 48% of firms have multiple blockholders. Moreover, Laeven & Levine (2008) use data on 1657 firms across 13 Western European countries and find that 34% have at least two large owners. La Porta et al. (1999) use data on ownership structure of 600 large firms in 27 wealthy nations and find that one quarter have more than one large shareholder. So, multiple blockholders are a common element of the corporate structure. Thus, it is important to understand the roles that an additional blockholder next to the largest blockholder play in the organization.

5.1. Theory of multiple blockholders

Edmans and Manso (2011) demonstrate that a multiple blockholder structure can be good for firm value. Though splitting a block lowers the efficacy of direct intervention (voice), it increases the power of second governance mechanism such as trading. By trading on private information, blockholders moves equity prices close to its fundamental value, and thus cause it more closely reflect the effort employed by the manager to improve firm value. In contrast to a single large shareholder, dispersed blockholders internalize less market impact costs when they collectively participate in private information-based trading. As for single large blockholder, she can trade like monopolist whereas a number of dispersed blockholders trade competitively like a set of oligopolists. Actually, it is favorable to trade as they have private information. If the managers engage in shirking or extracting private benefit, “blockholders follow the “ Wall Street Rule” of “ voting with their feet” and selling to liquidity traders” (Edmans and Manso, 2011, p.2396). This reduces the stock prices and affects manager’s equity compensation punishing her ex-post. Consequently, trading on private information disciplines managers ex ante to ensure that blockholders are pleased to remain with the firm and thereby growing value of the firm.

Blockholder dispersion can, however, be bad for firm value. In principle, the second and third blockholder can be good for the firm if they can monitor (Pagano & Roell, 1998; Bolton & Thadden, 1998) the large blockholder. But it requires the second and third blockholders to be

large enough to have incentive and ability to monitor the first block holder. They might also form controlling coalition to gain private benefits(Pagano & Roell).

5.2. Monitoring by multiple blockholders

Two important ways blockholders can attain private information about the firm. They can gain access to information through their cooperative monitoring and independent monitoring. Under cooperative monitoring, the blockholders decide collectively to engage in monitoring of firm management to enhance their collective payoff, whereas under independent monitoring, blockholder individually perform the monitoring activities so as to maximize their individual payoff (Urban, 2015, p. 161).

Cooperating monitoring circumstance is likely to arise when blockholders share homogenous or at least reconcilable utility function and risk preferences and are willing to actively participate in the firm's governance (Urban, 2015, p. 162). After all, the objective of joint monitoring is to enhance their joint payoff. In order to engage in joint monitoring, some large shareholders may act together to fix the level of monitoring activity so as to maximize their collective payoff. However, rather than monitoring the firm management in the interest of all involved parties, a blockholder may have incentive and power to engage in collusive agreement with additional blockholders. Thus, the feasibility of cooperating monitoring depends on the regulatory environment. A strong legal protection of minority shareholder fosters cooperation among external owners and impedes collusion between the entrepreneur and prospective monitors.. (Pagano & Roell, 1998).

In this case of independent monitoring, blockholders do not share homogenous or reconcilable utility function and risk preferences. They rather have different and irreconcilable utility function and risk preferences (Urban, 2015, p.162). Even if blockholders hold similar risk preferences and utility function in relation to their economic interest, they may differ in relation to their non-economic preference. Blockholders as per agency theory (we have included this topic in section 2) relies on the assumption that they are utility maximizer and only attempt to maximize their respective utility. Thus, they pay no attention to the negative consequences to other blockholders resulting from their monitoring except their own utility.

5.3. Empirical evidence

We have earlier presented that the large shareholders has the ability and incentive to monitor the actions of the management. As a result, it can benefit the minority shareholders (Shleifer & Vishny, 1986). In cases of multiple shareholders, principal-principal problems can arise. This problem can, however, be reduced when other shareholders monitor the actions of large controlling shareholder (Bolton & Thadden, 1998).

Faccio et al. (2001) use a sample of firms from Western Europe and East Asian countries during the period between 1992 and 1996 and investigate the expropriation by corporate insiders proxied by the degree of dividend payout. They reveal that the level of dividend payout is positively associated with the presence of multiple blockholders, and they interpret this as an evidence of the additional blockholder being able to reduce expropriation by the largest blockholder. Additionally, Attig et al. (2008) use data for 1165 corporations from eight East Asian and 13 Western European countries and detect that the implied cost of equity reduces in the presence of large shareholders beyond the controlling owner. Moreover, mainly in East Asian corporations, the presence of large additional shareholder beside the major shareholder improves internal governance curbing private benefits and minimizing asymmetric information. Attig et al. (2009) find a positive association between the presence of multiple large shareholders and firm value in East Asian countries. Finally, Santos et al. (2015) using GMM estimation on a panel of Western European firms, they reveal that the presence of a second and third large blockholder has a significant positive impact on firm value.

Like Faccio et al. (2001), Gugler and Yurtoglu (2003) use dividend pay out as proxy and investigate the dividend announcement and pay-out ratios of 266 major German companies contained in the Standard & Poors' Global Vantage from 1992 to 1998. They find that the larger holdings of the largest shareholder decrease the dividend pay-out ratio. In contrast, larger holdings of the second largest blockholder increases the dividend payout ratio inferring a monitor function by the second largest investor.

Unlike above studies, Laeven and Levine (2008) find a strong negative relation between cashflow rights dispersion across large shareholders and future corporate valuation as measured by Tobin's q . likewise, using U.S data, Konijn et al. (2011) find a strong negative correlation between Tobin's q and multiple large shareholders.

6 DATA AND VARIABLES

The data used in this thesis contains annual blockholder ownership and annual financial reporting data of 114 non-financial listed companies in the Helsinki Stock Exchange (NASDAQ Helsinki) for the 2017- 2020 period. The data on blockholder ownership for the sample of firms are acquired either from the respective companies' websites or firms' annual reports, and the accounting data are obtained from Thomson Reuters Eikon platform. The firms' websites typically report 20 to 50 largest shareholders ranked by ownership size. If the data were not available on the firm's webpage, we collected them from companies' annual reports. In each firm, we collect data on equity of the five largest shareholders who hold at least 10% of the equity. Though there are more companies (circa 136) than our sample listed in the Helsinki Stock Exchange(Nasdaq Helsinki), following Maury and Pajuste (2005), we have excluded banks and insurance companies as their valuation is likely to differ from the non-financial firms. Additionally, we have some missing observations. Thus, our sample is not balanced. Our unbalanced sample includes a total of 424 observations over the four-year periods.

6.1.Variable description

This thesis uses Tobin's q as a proxy for firm valuation, which is defined as the market value of assets divided by the replacement cost of assets (Kim et al., 2015). This measure is frequently used to estimate the impact of ownership on firm performance. For example, several studies (e.g., Morck et al., 1988; McConnell & Servaes, 1990; Holderness et al., 1999; Konijn et al., 2011) utilize Tobin's q to measure firm performance. Another widely used measure of firm performance is the profit rate. However, Maury and Pajuste (2005) stress that Tobin's q as a market-based measure is perhaps a more accurate measure of firm economic performance in contrast to accounting-based profitability ratio as it may suffer from earnings manipulation.

But calculating Tobin's q precisely is challenging. First, market value of liabilities is difficult to estimate. For example, in our case, we did not find market value of liability on Thomson Reuters Eikon platform. Additionally, estimating replacement costs requires to take considerations of many factors linked to various types of assets, which complicate the calculation further (Kim et al., 2015). Therefore, several authors use a proxy for Tobin's q . In here, following Morck et al. (1998) and Maury and Pajuste (2005), we calculate the Tobin's q in the following way . We first calculate the Market value of equity and Book value of liabilities and then divide the sum of them by the book value of total Assets.

Furthermore, when using historical data, researchers often face some common problems, for example, problems in dealing with extreme observations and missing data. Thus, the dataset used in this paper is not an exception either. Data values that are substantially larger or smaller than other values are considered as outliers (Newbold et al., 2013). To reduce the impact of extreme outliers, following Maury and Pajuste (2005) and Urban (2015, p.252), we have winsorized Tobin's q at the top and bottom 5% of the distribution. Moreover, unless outliers are winsorized, a small absolute change may cause a very large relative change and may dominate the overall outcome (Melberg et al., 2016). To further minimize the impact of extreme values across all analyses, accounting variables - other than sales growth are censored at the top and bottom 1% of the distribution. As sales growth displays large positive skewness, it is winsorized at the 1st and 95th percentiles of the distribution, setting outliers to the 1st and 95th percentile values, respectively.

6.2. Independent variables

The ownership variables of our interest are dummy variable of blockholder's presence, the largest blockholder fraction, dummy variables of the largest blockholder fraction, the number of blocks, the cumulative blockholder fraction, and the Herfindahl Index. We have constructed these variables using data either from the companies' websites or their annual reports.

We initially include a dummy variable for the presence of any blockholder as regressor to see whether a mere presence of one or more blockholders irrespective of the size is positively or negatively associated with Tobin's q . Next, we split the largest shareholder for the firms into four groups using dummy variables (LB1 \geq 0 and \leq 10; LB2 \geq 10 and \leq 25; LB3 \geq 25 and \leq 50; LB4 \geq 50 and \leq 100) and use the first group (firms without blockholder) as a reference point (benchmark) to compare the performance in relation to the reference point.

We, in addition, include LBSM (largest block super majority), which assesses how a firm performs if the largest block ownership stake is at least 50% of firm's total equity. They are expected to negatively related to Tobin's q based on the analysis of Johnson et al. (1985) and Cronqvist and Nilsson (2003). Also, we use the largest blockholder fraction as a continuous variable to evaluate its effect on firm value.

Next, we use a discrete variable - the Block, which refers to the number of owners in a firm who hold at least 10% of the firm's equity.

In addition, we include the cumulative fraction of ownership as a continuous variable to see if the cumulative fraction of ownership is related to Tobin's q . Incidentally, for the purpose of this study, the cumulative blockholder fraction refers to the cumulative ownership size of all blockholders who hold at least 10% of the firm's equity. For example, if the largest blockholder has 40% of ownership, the second largest owner 30%, and the third largest owner 10%, then the cumulative ownership fraction is 80%.

Finally, we include- the Herfindahl Index, which is used to measure the ownership concentration (Demsetz & Lehn, 1985; Maury & Pajuste, 2005; Hu & Izumida, 2008; Konijn et al., 2011; and Urban, 2015). A higher value of the Herfindahl indicates a higher ownership concentration.

