Blockholders and Firm Performance within the Nordic Corporate Governance Model: Finnish Evidence

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Abstract

This paper examines the relationship between ownership concentration and firm performance within the Nordic corporate governance model. Using data on Finnish publicly listed companies (PLCs) during a period of economic growth and stability, we find that the ownership share of the largest owner is negatively related to Tobin's Q. We posit that certain blockholders may exchange their active monitoring and control function of the management for the private benefits of control, which is an inherent risk of the Nordic Corporate Governance (NCG) model. We find that state ownership is negatively associated with Tobin's Q, suggesting that government owners might promote politically desirable goals rather than create long-term value for all shareholders. It is plausible that certain domestic blockholders render PLCs with a concentrated ownership structure less attractive to foreign investors.

Keywords:

Blockholders, ownership structure, firm performance, Nordic corporate governance model

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1. Introduction

According to the Nordic Corporate Governance (hereinafter NCG) model, large owners are important. They control and take long-term responsibility for the company on behalf of the minority owners, play an active role in company governance, watch over their investment, create value for all shareholders, and appoint representatives to the board of directors (BOD), Lekvall (2014). Blockholders influence decisions made by the executives, and exercise voting rights at the annual general meeting (AGM).[1] Empirical evidence shows that substantial ownership in a single company incentivises controlling owners to monitor and control the management (e.g. Shleifer & Vishny, 1986b; Konijn et al., 2011; Ekholm & Maury, 2014). Moreover, strong owners prevent employees from extracting too large part of economic rent from the company (Roe, 2002).

The prior corporate governance (CG) research has shown that efficient monitoring by the owners should, in theory, lead to reduced agency costs (e.g. Coase, 1937; Fama, 1980; Fama & Jensen, 1983a), add company value (Maury & Pajuste, 2005), and increase risk when justified by higher return expectations (Jensen & Meckling, 1976). In line with this, Ekholm and Maury (2014) found a positive relationship between average shareholder portfolio concentration and company's future performance and abnormal stock returns, while Claessens et al. (2002) document that company value increases with the largest owner's cash flow ownership.

However, the risk attached to the NCG model is that large, active owners might extract undue private benefits from the company, which may have a negative influence on firm performance and valuation (cf. La Porta et al., 1998; Gilson, 2006; Lekvall, 2014). Hence, the purpose of this paper is to investigate how high levels of ownership concentration affect firm valuation and performance within the Nordic corporate governance model using data on Finnish publicly listed companies (PLCs). Although the data represent the situation in Finland, there are many similarities shared with the other Nordic countries. These include rules and norms for good governance that closely resemble each other, similar ownership structures for PLCs, and a common governance structure (Lekvall, 2018).

The NCG model differs from the Anglo-American one-tier board model and the German two-tier board model. In the Anglo-American model, power lies within the BOD, due to the dispersed ownership structure, and the model suffers from chief executive officer (CEO) duality, that is, one person holding both the CEO and chair positions (e.g. Rechner & Dalton, 1991). The German model comprises the AGM, a supervisory board, and a management board, whereas the Anglo-American combines the two latter functions, control and executive, in the BOD (e.g. Lekvall, 2014). In the German model, shareholders and the supervisory board have limited powers, which entrenches the management board against the AGM and the supervisory board (e.g. Ringe, 2016). In the US, there are agency problems between managers and shareholders, and in Europe between majority and minority owners (e.g. La Porta et al., 2000b). The typical CG control mechanisms are the BOD, shareholder proxy fights, the takeover market (the market for corporate control), and shareholders' legal protection[2] (e.g. Gilson & Schwartz, 2013).

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1 We use large shareholders, controlling owners, strong owners, majority shareholders, influential shareholders, and blockholders concomitantly in this paper. We refer to minority shareholders as small owners, minority owners, and minority investors. This paper observes outside blockholders (i.e. non-officers) instead of inside blockholders (i.e. corporate manager-owners). "Company" and "firm" are used interchangeably in the paper.
2 La Porta et al. (1998) measure investor rights using eight variables: 1. One-share, one-vote. 2. Proxy by mail allowed. 3. Shares not blocked before the meeting. 4. Cumulative voting or proportional representation. 5. Oppressed minorities mechanism. 6. Pre-emptive rights. 7. Percentage of share capital to call an extraordinary shareholders' meeting. 8. Mandatory dividend.

La Porta et al. (2002b) document higher company valuation in countries where minority investors are better protected. The impact is stronger amongst companies that have higher controlling owner's cash-flow ownership. Common law (case law) countries have the strongest investor protection, while French civil law (codified constitution) countries[3] provide the weakest, with German[4] and Scandinavian civil law countries somewhere in between (La Porta et al., 1998). Where minority shareholder protection is strong, even small shareholders can challenge the management (La Porta et al., 2000b). Empirical evidence shows a negative relationship between ownership concentration and investor protection, and that large controlling blockholders substitute for poorer protection (La Porta et al., 1998; La Porta et al., 2000a; La Porta et al., 2002b). However, this paper claims that the latter is not necessarily the case in Finland, as large owners may have private interests not shared by other shareholders of the company. Also, large active owners may neglect minimum dividend payments to minority owners, particularly during times of negative earnings (e.g. Maury, 2004; Kinkki, 2008).