While estimating the Herfindahl Index, researchers appear to employ nearly similar approach. Maury and Pajuste (2005) defines Herfindahl index as the sum of squares of the three largest ownership stakes. Thus, if a firm has three blockholders who hold 40%, 30% and 10% of the firm's share. Maury and Pajuste estimate the Herfindahl Index as follows-

$$\text{Herfindahl Index} = 40^2 + 30^2 + 10^2 = 2600$$

They also transformed this index value into logarithms to control for skewness. Whereas Hu and Izumida (2008) estimates this index by the sum of the squared ownership holding by the 10 largest shareholder as well as by the five largest owners. Additionally, Konijn et al. (2011) use the ownership stake of the five largest shareholders with at least 5% of the firm's equity and estimate a scaled Herfindahl index. Considering a firm with three blockholders, the Scaled Herfindahl Index is as follows-

$$\text{Scaled Herfindahl Index} = \frac{0.40^2 + 0.30^2 + 0.10^2}{(0.40 + 0.30 + 0.10)^2} = 0.4063$$

Finally, Urban (2015) estimates this index by the sum of the squared ownership holding by every owner who holds at least 5% of the firm's share. This paper estimates the Herfindahl

Index by the sum of the squared ownership holding by the five largest investors who hold at least 10% of the firm's shares. Thus, our estimated Herfindahl Index when a firm has three blockholders is-

$$\text{Herfindahl Index} = 0.40^2 + 0.30^2 + 0.10^2 = 0.26$$

The variable –the Herfindahl Index can take a maximum value of one if a firm is held by a single investor, whereas it reduces rapidly as ownership size becomes dispersed. Incidentally, a higher value of the Herfindahl Index demonstrates blockholder concentration. In contrast, a lower value of the Herfindahl Index refers to more blockholder dispersion. If the coefficient is negative and statistically significant at 5% level. This infers that a more dispersed ownership base is negatively related to Tobin's q (Konijn et al., 2011).

6.3. Control variables

This study deals with firms and their ownership structure over a period of time; thus, it is bound to have heterogeneity in them (Gujarati, 2011). Additionally, we face potential omitted variables and endogeneity issues. Therefore, this study includes a number of control variables primarily to mitigate potential biases resulting from omitted variables. Otherwise, any empirical association found between our blockholder ownership variables and Tobin's Q could be spurious (Konijn et al., 2011; Maury & Pajuste, 2005). To be precise, we have included five additional variables that previous studies included while analysing the impact on firm value. These variables are firm size, asset tangibility, leverage, beta, and sales growth.

Following Faccio et al. (2011), we measure firm size by the natural log of total assets; and leverage as the ratio of total debt to total asset. Total debt denotes all interest bearing and capitalized lease obligations. It refers to the sum of long- and short-term debt. Following Konijn et al. (2011), we divide gross property, plant and equipment by total assets to estimate the variable- asset tangibility, and following Villalonga and Amit (2006), we include time series beta from Datastream. Finally, following Maury and Pajuste (2005), we include sales growth, which is defined as the year-on-year percentage change in sales.

Table 1. The table presents the brief description of the variables of this study

	Variable	Description
1	Tobin's Q	(Market value of equity + Book value of liabilities)/Book Value of Total Assets. Source: Author's calculation based on the data from Thomson Reuters Eikon.
2	Herfindahl (Blockholder Concentration and Dispersion)	The sum of squares of the three largest ownership stakes following Maury & Pajuste (2005), multiple authors use similar approach. Source: Author's calculation based on data either from firm's website or firm's annual report.
3	Block Presence	Dummy variable: 1 if there is a blockholder who owns at least 10% of the firm's equity.
4	#Blocks	It represents the number of owners who hold at least 10% of the firm's equity.
5	Cumulative fraction	The cumulative ownership size of all blockholders who own at least 10% of the firm's equity.
6	Blockholder heterogeneity LB-continuous	The percentage of ownership stake of the largest shareholder, given she holds at least 10% of the firm's equity.
7	NB($\geq 0\%$ ---- $\leq 10\%$) (Dummy1)	Dummy variable: 1 if the largest blockholder holds between 0 and 10% of the firm's shares; 0 otherwise.
8	LB($\geq 10\%$ ---- $\leq 25\%$) (Dummy2)	Dummy variable: 1 if the largest blockholder holds between 10 and 25% of the firm's shares; 0 otherwise.
9	LB($\geq 25\%$ ---- $\leq 50\%$) (Dummy3)	Dummy variable: 1 if the largest blockholder holds between 25 and 50% of the firm's shares; 0 otherwise.
10	LB($\geq 50\%$ --- $\leq 100\%$) (Dummy4)	Dummy variable: 1 if the largest blockholder holds between 50 and 100% of the firm's shares; 0 otherwise.
11	LBSM(Large Block Super Majority)	Dummy variable: 1 if the largest blockholder holds at least 50% of the firm's shares; 0 otherwise.
	Control variables	
11	size	Natural log of total assets. Source: Author's calculation based on data from Thomson Reuters Eikon.
13	Leverage	Total debt/Total assets. Source: Author's calculation based on data from Thomson Reuters Eikon.
14	Asset Tangibility	Gross property Plant and Equipment/ Total Assets. Source: Author's calculation based on data from Thomson Reuters Eikon.
15	β_i	Historical market beta. Source: Source: Thomson Reuters Eikon Platform.
16	Growth	Annual sales growth. Source: Author's calculation based on data from Thomson Reuters Eikon.

7 DESCRIPTIVE STATISTICS

Descriptive statistics summarize data and make the data easier to envisage and comprehend (Randolph & Myers, 2013). Faulkner and Faulkner (2009) define descriptive statistics as “ways of organizing, describing, and presenting quantitative (numerical) data in a manner that is concise, manageable, and understandable”. In the following, we present the frequency of blockholder ownership for 114 Finnish listed firms in 2020. We have also estimated for the 2017-2020 entire period. The statistics are almost alike. Rather than presenting over the years average, though the statics are almost identical, we select the year 2020 for showing the recent prevalence of multiple blockholder in the Finnish listed companies. The table below presents the frequency of blockholders structure of the Finnish listed firms in 2020.

Table 2. Frequency of multiple blockholders for 114 Finnish listed firms in 2020

All Blockholders				
<i>N</i>	Number of firms with <i>N</i> blockholders	% off firms with $\geq N$ blockholders	Number of firms with <i>N</i> blockholders	% of firms with $\geq N$ blockholders
Blockholder reference level of 5%			Blockholder reference level of 10%	
0	5	100%	17	100%
1	32	96%	47	85%
2	26	68%	32	44%
3	20	45%	14	16%
4	17	27%	4	4%
5	11	12%	0	0%
6	1	3%	0	0%
7	2	2%	0	0%
Prevalence	109/114	95.61%	97/114	85.10%

To recall, a blockholder is a shareholder with at least 5% of the firm’s ownership. Some researchers (La Porta et al., 1999; Maury & Pajuste, 2005), however, employ 10% of the ownership while doing empirical research. Thus, Table 2. presents the blockholder statistics based on both 5% and 10% of the ownership stake. The table on the left shows that with a blockholder reference level of 5%, in 2020, 96% of the firms in the Helsinki Stock Exchange have blockholders, 68% of the firms have multiple blockholders, and 27% of the firms have at least four blockholders. Our finding accords with the findings of Holderness (2009) and Edmans and Manso (2011) who also document the significant prevalence of blockholder ownership for US firms. Holderness (2009) shows that 96% of the firms have the presence of blockholders, 74% of firms have multiple blockholders, and 26% have at least four

blockholders. Additionally, using U.S data gathered from Dlugosz et al. (2006), Edmans and Manso (2011) reveal that 88% of firms have the presence of blockholders, 70% have multiple blockholders, and 26% have at least four blockholders.

In order to perform empirical test, following La Porta et al. (1999) and Maury & Pajuste (2005), this study classifies blockholders as shareholder who own at least 10% of the firm's equity. Given that our dataset contains only four years of observation and in our sample circa 96% (averaging four years 95%) of the firms in 2020 have blockholders, we have inadequate number of observations for firms with non-blockholders. But we also incline to investigate how firms perform with a presence of blockholder and without a presence blockholder. Thus, we require a good number of observations for non-blockholder.

The first numerical row of Table 2 demonstrates that a change in blockholder's reference level from 5% to 10%, the number of non-blockholders rises from 5 to 17 inferring that a rise in blockholder benchmark is inversely related to the number of blockholders resulting in a higher fraction of non-blockholders. All in all, we carefully choose 10% as a base to increase sample size for non-blockholders and thus, increase the comparability in our regression models, which we will present in the empirical section. Furthermore, not only the frequency of blockholders, but we also require to recognize the size of blockholder ownership by different blockholders. Therefore, the following table presents the summary statistics of the fraction of the blockholder ownership by five largest shareholders in 2020.

Table 3. Sample statistics of blockholder ownership by different blockholders

	1 st Block	2 nd Block	3 rd Block	4 th Block	5 th Block	Cumulative	#Blocks
Mean	23.40	14.40	12.13	11.43	×	33.55	1.48
Median	19.42	12.61	11.36	11.22	×	30.65	1.00
Maximum	74.47	30.29	20.35	13.15	×	80.32	4
Minimum	10.01	10.01	10.36	10.15	×	10.01	0
Total	97	50	18	4	0	97	169
Prevalence	85.10%	43.86%	15.79%	3.51%	0%	85.10%	#

The table shows that the largest blockholder (1st Block) on average holds approximately 23% of the firm's share, which is considerably higher than 10 % classified as blockholder in this study. In contrast to the size of the 3rd blockholder, first largest shareholder on average owns

almost twice as much as the 3rd largest shareholder in a firm. Moreover, the mean combined stake of five largest shareholders, given that each shareholder holding a minimum of 10% of the firm's stock, constitutes roughly 34% of the firm's share. On average each firm has, however, just 1.48 blockholders.

One important observation is that in each block, the mean value of blockholder ownership is greater than its median, which implies that the ownership distribution of the blockholders is positively skewed. Furthermore, we observe that the maximum ownership fraction of the largest block is circa 80%, which is substantially higher than the average fraction of the largest blockholder. Finally, the prevalence of blockholders drops when we increase the level of blockholder ownership benchmark from 5% to 10%. Incidentally, still in 2020, 85% of the firms have at least one blockholder, whereas 44% of the firms have multiple blockholders who hold at least 10% of the firm's shares.

We have stated that we use both ownership variables and firm financial variables in order to analyze the effect of blockholder ownership on firm performance. Therefore, next we present the summary statistics of the firm financials' variables for the period 2017-2020.

Table 4. Summary statistics of firm financials, Herfindahl Index and Tobin's q

	Tobin's Q	Herfindahl	Size	Beta	leverage	Growth	Tangibility
Mean	1.68	0.09	12.77	0.91	0.27	0.03	0.59
Median	1.45	0.05	12.64	0.86	0.26	0.03	0.49
Maximum	4.31	0.65	18.36	2.35	0.87	0.55	2.11
Minimum	0.80	0.00	9.12	-0.35	0.00	-0.43	0.03
Std. Dev	0.73	0.10	2.03	0.46	0.16	0.13	0.44
Obs.	378	364	411	410	404	396	336

The table demonstrates that the mean value of Tobin's q is 1.68 (larger than 1), which infers that the average equity prices of the Helsinki listed companies (Nasdaq Helsinki) is greater than the replacement cost of their assets [firms are worth more than their replacement costs, thus, the securities are overvalued]. Maury and Pajuste (2005) also estimated Tobin's q using 136 Finnish listed non-financial firms over the period 1993-2000. They find a lower value (1.39) than ours as we use quite recent financial data. Hence, it tends to imply that stock price on average are overvalued in our study than theirs. Moreover, our estimated mean value of the

of the Herfindahl index is 0.09, which is less than one tenth of the maximum value (1) it can take. Incidentally, the median value of the Herfindahl Index is 0.05 which is nearly half its counterpart-mean, suggesting that the ownership concentration Index is positively skewed.

Furthermore, the variable leverage (total debt/total asset) appears to be quite moderate; its ratio is approximately one fourth of total assets. Beta (market risk) in our study is the historical market beta of the Helsinki listed firms. It is, however, slightly lower than 1 as we have winsorized some extreme observations and exclude financial firms. The table also reports firm's size, which is the natural log of total assets. Sales growth in our study appears to be weaker than the earlier study by Maury and Pajuste (2005). They reveal an astounding year-on-year sales growth of 15%, while in our study year-on-year average sales growth only 3%. They did not, however, explain if they have winsorized the Nokia's sales as Nokia was a big market player during their study. If not, Nokia's sales growth might have overweighed the total sales growth. For example, in 2020, Nokia experienced an approximate sales growth of 54% to EUR 30.4 from 19.8 billion in 2019 (Nokia's Annual Report, 2020, p. 3).

To reiterate, asset tangibility is the ratio of gross property, plant, and equipment to total assets. Average annual asset tangibility ratio appears to be quite strong (0.59). Fixed capital is easily observable and monitor. Hence, managerial discretion tends to be lower where fixed capital level is higher. In contrast to fixed capital, intangible capital is hard to observe and monitor (Himmelberg et al.,1999), thus, managerial discretion is expected to be higher in firms where intangible capital is higher.

So far, we have explained the variables that we have included in our study. However, we have yet to demonstrate how these variables are related to one another. Therefore, next we present the correlation between our ownership and accounting variables.

Table 5. The correlation coefficient statistics of ownership and accounting variables

Correlation	Tobin's <i>q</i>	1 st Block	2 nd Block	3 rd Block	Herfin dahl	# Block	Cumul- ative	Size	Lever age	Tangi bility	Beta	Grow th
Tobin's Q	1.00											
1 st Block	0.00	1.00										
2 nd Block	0.03	0.62	1.00									
3 rd Block	0.04	0.12	0.50	1.00								
Herfindahl	0.06	0.95	0.81	0.35	1.00							
#Blocks	0.08	-0.04	0.09	0.36	0.04	1.00						
Cumulative	0.09	0.70	0.74	0.54	0.81	0.60	1.00					
Size	-0.18	-0.53	-0.32	-0.08	-0.55	0.05	-0.38	1.00				
Leverage	-0.33	0.18	-0.13	-0.21	0.09	-0.06	-0.01	-0.32	1.00			
Tangibility	-0.03	0.20	0.40	0.42	0.34	0.07	0.36	-0.40	0.24	1.00		
Beta	0.07	-0.28	-0.31	-0.17	-0.32	-0.20	-0.38	0.28	-0.01	-0.29	1.00	
Growth	0.24	-0.16	0.20	0.28	-0.04	0.27	0.15	-0.01	-0.21	-0.08	-0.25	1.00

The table demonstrates that ownership variables (e.g., 1st Block, #Blocks) are positively related to Tobin's *q*, though the relationship is incredibly weak. Moreover, Tobin's *q* is moderately negatively related to leverage, while it is modestly positively related to sales growth. Above all, none of the variables in our study is either strongly positively or negatively linked to Tobin's *q*. As expected, 1st and 2nd block are highly positively associated with each other. They are, however, negatively associated with firm's size, which implies that as the firm's size rises, it becomes increasingly difficult to acquire a large block in such a firm. Additionally, a lower value of the Herfindahl Index shows more dispersion, as expected, Herfindahl is highly correlated with 1st block, and its correlation diminishes as the number of blocks rises.

Furthermore, one important observation is that firm's size is negatively related to all the variables except for market risk (Beta), perhaps postulating that large-cap stocks are less risky than smaller cap stocks. Leverage (total debt/total assets) is moderately negatively related to Tobin's *q*, as a rise in leverage may increase firm's probability of default. Leverage, however, positively related to 1st large block, whereas it is negative for other two blockholders. Additionally, we observe that the correlation between asset tangibility and the number of blocks increases with an increase in the number of blocks, probably implying that small blockholder values investment in physical assets. Finally, we observe that sales growth and the number of blocks are moderately positively correlated, presumably, inferring that blockholders value sales growth. It is, though, moderately negatively associated with leverage.

8 METHODOLOGY

We use panel data regression models to investigate the relationship between blockholder ownership and firm performance. Before we analyze the panel data estimation techniques in detail, it is important that we first familiarize ourselves with panel data regression with a brief introduction.

8.1. Panel data

When a dataset contains both time series and cross-sectional elements, such a dataset is identified as Panel data or longitudinal data (Wooldridge, 2009, p. 444; Brooks, 2014, p. 527;). A panel of data represents information across time and space. Panel data regression studies the same individuals or objects and estimates some quantity about them over time (Gujarati, 2011, p. 279; Brooks, 2014, p. 527). Thus, the model, in general, takes the following form:

$$y_{it} = \alpha + \beta_1 X'_{it} + u_{it} \quad i = 1, 2, \dots, N; \text{ and } t = 1, 2, \dots, T$$

Where y_{it} measures the observation of i^{th} firm at the t^{th} time on a response variable. The first subscript, i , denotes the firm being observed and the second subscript, t , denotes the time period at which it is observed (Stock & Watson, 2012, p. 390). Thus, i represents the cross-section unit, and t , represents the time series dimension. Furthermore, α is the constant term and X'_{it} refers to the observation of i^{th} firm and at the t^{th} period on a set of independent variables. u_{it} is the disturbance term and it can be decomposed into an unobservable individual specific effect, μ_i and the remainder disturbance, v_{it} , that varies over time and entities (firms).

We do not put a t subscript on μ_i . Because μ_i is assumed to be constant and we can think of it as capturing all the variables that affect y_{it} cross sectionally but it is time invariant, for example, the sectors or the place where a firm operates (Brooks, 2014, p. 529). In our empirical setting, μ_i may represent firm's working atmosphere which is likely to remain constant over time. To reiterate, v_{it} represents the unobserved factors that vary with time and influence y_{it} . It is also known as idiosyncratic error, and we can compare it to the errors in the time series regression. One can identify different panel regression techniques according to the assumption of the properties of firm specific effect, μ_i .

8.2. Pooled OLS regression

In order for pooled OLS to consistently estimate the regression parameters, the unobserved effect (fixed effect) μ_i , is assumed to be uncorrelated with the regressors, X'_{it} in the model

$$u_{it} = \mu_i + v_{it}$$

$$y_{it} = \alpha + \beta X'_{it} + u_{it} \quad (1)$$

$$y_{it} = \alpha + \beta X'_{it} + \mu_i + v_{it} \quad (2)$$

As per OLS, we must assume that u_{it} is uncorrelated with X'_{it} , for OLS to consistently estimate regression parameters. It is true either we use a single cross section or pool the two or more cross sections. So, not only v_{it} , μ_i also assumed to be uncorrelated with X'_{it} for OLS to produce unbiased and consistent estimate of the regression parameters (Wooldridge, 2009, p. 457, Gujarati, 2011, p. 282). Thus, no bias is caused from the omission of time fixed variable. Furthermore, if the control variables are so comprehensive that they are able to capture all relevant-firm specific characteristics, and there will be no relevant unobserved firm specific characteristics that affects y_{it} . In such a case, a pooled OLS regression can be used to fit the model by treating all the observations for all time periods as a single sample (Dougherty, 2007, p. 518). The objective of the pooled OLS, after all, is to pool both the cross section and time series, whilst controlling for unobserved heterogeneity across firms. In our case, this thesis investigates the impact of unobservable firm characteristics that concurrently affect the firm ownership, firm's financial and firm value variables by including a range of control variables to capture the highest possible amount of error term. In order to perform the Pooled OLS regression, this thesis utilizes the following regression model-

$$Tobin's\ q_{it} = \alpha + \beta_1 \sum_{i=1}^N OWN_{it} + \beta_2 \sum_{i=1}^N CONTROL'_{it} + u_{it} \quad (3)$$

Where $Tobin's\ q_{it}$ is the response variable for firm i at time period t . In our study, Tobin's is used as a proxy to measure firm value. α represents the intercept (constant). OWN_{it} , in our study, refers to the ownership variables (e.g., *#Blocks*, *Cumulative fraction*) that we deploy as primary explanatory variables in the different stages of our regression analysis. $CONTROL'_{it}$ denotes a vector of control variables. In our study, these variables are firm size, sales growth, asset tangibility, leverage, and historical beta. Finally, u_{it} refers to composite error (error term).