This paper posits that large state ownership may be associated with a negative effect on company valuation (cf. Shleifer, 1998; La Porta et al., 2002a).[5] The reasoning is that political proxies (governmental representatives) might not take responsibility for economic consequences, but exploit their power to advance social peace (Roe, 2002), or a government's strategic industrial, political agenda (Putniņš, 2015), which are typical rationales for state ownership in welfare economics (Arrow, 1969). As a result, foreign and minority investors who fear *ex-ante* that large domestic investors will promote a private agenda at their expense might eschew investments in PLCs (e.g. Gilson, 2006). There are negative consequences for the entire economy if it becomes difficult for companies to attract foreign capital and minority investors, whose investments in the companies contribute to stock liquidity (Coffee, 1991; Zingales, 1994; Maug, 1998; Becht & Röell, 1999; Edmans et al., 2013). We expect the negative effects of ownership concentration to arise from a condition where blockholders' strong control prevents the management from freely operating the company. In this paper, large owners (blockholders) are defined as investors who own 10 percent or more of a company's shares outstanding, and minority owners as shareholders who own less than 10 percent of the shares.

The main empirical contribution of this paper is to show that ownership concentration in the Nordic context may hurt firm performance. The results are in strong contrast with international findings that report on positive effects from concentrated ownership (e.g. Baysinger et al., 1991; Lemmon & Lins, 2003; Atanassov, 2013; Aghion et al., 2013; Appel et al., 2016b; Becht et al., 2017; Gorton et al., 2017). Lekvall (2018) argued that a well-functioning minority investor protection system effectively avoids the NCG model risk. The protection of minority investors' rights also renders foreign investors safe in investing in listed companies (cf. Johnson et al., 2000). Although Finland has fairly efficient law enforcement and good investor protection (e.g. La Porta et al., 1998), this paper shows that the inherent risk of the NCG model materialises, and suggests that it might strengthen the home bias of foreign investors, as observed by Berglund and Westerholm (2010). Home bias refers to a situation where investors underweight foreign shares in their portfolios (Cooper & Kaplanis, 1994). The results also support the notion that a state owner may have harmful effects on listed companies' valuation (cf. Arrow, 1969; Roe, 2002; Putniņš, 2015).

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3 I.e. France, the Benelux countries, Italy, Romania, Spain, and its former colonies.

4 I.e. Germany, Austria, Russia, Switzerland, Estonia, Latvia, Bosnia and Herzegovina, Croatia, Kosovo, North Macedonia, Montenegro, Slovenia, Serbia, Greece, Portugal, and its former colonies, Turkey, and East Asia countries including Japan, South Korea, and Taiwan (Republic of China).

5 We use "state" and "government" interchangeably in this paper with reference to state authority. Large ownership defines as 10 percent or more of shares outstanding.

The paper is organised as follows. The next section details the relevant theory, a literature review, and the hypotheses. In this respect, we discuss a comparison of the leading CG models, the NCG model, agency theory and problems, and offer an overview of the ownership-related research. Section three presents the methodology and data. Section four delivers the sample characteristics. Section five provides the results, and the final section our conclusions.

2. Literature review and hypothesis development

2.1. Differences in Legal Origins and the Corporate Governance models

Before going into the specifics of the NCG model, we need to shed light on the differences in legal origins and CG models between the Nordic countries and some other countries. These differences help explicate why large ownership concentrations may yield a less beneficial outcome in Finland than in, for instance, the US, where minority shareholder protection is the strongest (e.g. La Porta et al., 1998; Lekvall, 2018).

Researchers commonly find companies have a concentrated ownership structure in countries where shareholder protection is weak (e.g. Becht & Röell, 1999; La Porta et al., 2002b). Ownership structures are dispersed in the United States (US) and United Kingdom (UK), due to the more developed capital markets, but more concentrated in the Nordics and Germany (La Porta et al., 2000a). Proper minority investor protection improves investor confidence and reduces minority and foreign investors' costs of investment in PLCs (La Porta et al., 1997). According to La Porta et al. (1998), Scandinavian and German civil law origins provide the best law enforcement, French civil law systems the worst, and common law countries fall somewhere in between. Differences in investor protection explain variance in ownership structures (La Porta et al., 1998; Burkart & Panunzi, 2005), encourage companies to list on the stock market (Zingales, 1994; Pagano & Röell, 1998; Gomes, 2000), and relate to safeguarding funding (La Porta et al., 1998). If investor protection is weak, accounting standards become important (La Porta et al., 2002b).[6] As to accounting standards' quality, the Scandinavian system is first-rate, while common law countries are superior to the German civil law countries.