8.3. The fixed effects model

The above model can, however, be mis-specified (as we combine different firms at different times) and may hide the individuality or uniqueness that may exist among the firms in our sample. It is probable that the uniqueness of each firm is incorporated in the composite error term, u_{it} . Hence, it is likely that the error term is correlated with some of the independent variables that are included in our model. If it is the case, the estimated coefficients of our model may be biased and inconsistent. One way to solve this heterogeneity that may exist among our sample of firms is to allow each firm to have its own intercept (Gujarati, 2011, p. 283). This model is known as least squares dummy variable (LSDV) regression as it uses firm specific dummies. Equation (4) shows the least squares dummy variable (LSDV) approach-

$$y_{it} = \beta X'_{it} + \mu_1 D_{1i} + \mu_2 D_{2i} + \dots + \mu_N D_{Ni} + v_{it} \quad (4)$$

Here D_{1i} is a dummy variable that takes the value of 1 for all observations on our first firm in the sample and zero otherwise, and D_{2i} is a dummy variable that takes the value of 1 for all observations on the second firm in our sample, and so on (Brooks, 2014, p. 529). As you can see, we have removed the constant term from the equation to avoid dummy variable trap. The model (4) has $N + k$ parameters to estimate. However, if the number of entities (firms) are large, it will be a challenging for any regression package as the LSDV approach has a large number of regressors (e.g., the independent variables and the dummy variables for each firm). Therefore, most statistical software use a different approach known as *the within transformation*, which involves subtracting the time average of each entity away from the values of the variable (Gujarati, 2011, p. 286, Brooks, 2014, p. 530).

$$\bar{y}_i = \frac{1}{T} \sum_{t=1}^T y_{it}$$

Thus, we can rewrite equation (2) in the following way-

$$\bar{y}_i = \alpha + \beta \bar{X}'_i + \mu_i + \bar{v}_i \quad (5)$$

$$y_{it} - \bar{y}_i = \alpha - \alpha + \beta (X'_{it} - \bar{X}'_i) + \mu_i - \mu_i + v_{it} - \bar{v}_i \quad (6)$$

$$y_{it} - \bar{y}_i = \beta (X'_{it} - \bar{X}'_i) + v_{it} - \bar{v}_i \quad (7)$$

It can be observed in equation(7) that the time demeaning of equation (6) eliminates the time constant, unobserved effect, μ_i . Consequently, equation (7) can be estimated by pooled- OLS, also known as fixed effects estimator or within group estimator, because they use time variation within each cross-section unit (firm). However, one drawback of the within group estimator is that the time demeaning removes the intercept and all of the regressors that are fixed for each entity (firm). *To elaborate further, any independent variable that is constant over time for all i gets removed by the fixed effects transformation. Therefore, we cannot include variables such as gender in the fixed effect model* (Wooldridge, 2009, p. 482). Moreover, we can use the following equation to estimate the firm value with fixed effects-

$$\text{Tobin's } q_{it} - \overline{\text{Tobin's } q}_i = \beta_1(\text{Own}'_{it} - \overline{\text{Own}'}_i) + \beta_2(\text{Control}'_{it} - \overline{\text{Control}'}_i) + v_{it} - \bar{v}_i \quad (8)$$

Besides, it is possible to include time dummies to control for any time effect that is common to all entities (firms). We can write a time fixed effect in the following way-

$$y_{it} = \alpha + \beta X'_{it} + \lambda_t + v_{it} \quad (9)$$

Where λ_t denotes a time varying intercept that captures all of the variable that influences y_{it} and that vary over time but are fixed cross sectionally. Moreover, we can write the time variation in the intercept terms exactly the same way as with the entity fixed effects.

$$y_{it} = \beta X'_{it} + \lambda_1 D_{1t} + \lambda_2 D_{2t} + \dots + \lambda_N D_{Nt} + v_{it} \quad (10)$$

Where D_{1t} represents a dummy variable that use the value of 1 for the first period and null elsewhere, and so on. Finally, we can combine both the entity fixed effects and time fixed effects within the same model. In this way, the model that emerged termed a two-way fixed effect model (Brooks, 2014, p. 532). The following regression model includes both entity and fixed effect.

$$y_{it} = \beta X'_{it} + \mu_1 D_{1i} + \mu_2 D_{2i} + \dots + \mu_N D_{Ni} + \lambda_1 D_{1t} + \lambda_2 D_{2t} + \dots + \lambda_N D_{Nt} + v_{it} \quad (11)$$

Where y_{it} refers to Tobin's q for firm i at time period t . β refers to a $k \times 1$ vector of parameters to be estimated on the regressors, and X'_{it} refers to the observation of i^{th} firm at the t^{th} period on a set of explanatory variables [ownership variables and control variables].

8.4. The Random effects model

In section 8.2. we have decomposed equation (1) to equation (2). After that in section 8.3, we used fixed effects or first differencing to eliminate the unobserved individual specific effect, μ_i as it is assumed to be correlated with the one of more of explanatory variables. But now we suppose that μ_i is not correlated with each regressor variable in all time periods. Then, applying a transformation to remove μ_i produces ineffective estimators (Wooldridge, 2009, p. 489).

$$y_{it} = \alpha + \beta X'_{it} + \mu_i + v_{it} \quad (2)$$

$$y_{it} - \bar{y}_i = \beta(X'_{it} - \bar{X}'_i) + v_{it} - \bar{v}_i \quad (7)$$

In fact, equation(2) becomes a random effect model, when we assume that μ_i is uncorrelated with each independent variable. Under this assumption, we can use OLS to estimate the model. But μ_i is subsumed into the composite error term, u_{it} in each time period, thus, it is serially correlated across time. Therefore, a generalized least square (GLS) is preferable over pooled-OLS. This involves the subtraction of a weighted mean from the response and explanatory variables, which produce quasi-demeaned data on each variable (Gujarati, 2011, p. 289).

As with the fixed effects model, the random effects model also include all unobserved uniqueness at the firm level. *The major advantage of random effects model in contrast to fixed effect model is that it allows for the use of independent variables that are constant over time. Additionally, random effects model incorporates both between and within firm effects. Thus, this model is considered to be appropriate for this thesis.* Besides, it requires fewer parameters to be estimated with random effects model, and the degree of freedom is saved. As a consequence, random effects model should result in more accurate estimation than the fixed effects method. Moreover, unlike fixed effects model, random effects model allows for the use explanatory variable that is constant over time. Nonetheless, the major drawback of this model arises from the fact that *it is only valid if the composite error term is uncorrelated with each explanatory variable, and its assumptions are more stringent than the corresponding one in the fixed effects model.* (Brooks, 2014,p. 537). Following Urban (2015, p. 275) and Brooks (2014, p. 536), we will estimate the following random effects model as part of our thesis-

$$q_{it} - \theta \bar{q}_i = \alpha(1 - \theta) + \beta_1(Own'_{it} - \theta \overline{Own}'_i) + \beta_2(Control'_{it} - \theta \overline{Control}'_i) + \mu_{it} - \bar{\mu}_i$$

Where q_{it} refers to the Tobin's q and Own'_{it} refers to the explanatory variables for ownership, whereas $Control'_{it}$ denotes control variables that are used in the different stages of our regression. θ represents the part of the mean to be subtracted from the dependent and independent variables based on the number of time periods and the variance of μ_i and v_{it} (Brooks, 2014).

8.5. Test applicability in relation to the current study

We have above presented three regression models-the Pooled OLS Regression, the Fixed effects model, and the Random effects model. But how can we decide which model is appropriate for us? Fortunately, there are tests available to detect the model that is appropriate for our analysis. The first test is the restricted F-test to detect if the fixed effects model is better than the pooled OLS regression-

$$F = \frac{(R_{ur}^2 - R_r^2)/m}{(1 - R_{ur}^2)/(n - k)}$$

Where R_{ur}^2 is unrestricted coefficients of determination and R_r^2 is restricted coefficients of determination, m is the omitted number of parameters from the restricted model, n refers to the number of observations, and k refers to the quantity of parameters estimated in the unrestricted regression (Gujarati, 2011, p. 284). *In relation to hypothesis of the LSDV approach, the null hypothesis states that all the dummy parameters in the model are equal to zero, whereas alternative hypothesis states that at least one of the parameters is different from zero.* If the p -value associated with the test statistics are significant, then the null hypothesis has to be rejected, which implies that the pooled-OLS estimates that neglect these dummies might be biased. However, if the p -value associated with test statistics are insignificant, then null hypothesis cannot be rejected, which implies that pooled OLS produces consistent results. *For our thesis, all our tests with each of the explanatory variables reject the null hypothesis suggesting that the fixed effects model is likely to be more appropriate than the pooled OLS model.*

Moreover, whether to use fixed effects or random effects model depends on our assumptions about the likely correlation between μ_i and X'_{it} . If they are assumed to be uncorrelated, random effects model may be appropriate, but if they are correlated, Fixed effects model may be appropriate. We can, however, employ a test devised by Hausman. *The null hypothesis of the*

Hausman test is that the two models do not differ substantially. The appropriate test statistics has an asymptotic chi-square distribution with degree of freedom equaling to the number of explanatory variables in the model. *If the estimated chi-square value is greater than the critical value of chi-square for given degree of freedom and the level of significance, we conclude that the fixed effects model is more appropriate than the random effects model* as random error term probably correlated with at least one independent variable (Gujarati, 2011, p. 290).

To conclude, our dataset mainly suggests to employ fixed effects model than pooled OLS and fixed effect model. However, we face several problems with fixed effect model. First, this estimator cannot estimate the impact of any time-invariant variable (Baltagi, 2005, p. 13;) or restrict the use of dummy variables (Urban, 2015, p. 277). Additionally, the fixed effect least squares dummy variables(LSDV) suffers from a great loss of degree of freedom (Gujarati, 2011,PP-285). After all, *the fixed effects model focuses on the variation within firms to show the variation in the dependent variable. But our goal is to study the variation both within and between firms in terms of their ownership structure to explain the variations in the response variables. Moreover, our dataset shows that the ownership variables remains quite stable over the period our study.* Given all these complications, the fixed effect model appears to be less effective for this research. *Thus, we only use the fixed effect model for the Herfindahl Index.* In all other models, we use the pooled OLS and the random effects model to conduct the regression analysis. We utilize the following equations to conduct our research for this thesis.

$$q_{it} = \alpha + \beta_1 \sum_{i=1}^N Own_{it} + \beta_2 \sum_{i=1}^N Control'_{it} + u_{it}$$

$$q_{it} - \theta \bar{q}_i = \alpha(1 - \theta) + \beta_1 \sum_{i=1}^N (Own_{it} - \theta \bar{Own}_i) + \beta_2 \sum_{i=1}^N (Control'_{it} - \theta \bar{Control}'_i) + \mu_{it} - \bar{\mu}_i$$

8.6. Assumption

This paper implicitly assumes the principle of one share one vote. But we have observed that it is always not the case. This assumption, however, should not bias our result. After all, we focus on ownership concentration, in which our main interest is on the cashflow rights, not on the control rights. Yet if an owner owns a higher fraction of a firm and holds a lower voting rights (control), it is probably due to some intrinsic benefit she enjoys from sacrificing her voting rights. In line with the premise of Demsetz (1983), this study expects that rational

investors will not systematically relinquish control to egocentric controlling owners (principal principal-problem) and managers (principal agent problem) if it does not maximize her own utility.

8.7. Dual Class Share Structure

A Dual Class Share Structure (DCSS) refers to a structure in which a company issues two share classes with different rights, typically voting rights and dividends rights attached to them. It provides “disparate voting rights to different groups of shareholders with similar economic investments” (Appel et al., 2016, p.140). In a typical DCSS setting, insiders usually holds more voting rights per share than the general public. It is also possible that the shares issued to the general public do not have any voting right. The DCSS has a special characteristic that it allows the founder and executives (insiders) to obtain a controlling stake with low share of capital (Hayes, 2021).

Nenova (2003) estimates the value of corporate voting rights of the control block of votes using a sample of 661 dual-class firms in 18 countries in 1997 and find that the value of the control-block votes differs greatly across countries. The value of control block votes is inferred as a lower bound for actual private benefits of the controlling owner. The value of control-block is approximately half of the firm market value in South Korea, whereas it is close to zero in Finland.

A number of companies (e.g., Tokmanni group corporation, Stora Enso corporation, Orion corporation) have listed two class of shares. But for our research, to avoid double counting, we only select primary security from Eikon platform for accounting variables. Moreover, for ownership variables, this study does not differentiate between A-share and B-share class, rather it strictly follows the list of the major shareholders provided by the firms. As per our assumption, this should not cause any problem.

8.7. Research hypothesis

This paper has already in the earlier sections presented a general review of the theoretical and empirical studies in relation to firms’ large group of investors who hold at least five to ten percent of the firm’s shares. Theoretical literature, however, shows conflicting predictions if one large blockholder, blockholder dispersion, or highly dispersed ownership are better for firm value. The following examples can, presumably, best summarize how the same authors

elucidate this topic. Shleifer and Vishny(1986) shows that large shareholders in a firm have sufficient stake to involve in some monitoring of the management. However, any positive effect from the function of monitoring benefits all shareholders in the firm implying that minority stockholder can free ride with the expense of the large shareholders. Hence, large shareholders will only involve in monitoring if the benefits suffice to cover her cost. Above all, as large shareholders can only gain from her own share, they may, thus, offer too little monitoring. Additionally, Shleifer and Vishny (1997, p. 739) explain that though large shareholder can mitigate agency cost, they can still be costly for the other shareholders and stakeholders in the firm due to the “potential expropriation by large investors.”

We have already stated that our goal is to empirically tests how the firms’ large group of investors affect firm performance. However, we have not designed any theory rather our paper evaluates this research topic based on the existing research. Therefore, we incline not to make any explicit prediction about the influence of blockholders on firm performance. Instead, we intend to make implicit prediction exploring the direction of this area of research by investigating some interesting questions. Thus, our implicit hypothesis test is related some crucial questions that we outlined in section 1.

H_0 = The presence of blockholder does not have any association with Tobin’s q .

H_1 = The presence of blockholder can deteriorate firm performance if blockholders pursue their private benefits rather than the maximization of the firm’s profitability.

H_0 = The percentage of ownership stake by the large owner has no association with fir value.

H_2 = A large shareholder holding at least 50% of the firm’s share on average has the power to appropriate the minority shareholders and thereby reduces firm value.

H_0 = the size of the shareholders is not related to the value of the firm.

H_3 = A large shareholder mitigating agency problem can enhance firm value.

H_0 = The number of blockholders has no association with the value of the firm.

H_4 = An increase in the number of blockholders reduces incentive for monitoring, thereby it reduces firm value.

H_0 = The size of the cumulative blockholders has no influence on firm value.

H_5 = An increase in cumulative fraction of blockholder ownership decreases firm value due to coordination failure among parties in the organization

H_0 = Ownership concentration has no effect on firm value.

H_6 = The concentration of the combined ownership by at most five largest shareholders reduces firm value.

8.8. Empirical result

The sample of our study is unbalanced. We estimate two panel data model- the Pooled OLS and the Random effects model.

Table 6. Results from the Pooled OLS and the Random effects model [1-3]

The table presents the regression results for Tobin's q for non-financial Finnish listed companies during 2017-2020 period. Block Presence($\geq 10\%$) refers to the group that holds at least 10% of the firm's stock, NB ($\geq 0\% - \leq 10\%$) represents the firms without blockholder. LB refers to the largest block with different fractions of ownership, and LBSM ($\geq 50\%$) refers to the largest block with super majority. Firm size is the natural log of total asset. leverage refers to debt to asset, tangibility denotes gross property, plant and equipment to total asset, beta implies to historical market beta, and growth refers to annual sales growth.

	(1)	(2)	(3)	(1)	(2)	(3)
Method	The pooled OLS			The random effects model		
Independent variables	Dependent variable: Tobin's q					
Block Presence($\geq 10\%$) (Dummy)	-0.23* (-1.87)			-0.11 (-0.95)		
NB($\geq 0\% - \leq 10\%$) (Dummy1)		ref			ref	
LB($\geq 10\% - \leq 25\%$) (Dummy2)		-0.21 (-1.64)			-0.10 (-0.87)	
LB($\geq 25\% - \leq 50\%$) (Dummy3)		-0.22 (-1.42)			-0.04 (-0.24)	
LB($\geq 50\% - \leq 100\%$) (Dummy4)		-0.51** (-2.57)			-0.45* (-1.77)	
LBSM($\geq 50\%$) (Dummy)(ref- $\leq 50\%$)			-0.33** (-1.97)			-0.39* (-1.73)
Controls						
Size	-0.05* (-1.956)	-0.04* (-1.79)	-0.04* (-1.59)	-0.08** (-2.20)	-0.07** (-2.05)	-0.07** (-2.06)
Leverage	-1.12*** (-3.75)	-1.12*** (-3.77)	-1.13*** (-3.78)	-0.46 (-1.60)	-0.48* (-1.65)	-0.46 (-1.59)
Tangibility	-0.13 (-1.34)	-0.13 (-1.27)	-0.15 (-1.52)	-0.12 (-0.92)	-0.12 (-0.91)	-0.12 (-0.92)
Beta	0.02 (0.19)	0.03 (0.30)	0.03 (0.02)	0.10 (1.35)	0.10 (1.34)	0.10 (1.33)
Growth	0.73** (2.15)	0.81** (2.36)	0.81** (2.37)	0.31 (1.64)	0.35* (1.77)	0.35* (1.84)
Adjusted R ²	0.10	0.10	0.10	0.03	0.03	0.04
F-Statistics	5.81	4.78	5.88	2.39	2.14	2.71
#Observations	274	274	274	274	274	274

1. Within parentheses are t-values 2. ***, **, * denote statistical significance at 1%, 5%, 10% level, respectively.

Models (1) to (3) in table 6 show the result of the Pooled OLS and the Random effects model.

In model (1), we include a dummy variable- *block presence* to detect if a mere presence of blockholder in a firm irrespective its size influences firm value measured by Tobin's q . Thus, we regress Tobin's q against *block presence* and a number of control variables and obtain a *negative coefficient for block presence* for both the pooled OLS and the random effects model, inferring that that a mere presence of blockholder is negatively related to Tobin's q . But the *coefficient of block presence* is not statistically significant at 5% ($P \geq 0.05$) significance level neither in the pooled OLS nor in the random effects model. Thus, *ceteris paribus*, we conclude that a mere presence of blockholder has no impact on Tobin's q at 5% significance level. However, the *coefficient- block presence* is significant at 10% ($P \leq 0.10$) significance level for the pooled OLS. Thus, we have evidence only at 10% significance level that holding everything else constant, a one unit increases in *block presence* results in a 0.23 unit decrease in firm value as per the pooled OLS. To conclude, the evidence lends support that firms with more dispersed shareholders (firms without blockholder) outperform firms with blockholder albeit only at 10% significance level.

Model 2 splits the *largest block* into four categories using dummy variables and treats the firms *with no-blockholder- NB* ($\geq 0\% - \leq 10\%$) (dummy1) as the benchmark to compare with other categories. The result reveals that for both the pooled OLS and the random effects model, the regression slopes of each group is negatively associated with Tobin's q compared with the benchmark. However, only the coefficient of the fraction of ownership *at least 50% - LB* ($\geq 50\% - \leq 100\%$) is statistically significant for both the pooled OLS and the random effects model. In the pooled OLS, the coefficient is significant at 5% ($P \leq 0.05$) significance level, whereas in the random effects model, it is only significant at 10% ($P \leq 0.10$) level. Thus, *ceteris paribus*, we conclude that the presence of this group- *LB* ($\geq 50\% - \leq 100\%$) significantly weakens firm's performance. To reiterate, holding everything else in the model constant, a one unit rises in the fraction of ownership stake by this group- *LB* ($\geq 50\% - \leq 100\%$) results in a 0.51 unit fall in firm value in the Pooled OLS, whereas in the random effects model, the drop is 0.45 unit for a one-unit rise.

To conclude, like the model 1, in model 2, we observe that firms with dispersed shareholders appear to fare better than firms with blockholder. However, the evidence only lends support for the fraction of ownership at least 50% - *LB* ($\geq 50\% - \leq 100\%$).

Given the Model (2), we were further induced to evaluate the largest shareholders by splitting it into two groups. One group holds at least 50% referred as *LBSM*($\geq 50\%$), whereas the other group holds at most 50%. The group holding at most 50% is our reference [(Dummy)(ref- $\leq 50\%$)]. Akin to the model (2), the coefficient of the *LBSM*($\geq 50\%$) is negative and statistically significant at 5% ($P \leq 0.05$) significance level in the pooled OLS, whereas the coefficient is significant at 10% ($P \leq 0.10$) significance level in the random effects model, implying that in fact *LBSM*($\geq 50\%$) is harmful for the value of the firm. As shown in model (3), a one unit increases in fraction of ownership holding by *LBSM*($\geq 50\%$) is associated with a 0.33 unit fall in firm value in the pooled OLS, whereas in the random effects model, the drop is 0.37 unit for a one-unit rise.

To sum up, the models (1) to (3) reveal that on average firms without blockholder posit to have a positive association with the value of the firm, presumably, inferring an absence of principal agent problem in the absence of blockholder. However, we have observed that when owners retain more than or equal to 50% of the fraction of the firm's shares, they tend to reduce firm value. After all, controlling owners in the Finnish Corporation have significant power over the corporation. The annual general meeting (AGM) can replace the board at any time and the board can also replace the management of the firm (Jakobsson & Korkeamäki, 2014). This postulates that the controlling owners hold ultimate power over the company. As a result, this might have led to another problem, namely, the principal-principal problem.

Our finding is in accordance with the study of Shleifer and Vishny (1997) who claim that large shareholders can be costly if they expropriate the other shareholders in the firm. Additionally, La Porta et al., (1999) posit that large shareholder has both the power and interest to expropriate the dispersed shareholders. Among empirical studies, Cronqvist and Nilsson (2003) reveal a significant negative connection between controlling blockholder holding and firm operating performance. In addition, Thomsen et al. (2006) show a significant negative effect between blockholder ownership (more than 10%) and firm value in Continental Europe. Also, Konijn et al. (2011) detect a significant negative relation between the fraction of large shareholding and Tobin's q .

Table 7. Results from the Pooled OLS and the Random effects model [4 - 6]

The table presents the regression results for *Tobin's q* for non-financial Finnish listed companies during 2017-2020 period. The largest block (LB) represents the group that holds higher fraction of firm's equity, #Blocks refers to the number of blockholders with at least 10% equity in each firm, and the Cumulative fraction is the sum of the collective ownership holding by at most five blockholders in each firm. Firm size refers to the natural log of total asset. leverage refers to debt to asset, tangibility denotes gross property, plant and equipment to total asset, beta implies to historical market beta, and growth refers to annual sales growth.

	(4)	(5)	(6)	(4)	(5)	(6)
Method	The pooled OLS			The random effects model		
Independent variables	Dependent variable: Tobin's <i>q</i>					
Largest Block (LB)	-0.00* (-1.69)			-0.00 (-1.62)		
#Blocks		-0.14*** (-3.71)			-0.09** (-2.15)	
Cumulative fraction			-0.00*** (-3.46)			-0.00*** (-2.78)
Controls						
Size	-0.05* (-1.69)	-0.05** (-2.16)	-0.05** (-2.27)	-0.08** (-2.33)	-0.08** (-2.39)	-0.09*** (-2.60)
Leverage	-1.13*** (-3.78)	-0.93*** (-3.14)	-1.04*** (-3.54)	-0.44 (-1.51)	-0.45 (-1.55)	-0.42 (-1.46)
Tangibility	-0.14 (-1.42)	-0.15 (-1.56)	-0.12 (-1.24)	-0.11 (-0.82)	-0.13 (-0.97)	-0.10 (-0.78)
Beta	0.00 (-0.09)	-0.00 (-0.08)	-0.01 (-0.12)	0.10 (1.37)	0.09 (1.32)	0.09 (1.31)
Growth	0.76** (2.22)	0.80** (2.38)	0.80** (2.45)	0.32* (1.67)	0.34* (1.78)	0.35* (1.83)
Adjusted R ²	0.09	0.13	0.12	0.04	0.04	0.05
F-Statistics	5.69	7.71	7.38	2.65	3.02	3.50
#Observations	274	274	274	274	274	274

1. Within parentheses are t-values 2. ***, **, * denote statistical significance at 1%, 5%, 10% level, respectively

In model (4), we regress Tobin's *q* against the continuous variable the *largest block(LB)* and a number of control variables, it shows that the coefficient of the *largest block(LB)* is negative and insignificant at 5% significance level ($P > 0.05$) for both the pooled OLS and the random effects model. Thus, we do not have enough evidence to claim that *Ceteris paribus*, a rise in the fraction of the *largest block (LB)* triggers a fall in Tobin's *q* at 5% significance level.

However, the coefficient- *largest block(LB)* is significant only at 10% significance level in the pooled OLS. Thus, we have evidence only at 10% significance level that holding everything else constant, an increase in the fraction of the *largest block(LB)* decreases firm value in the pooled OLS.

In Model (5), we regress *Tobin's q* on the discrete variable - *#blocks* (the number of blocks) and a number of control variables and reveal that the coefficient- *#blocks* is negative and statistically significant at 1% ($P \leq 0.01$) significance level in the pooled OLS, whereas it is negative and statistically significant at 5% ($P \leq 0.05$) significance level in the random effects model. The significant negative coefficient for - *#blocks* appears to suggest that keeping everything else in the model constant, a one unit increase in *#blocks* results in a 0.14 unit fall in firm value in the pooled OLS, whereas in the random effects model, the drop is 0.09 unit for a one-unit rise in *#blocks*.

In model (6), we regress *Tobin's q* on the continuous variable-the *cumulative fraction of ownership* and a number of control variables and detect that the coefficient of the *cumulative fraction* is negative and statistically significant at 1% ($P < 0.01$) significance level both in the pooled OLS and the random effects model inferring that an increase in *cumulative fraction of ownership* is associated with a reduction in firm value. Therefore, we can assert that holding everything else constant, we have enough evidence to conclude that the *cumulative fraction of ownership* by the multiple blockholders in the firms decreases firm value.

To summarize, models (5) and (6) in table 7 posit that blockholder dispersion is harmful for the value of the firm. In contrast to the coefficient of the *largest blockholder*, the *cumulative fraction of ownership* is negative and highly significant. Our study is in line with the theoretical model of Pagano and Roell (1998) who show that multiple large shareholder may form controlling coalition to gain private benefits. Furthermore, as the incentive of intervention depends on the block size, a higher number of blockholders can undermine the strength of voice. After all, splitting a block among multiple blockholders reduces the efficacy of direct intervention (Winton, 1993; Edmans & Manso 2011). Moreover, among empirical findings, Laeven and Levine (2008) detect a robust negative relation between cashflow rights dispersion across large shareholders and future corporate valuation as measured by *Tobin's q*. Also, Konijn et al. (2011) find a significant negative association between the *#blocks*, the *cumulative fraction of ownership* and *Tobin's q*.

Table 8. The pooled OLS, the fixed effects model and the random effects model

The table presents the regression results of lnTobin's q on the Herfindahl Index and a number of control variables for non-financial Finnish listed companies during 2017-2020 period.

	(7)	(7)	(7)
Method	The Polled OLS	The fixed Effects Model	The random effects model
Independent variables	Dependent variable: lnTobin's q		
Herfindahl Index	-0.50** (-2.03)	-1.67** (-2.35)	-0.77** (-2.10)
Controls			
Size	-0.03** (-2.07)	-0.19*** (-3.94)	-0.05** (-2.59)
Leverage	-0.71*** (-4.58)	-0.02 (-0.11)	-0.28* (-1.92)
Tangibility	-0.08 (-1.50)	-0.04 (-0.44)	-0.05 (-0.75))
Beta	-0.01 (-0.22)	-0.00 (0.17)	0.02 (0.59)
Growth	0.48** (2.70)	0.24*** (2.77)	0.19** (2.05)
Adjusted R ²	0.13	0.89	0.05
F-Statistics	7.96	23.58	3.62
#Observations	274	274	274

1. Within parentheses are t-values, 2. ***, **, * denote statistical significance at 1%, 5%, 10% level, respectively. 3. LSDV approach results in higher R² as every dummy variable adds to the explanatory power.

In equation (7), we regress lnTobin's q on *the Herfindahl Index*. The results of all three models reveal that *the Herfindahl Index* is negatively related to lnTobin's q , and the coefficient of the *Herfindahl Index* is statistically significant at 5% ($P \leq 0.05$) significance level. Thus, the result posits that a more dispersed ownership base is negatively related to firm value. To clarify further, an increase in ownership concentration by at most five blockholders (multiple blockholders) is negatively associated with firm value.

Furthermore, we have estimated the model (7) using the Scaled Herfindahl Index (please see the appendix) as well, which was proposed by Konijn et al. (2011). The coefficient of the Scaled Herfindahl is highly significant ($P \leq 0.01$) for both the pooled OLS and the random effects model. However, in the fixed effects model, the coefficients of the scaled Herfindahl is

significant only at 10% significance level. Moreover, some care should be taken while explaining the Scaled Herfindahl Index- *Konijn et al. (2011, pp. 1134-1136) has scaled the Herfindahl Index- and the coefficient of the Scaled Herfindahl index is inversely related to the regular Herfindahl Index, which infers that the negative coefficient of the Herfindahl index in model 7 must be positive in the Scaled Herfindahl index to share the equivalent explanation.*

Our finding is consistent with Maury and Pajuste (2005) and Konijn et al. (2011). Their studies also exhibit statistically significant relation between the blockholder dispersion and Tobin's q .

Incidentally, the Herfindahl Index absorbs both the number of blockholders and the asymmetry between block sizes. Therefore, it might be less clean proxy "for dispersion if block asymmetry is crucial element" (Konijn et al., 2011, p.1336). Thus, this study, in order to measure the influence of multiple blockholders on firm performance, has applied three estimates. First, we have used the number of blockholders (regression model 5) as a discrete variable. After that, we have utilized the cumulative blockholder ownership (model 6). Finally, we have employed the Herfindahl index (model 7). All three models regardless of the methods employed (the pooled OLS, the random effects model, and the fixed effects model) infer that blockholder dispersion negatively and significantly affects firm performance.

9 CONCLUSION

This thesis examines the influence of blockholders on firm performance using a sample of 114 non-financial Finnish listed firms during the 2017-2020 period. Our paper initially presented that stock ownership in the largest Modern Corporation was once assumed to be highly dispersed and the shareholders were unable to exert any influence over the management. As a consequence, professional management at the helm could take any action that befitted them inferring that corporate assets were not utilized entirely to maximize the return of the investors.

However, in contrast to a long-held belief of dispersed ownership, our study, in accordance with a number of recent studies, has revealed a high prevalence of blockholders in the non-financial listed firms in the Helsinki Stock Exchange. Additionally, in Finland, controlling shareholders can exert considerable influence over corporation. The annual general meeting (AGM), which is provided by the corporate law, can replace the board at any time and the board can as well replace the management of the firm implying that the controlling owners have ultimate power over the firm. Thus, if dispersed ownership is harmful for firm performance, strong prevalence of blockholders together with their power over the management through the Board of Directors in Finnish Corporation should infer a positive association with firm performance. However, it appears to posit otherwise.

Firms with blockholders versus firms without blockholder

Our study reveals that firms with the presence of blockholder trails the performance of firms without blockholder, but the coefficient of *the presence of blockholder* is not significant at 5% significance level in any of the panel regression models. It is only significant at 10% significance level in the pooled OLS. Moreover, when we split the largest blockholder into different categories and employ *non-blockholder as reference*, we detect that each blockholder's group displays inferior performance over *non-blockholder* group. However, the coefficient is only significant for one group where the largest blockholders own at least 50% of the firm's shares.

Likewise, when we separate the *largest blockholder* into two groups, the group retaining at most 50% of the firms share outperforms over the group retaining at least 50% and the coefficient is significant at 5% significance level in the pooled OLS, whereas it is only significant at 10% significance level in the random effects model. Thus, pertaining to the results of our study, it appears that on *average firms without the presence of blockholders and firms*

with blockholder ownership stake not exceeding 50% of the firm's stock are positively related to firm value, whereas it is adversely related to firm value when the largest blockholder retains at least 50% of the firm's shares.

Firms with Multiple blockholders

Furthermore, the study shows that an increase in the number of blocks is negatively associated with the firm value for both the pooled OLS and random effects model, and the coefficient is highly significant at 1% significance level in the Pooled OLS, whereas it is 5% significance level in the Random effects model. Moreover, the study exhibits that a rise in the cumulative fraction of ownership by at most five blockholders is negatively associated with the value of the firm and the coefficients are significant at 1% significance level for both the pooled OLS and the random effects model.

Finally, the study finds that the Herfindahl Index is negatively related to firm value and the coefficient is statistically significant at 5% significance level irrespective of the methods employed (the pooled OLS, the random effects model, and the fixed effects model), which postulate that an increase in the ownership concentration by at most five blockholders deteriorates the value of the firm. All in all, it appears that corporate ownership structure with multiple blockholders negatively affects firm value.

The evidence exhibited in this study perhaps expands our insight of the relationship between the corporate ownership structure and its effect on firm performance. Overall, our study infers that firms without blockholder and firms with large shareholder retaining at most 50% of the firm's stock are better for firm value, whereas firms with multiple blockholders and firms with large shareholders retaining at least 50% of the firm's shares appear to reduce the value of the firm. Though our study shows that the structure of corporate ownership significantly affects firm value, we have not solved the potential endogeneity problem in our study. Thus, we recommend the prospective researchers to extend this topic by examining the endogeneity concern.

REFERENCES

- Admati, A. R., & Pfleiderer, P. (2009). The "Wall Street Walk" and Shareholder Activism: Exit as a Form of Voice. *The Review of Financial Studies*, 22(7): 2645-2685.
- Aggarwal, R., Saffi, P. A., & Sturgess, J. (2015). The Role of Institutional Investors in Voting: Evidence from the Securities Lending Market. *The Journal of Finance*, 2309-2346.
- Aghion, P., Reenen, J. V., & Zingales, L. (2013). Innovation and Institutional Ownership. *The American Economic Review*, 277-304.
- Albuquerque, R., & EnriqueSchroth. (2010). Quantifying private benefits of control from a structural model of block trades. *Journal of Financial Economics*, 96: 33–55.
- Anderson, R. C., & Reeb, D. M. (2003). Ownership and Firm Performance: Evidence from the S&P500. *The Journal of Finance*, 1301-1328.
- Appel, I. R., Gormley, T. A., & Keim, D. B. (2016). Passive investors, not passive owners. *Journal of Financial Economics*, 111-141.
- Arrow, K. J. (1984). *The Economics of Agency*. California: Stanford University Press.
- Astrachan, J. H., & Shanker, M. C. (2003). Family Businesses' Contribution to the U.S. Economy: A Closer Look. *Family Business Review*, 211-219.
- Attig, N., Ghouli, S. E., & Guedhami, O. (2009). Do multiple large shareholders play a corporate role? Evidence from East Asia. *Journal of Financial Research*, 32: 395-422.
- Attig, N., Guedham, O., & Mishra, D. (2008). Multiple large shareholders, control contests, and implied cost of equity. *Journal of Corporate Finance*, 14: 721-737.
- Baltagi, B. H. (2005). *Econometric analysis of panel data*. Sussex: John Wiley & Sons Ltd.
- Bamberg, G., & Spremann, K. (1987). *Agency theory, Informatio, and Incentives*. Berlin: Springer.
- Becht, M., Franks, J., Mayer, C., & Rossi, S. (2009). Returns to shareholder activism: Evidence from a clinical study of the Hermes UK focus fund. *Review of Financial Studies*, 22(8): 3093-3129.
- Bell, D. (1960). *The End of Ideology*. New York: Collier.

- Berle, A. A., & Means, G. C. (1932). *The Modern Corporations and Private Property*. New York: Macmillan.
- Bhagat, S., & Jr, R. H. (2002). *The Econometrics of Corporate Governance Studies*. Cambridge: The MIT press.
- Bhagat, S., Black, B., & Blair, M. (2004). Relational investing and firm performance. *The Journal of Financial Research*, 27(1): 1-30.
- Black, B. S. (1998). Shareholder Activism and corporate Governance in the United States. *The New Palgrave Dictionary of Economics and the law*, 459-465.
- Bolton, P., & Thadden, E.-L. V. (1998). Blocks, liquidity, and corporate control. *The Journal of Finance*, 53: 1-25.
- Breugem, M., & Corvino, R. (2021). Dynamic ownership and private benefits. *Journal of Corporate Finance*, 67: 101881.
- Brooks, C. (2014). *Introductory Econometrics for Finance*. Cambridge: Cambridge University Press.
- C.Jensen, M., & S.Ruback, R. (1983). The market for corporate control: The scientific evidence. *Journal of Financial Economics*, 5-50.
- Chen, H., Hexter, J. L., & Hu, M. Y. (1993). Management Ownership and Corporate Value. *Managerial and Decision Economics*, 335-346.
- Chena, V. Z., Hobdari, B., & Zhang, Y. (2019). Blockholder heterogeneity and conflicts in cross-border. *Journal of Corporate Finance* , 86-101.
- Cho, M.-H. (1988). Ownership structure, investment, and the corporate value: an empirical analysis . *Journal of Financial Economics*, 47: 103-121.
- Chung, K. H., Lee, C., & Shen, C. H.-h. (2019). Passive blockholders, information efficiency of prices, and firm value. *Review of FINANCIAL ECONOMICS*.
- Connelly, B. L., Hoskisson, R. E., Tihanyi, L., & Certo, S. T. (2010). Ownership as a Form of Corporate Governance. *Journal of Management Studies*, 1561-1589.
- Cronqvist, H., & Nilsson, M. (2003). Agency Costs of Controlling Minority Shareholders. *The Journal of Financial and Quantitative Analysis*, 38 (4): 695-719.
- Dahrendorf, R. (1960). *Class and Conflict in Industrial Society*. New York: Free press.

- Dalton, D. R., Daily, C. M., Certo, S. T., & Roengpitya, R. (2003). Meta-Analyses of Financial Performance and Equity: Fusion or Confusion. *The Academy of Management Journal*, 13-26.
- Demsetz, H. (1983). The Structure of Ownership and The theory of the Firm. *Journal of Law and Economics*, Vol.26, No.2, 375-390.
- Demsetz, H., & Lehn, K. (1985). The Structure of Corporate Ownership: Causes and Consequences. *Journal of Political Economy*, 1155-77.
- Demsetz, H., & Villalonga, B. (2001). Ownership Structure and Corporate Performance. *Journal of Corporate Finance*, 7, 209-233.
- Denis, D. K., & McConnell, J. J. (2003). International Corporate Governance. *Journal of Financial and Quantitative Analysis*, 38: 1-36.
- Dewenter, K. L., & Malatesta, P. H. (2001). State-Owned and Privately Owned Firms: An empirical Analysis of Profitability, Leverage, and Labor Intensity. *The American Economic Review*, 320-334.
- Dougherty, C. (2007). *Introduction to Econometrics*. New York: Oxford University Press.
- Edmans, A. (2009). Blockholder Trading, Market Efficiency, and Managerial Myopia. *The Journal of Finance*, 64(6):2481-2513.
- Edmans, A. (2014). Blockholders and Corporate Governance. *Annual Review of Financial Economics*, 23-50.
- Edmans, A., & Manso, G. (2011). Governance through trading intervention: A theory of multiple blockholders. *The Review of Financial Studies*, 2395-2428.
- Faccio, M., & Lang, L. H. (2002). The ultimate ownership of Western European Corporation. *Journal of Financial Economics*, 365-395.
- Faccio, M., Lang, L. H., & Young, L. (2001). Dividends and Expropriation. *The American Economic Review*, 91:54-78.
- Faccio, M., Marchica, M.-T., & Mura, R. (2011). Large Shareholder Diversification and Corporate Risk-Taking. *The Review of Financial Studies*, 24(11):3601-3641.
- Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, Vol 88, No.2.

- Faulkner, C. A., & Faulkner, S. S. (2009). *Research Methods for Social Workers: A Practice Based Approach*. OXFORD: Oxford University.
- Fichtner, J., Heemskerk, E. M., & Garcia-Bernardo, J. (2017). Hidden Power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk. *Business and Politics*.
- Flören, R., Uhlaner, L., & Berent-Braun, M. (2010). *FAMILY BUSINESS IN THE NETHERLANDS*. A Report for the Ministry of Economic Affairs .
- G.Holderness, C., & P.Sheehan, D. (1988). The role of majority shareholders in publicly held corporations: An exploratory analysis. *Journal of Financial Economics*, 20: 317-346.
- Goldeng, E., Grunfeld, L. A., & Benito, G. R. (2008). The performance Differential between Private and State Owned Enterprises: The Roles of Ownership, Management and Market Structure. *Journal of Management Studies*, 1244-1273.
- Graham, J. R., Harvey, C. R., & Rajgopal, S. (2006). Value Destruction and Financial Reporting Decisions. *Financial Analysts Journal*, 27-39.
- Grossman, S. J., & Hart, O. D. (1983). An Analysis of the Principal- Agent Problem. *Econometrica*, pp. 7-45.
- Gugler, K., & Yurtoglu, B. B. (2003). Corporate governance and dividend pay-out policy in Germany. *European Economic Review*, 47: 731-758.
- Gujarati, D. (2011). *Econometrics by example*. Red Global Press.
- Hasan, I., & Xie, R. (2013). Foreign Bank Entry and Bank Corporate Governance in China. *Emerging Markets Finance & Trade*, 4-18.
- Hayes, A. (2021). *Dual Class Stock*. Investopedia.
- Hellinga, A. R., Maurya, B., & Liljebloma, E. (2020). Exit as governance: do blockholders affect corporate innovation in large US firms? *Accounting & Finance*, 1703–1725.
- Hietala, P. T. (1989). Asset Pricing in Partially Segmented Markets: Evidence from the Finnish Market. *The Journal of Finance*, 697-718.
- Himmelberg, C. P., Hubbard, R. G., & Palia, D. (1999). Understanding the determinants of Managerial Ownership and the link between Ownership and Performance. *Journal of Financial Economics*, 353-384.

- Hirschman, A. O. (1970). *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States*. Harvard University Press.
- Holderness, C. G. (2009). The Myth of Diffuse Ownership in the United States. *The Review of Financial Studies*, 22(4): 1377-1408.
- Holderness, C. G., Kroszner, R. S., & Sheehan, D. P. (1999). Were the good old days that good? Changes in Managerial stock ownership since the great depression. *The Journal of Finance*, 54(2): 435-469.
- Howorth, C., & Robinson, N. (2021). *Family Business*. New York: Routledge.
- Hu, Y., & Izumida, S. (2008). Ownership Concentration and Corporate Performance: A Causal Analysis with Japanese Panel Data. *Corporate Governance: An International Review*, Vol. 16, Issue 4, pp. 342-358, July 2008, Vol. 16, Issue 4, 342-358.
- Huang, R. D., & Shiu, C. Y. (2009). Local Effects of Foreign Ownership in an Emerging Financial Market: Evidence from Qualified Foreign Institutional Investors in Taiwan. *Financial Management* , 567-602.
- Ilmonen, K. R. (2016). Explaining Nordic Corporate Governance: A Political Narrative. *Working Paper*.
- J.Barclay, M., & G.Holderness, C. (1989). Private benefits from control of public corporations. *Journal of Financial Economics*, Volume 25, Issue 2, 371-395.
- J.Barclay, M., & G.Holderness, C. (1989). Private benefits from control of public corporations. *Journal of Financial Economics*, 25(2): 371-395.
- Jakobsson, U., & Korkeamäki, T. (2014). *Ownership and governance of large Finnish firms*. Prime Minister's Office.
- Jensen, M. C. (1986). Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review* , 76: 323-329.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, 305-360.
- Johansson, D., Sjögren, H., & Bjuggren, C. M. (2009). Family Business, Employment, and GDP. *Working Paper*.

- Johnson, W. B., Magee, R. P., Nagarajan, N. J., & Newman, H. A. (1985). An analysis of the stock price reaction to sudden executive deaths: Implications for the Managerial Labor Market*. *Journal of Accounting and Economics*, 7: 151-174.
- Jr., J. C. (1991). Liquidity versus control: The institutional investors as corporate monitor. *Columbia Law School*, 91(6): 1277-1368.
- Kapopoulos, P., & Lazaretou, S. (2007). Corporate Ownership Structure and Firm Performance: Evidence from Greek Firms. *Corporate Governance: An International Review*, Vol. 15, Issue 2, 144-158.
- Kim, J. Y., Kwak, J., & Lee, K. (2015). Estimating Tobin's Q for Listed Firms in Korea (1980-2005): Comparing Alternative Approaches and an Experiment with Investment Functions. *Seoul Journal of Economics*, 28: 1-30.
- Konijn, S. J., Kräussl, R., & Lucas, A. (2011). Blockholder dispersion and firm value. *Journal of Corporate Finance*, 1330-1339.
- Korkeamäki, T., Liljblom, E., & Pasternack, D. (2017). CEO power and matching leverage preferences. *Journal of Corporate Finance*, 45: 19-30.
- Korkeamäki, T., Rainio, E., & Takalo, T. (2013). Reforming Corporate Law in an Emerging Market: The Case of Finland in the 1970's. *Economics of Transition*, 509-551.
- Kruger, A. O. (1990). Government Failures in Development. *Journal of Economic Perspective*, 9-23.
- Laeven, L., & Levine, R. (2008). Complex ownership structure and corporate valuation. *Review of Financial Studies*, 21: 579-604.
- Lekvall, P. (2017). The Nordic Way of Corporate Governance. *The jubilee conference on the occasion of the 100th anniversary of the Danish Companies Act*, (pp. 164-182). Copenhagen.
- Lilienfeld-Toal, U. V., & Ruenzi, S. (2014). CEO ownership, stock market performance, and Managerial discretion. *The Journal of Finance*, 69(3): 1013-1050.
- MacNeil, I. (2010). Activism and collaboration among shareholders in UK listed companies. *Capital Markets Law Journal*, 5 (4): 419-438.
- Maury, B., & Pajuste, A. (2005). Multiple large shareholders and firm value. *Journal of Banking and Finance*, 29: 1813-1834.

- McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value*. *Journal of Financial Economics*, 27: 595-612.
- Melberg, H. O., Olsen, B. C., & Pedersen, K. (2016). Did hospitals repond to changes in weights of Diagnosis Related Groups in Norway between 2006 and 2013? *Health Policy*, 120(2016)992-1000.
- Monks, R. A., & Minow, N. (2004). *Corporate Governance*. Oxford: Blackwell publishing.
- Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management ownership and Market Valuation. *Journal of Financial Economics*, 293-315.
- Mörttinen, L. (2017). *Family Business in Finland*. PL:The Finnish Family Firms Association.
- Nenova, T. (2003). The value of corporate voting rights and control: A cross-country analysis. *Journal of Financial Economics*, 68: 325–351.
- Newbold, P., Carlson, W. L., & Thorne, B. M. (2013). *Statistics for Business and Economics*. Essex: Pearson.
- Nokia. (2000). *Nokia's Business Review 2000*. <https://web.lib.aalto.fi/fi/old/yrityspalvelin/pdf/2000/Enokia.pdf>.
- Pagano, M., & Roell, A. (1998). The choice of stock ownership structure: Agency cost, monitoring, and the decision to go public. *The Quarterly Journal of Economics*, 113: 187-225.
- Palmiter, A. R. (2002). Mutual fund voting of portfolio shares: why not disclose? *Cardozo Law Review*, 23(4):1419-91.
- Pedersen, T., & Thomsen, S. (1997). European Patterns of Corporate Ownership: a 12 country study. *Journal of International Business Studies*, 759-778.
- Perrow, C. (1986). Economic Theories of Organization. *Theory and Society*, 11-45.
- Pesola, H. (2011). Labour Mobility and Returns Experience in Foreign Firms*. *The Scandinavian Journal of Economics*, 637-664.
- Phi, N. T., Hesary, F. T., Tu, C. A., Yoshino, N., & Kim, C. J. (2020). Performance differential between Private and State-owned Enterprises: An analysis of Profitability and Solvency. *Emerging Markets Finance and Trade*.

- Porta, R. L., Lopez-De-Silanes, F., & Shleifer, A. (1999). Corporate Ownership Around the World. *The Journal of Finance*, 54: 471-517.
- Porter, M. (1992). Capital Disadvantage: America's Failing Capital Investment System. *Harvard Business Review*, 65-82.
- Randolph, K. A., & Myers, L. L. (2013). *Basic Statistics in Multivariate Analysis*. New York: Oxford University.
- Rozeff, M. S. (1982). Growth, Beta and Agency Costs as Determinants of Dividends Payout Ratios. *The Journal of Financial Research*, 249-259.
- Santos, M. S., Moreira, A. C., & Vieira, E. S. (2015). Governance with complex structures: Evidence from Western European Countries. *Journal of Business Economics and Management*, 16: 542-557.
- Sappington, D. E. (1991). Incentives in Principal- Agent Relationships. *Journal of Economic Perspectives*, 45-66.
- Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 461-488.
- Shleifer, A., & Vishny, R. W. (1997). A Survey of Corporate Governance. *The Journal of Finance*, 52(2): 737-783.
- Shleifer, A., Boycko, M., & Vishny, R. W. (1996). A theory of Privatization. *Economic Journal*, 309-319.
- Slovin, M. B., & Sushka, M. E. (1993). Ownership concentration, corporate control activity, and firm value: Evidence from the death of insider blockholders. *The Journal of Finance*, 48(4): 1293-1321.
- Smith, A. (2007). *An inquiry into the Nature and Causes of the Wealth of Nations*. New York: Meta Library (Original work published 1776).
- Stock, J. H., & Watson, M. M. (2012). *Introduction to Econometrics*. New York: Pearson Education Limited.
- Stulz, R. M. (1988). Managerial control of voting rights: Financing policies and the market for corporate control. *Journal of Financial Economics*, 20: 25-54.
- Stulz, R. M. (2005). The Limits of Financial Globalization. *The Journal of Finance*, 60(4): 1595-1638.

- Thomsen, S., Pedersen, T., & Kvist, H. K. (2006). Blockholder ownership: Effects on firm value in market and control based governance systems. *Journal of Corporate Finance*, 12: 246–269.
- Tirole, J. (2006). *The theory of corporate finance*. Princeton: Princeton University Press.
- Tourunen, K. (2009). *Perheyrytykset kansantaloudessa : yritysten omistus, toiminnan laajuus ja kannattavuus Suomessa 2000-luvun alussa*. Ministry of employment and the economy.
- Urban, M. P. (2015). *The Influence of Blockholders on Agency Costs and Firm Value*. Duisberg: Springer Gabler.
- Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics* 80 (2006) 385–417, 80: 385-417.
- Walsh, J. P., & Seward, J. K. (1990). On the Efficiency of Internal and External Corporate Control Mechanism. *Academy of Management Review*, 421-458.
- Winton, A. (1993). Limitation of liability and the ownership structure of the firm. *The Journal of Finance*, 487-512.
- Wooldridge, J. M. (2009). *Introductory Econometrics*. New Delhi: South-Western.

APPENDICES

Appendix 1 Redundant fixed effects test

Model 7- We run a redundant fixed effects test to determine if the fixed effects are necessary

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section and period fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	21.259544	(89,175)	0.0000
Cross-section Chi-square	676.537698	89	0.0000
Period F	27.159684	(3,175)	0.0000
Period Chi-square	104.739520	3	0.0000
Cross-Section/Period F	21.015529	(92,175)	0.0000
Cross-Section/Period Chi-square	681.961956	92	0.0000

Certainly, we find that a pooled sample could not be used

Appendix 2 Hausman test

After that we are to detect whether the fixed effects model or random effects model. We can employ Hausman test. The p-value for the test is highly significant ($P \leq 0.01$), positing that the random effects model is not suitable, thus the fixed effects model is preferred.

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	26.240722	6	0.0002

Appendix 3 The Scaled Herfindahl Index with the Polled OLS

Dependent Variable: LOG(Q)
Method: Panel Least Squares
Date: 05/29/21 Time: 12:20
Sample: 2017 2020
Periods included: 4
Cross-sections included: 79
Total panel (unbalanced) observations: 237

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.629962	0.185234	3.400898	0.0008
Scaled Hefindahl	0.338163	0.079491	4.254111	0.0000
Size	-0.021154	0.012653	-1.671789	0.0959
Tangibility	-0.085310	0.051901	-1.643719	0.1016
Growth	0.542054	0.182163	2.975647	0.0032
Beta	-0.012279	0.049156	-0.249799	0.8030
Leverage	-0.493222	0.162648	-3.032442	0.0027

Appendix 4 The Scaled Herfindahl Index with the Random effects model

Dependent Variable: LOG(Q)
 Method: Panel EGLS (Cross-section random effects)
 Date: 05/29/21 Time: 12:25
 Sample: 2017 2020
 Periods included: 4
 Cross-sections included: 79
 Total panel (unbalanced) observations: 237
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.827813	0.246589	3.357049	0.0009
Scaled Herfindahl	0.253002	0.089634	2.822617	0.0052
Size	-0.040248	0.018315	-2.197615	0.0290
Tangibility	-0.072313	0.069001	-1.047992	0.2957
Growth	0.222639	0.104651	2.127433	0.0344
Beta	0.020406	0.038297	0.532833	0.5947
Leverage	-0.223143	0.159628	-1.397892	0.1635

Appendix 5 The Scaled Herfindahl Index with the Fixed Effects Model

Dependent Variable: LOG(Q)
 Method: Panel Least Squares
 Date: 05/29/21 Time: 16:16
 Sample: 2017 2020
 Periods included: 4
 Cross-sections included: 79
 Total panel (unbalanced) observations: 237

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.386419	0.688169	3.467779	0.0007
Scaled Herfindahl	0.175749	0.100597	1.747060	0.0827
Size	-0.156914	0.052137	-3.009655	0.0031
Tangibility	-0.042502	0.101794	-0.417526	0.6769
Growth	0.265434	0.095490	2.779693	0.0061
Beta	-0.003593	0.036747	-0.097786	0.9222
Leverage	-0.096207	0.188042	-0.511627	0.6097

Effects Specification

Cross-section fixed (dummy variables)
 Period fixed (dummy variables)

Moreover, some care should be taken while explaining the Scaled Herfindahl Index- *Konijn et al. (2011, pp. 1134-1136)* has scaled the Herfindahl Index- and the coefficient of the Scaled Herfindahl index is inversely related to the regular Herfindahl Index, which infers that the negative coefficient of the Herfindahl index in model 7 must be positive in the Scaled herfindahl index to share the equivalent explanation. Copied from page 61 of this paper.