In the traditional Anglo-American model, the supervisory and executive functions are situated in the BOD, which comprises executive and non-executive members (Lekvall, 2018). However, the model may suffer from CEO duality (Lekvall, 2014). Independent board members and the market for corporate control are merely theoretical improvements, since the executive board members are often in conflict with the executive management, and the owners have little power to challenge the CEO through the AGM, due to the dispersed shareholder structure[7] (Gilson, 2006). The German dual-board model comprises a controlling supervisory board and a management board to which it vests all the executive powers (Lekvall, 2014). In the German model, the power of the AGM is, however, reduced to appointing non-employee representatives to the supervisory board, which decreases shareholders' powers over the management. Finally, in the NCG model, owners use their power to nominate the board at the AGM, which appoints and supervises the CEO. It is possible to regulate several shareholder protection measures in a company's articles of association, which further enhances minority shareholders' power (e.g. Airaksinen, 2018). Because of this, the articles are much shorter in the Nordics than in the US,

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6 La Porta et al. (1998) define "law and order" as 1. Legal system's efficiency, 2. Rule of law, 3. Corruption, 4. Expropriation risk, and 5. Contract denial probability by the state.
7 Interestingly enough, dual-class shares and concentrated shareholder structure have recently become more popular in the US, particularly among ICT companies (Lekvall, 2018).

which makes them more understandable to minority investors. Yet, there are some problems with minority shareholder protection in the Nordics. As documented by Kinkki (2008), a controlling shareholder increases the tendency for dividend omissions when earnings are negative, and prevents minority owners from forming co-operative coalitions (Maury, 2004).

2.2. The Nordic Corporate Governance model

CG refers to shareholder interest protection (Tirole, 2001), and is defined as a framework by which a company is directed and controlled in the best interests of its owners (Lekvall, 2014). CG measures the effectiveness of mechanisms that minimise managerial opportunism (Shleifer & Vishny, 1997; Burkart & Panunzi, 2005), and processes by which corporations are being governed (Macey, 1997). Resemblances in Nordic countries' CG and norm structures warrant discussion on common CG, which has helped build top-notch Nordic companies (Lekvall, 2014).

The NCG model encourages strong owners to take voluntarily responsibility for the company, and create long-term value for the benefit of all shareholders. The advantage of the model is that it provides a strong chain of the organisational power of the AGM, the BOD, and top management (cf. Airaksinen et al., 2018). The model has six *ex-ante* measures to protect minority shareholders: *1. equal treatment of shareholders, 2. extensive individual shareholder rights to take part in the AGM and take legal action, 3. majority vote requirements, 4. minority powers to take action, 5. strict rules for related-party transactions,* and *6. high transparency* (Lekvall, 2014: p. 18-19).

The NCG model determines a three-norm system: 1. statutory regulation (company law and mandatory governmental rules), 2. self-regulation (defined and enforced by the business sector), and 3. informal norms and practices (CG in practice). The AGM is the shareholders' highest decision-making body, where shareholders nominate the BOD, which appoints the CEO and supervises the activities of the organisation. In the NCG model, the board is strictly accountable to all shareholders of the company. Shareholders also appoint an external auditor at the AGM, which reviews the work of the board and the management on behalf of the owners. Finally, large owners complement company governance in the Nordic model by overseeing the management. They may also appoint a representative on the board or become a board member themselves.

2.3. Agency theory in the NCG setup

According to Doukas et al. (2002), agency problems limit between minority shareholders (principal) and managers (agent) in both the US and the UK, whereas in European CG research, agency problems identify between minority shareholders (principal) and controlling shareholders (agent). Roe (2004) classifies the first instance as vertical governance and the second as horizontal governance. This paper takes the horizontal governance view.

Agency theory deals with means of aligning the agent's interests with those of the principal (e.g. Ross, 1973; Jensen & Meckling, 1976; Fama, 1980). Large owners use voice, learning, and exit to improve company performance and valuation (Kahn & Winton, 1998; Khanna & Sonti, 2004; Edmans, 2009). However, if both parties are aiming to maximise their utility, the agent will not always act in the principal's best interests (Jensen & Meckling, 1976). We expect agency costs to be lowest in firms where the entrepreneur owns all the shares, and highest in dispersedly owned PLCs (Ang et al., 2000).

The risk of the NCG model is that large owners cannot monitor managerial activities. This may separate ownership and control, produce managerial discretion (Stulz, 1990), and lead to managers' opportunistic behaviour (Demsetz, 1983). As the NCG model assumes, large owners

should protect the interests of all shareholders in the company and reduce agency costs (cf. Fama & Jensen, 1983b). In this respect, the signal to others, possibly foreign investors, is that it is secure to invest in a company (Berglund & Westerholm, 2010). Large controlling owners may also use their insight and power to promote goals other than company value maximisation (Claessens et al., 2002). Examples can vary from private rent extraction (Edmans, 2014) to advancing political goals (e.g. Hart et al., 1997; Roe, 2002; Putniņš, 2015).

2.4. Agency problems in the NCG setup

There are two potential agency problems in the NCG model that stem from information asymmetries between the principal and the agent: 1. *adverse selection*, and 2. *moral hazard* (see e.g. Akerlof, 1970; Dembe & Boden, 2000; Landström, 2017). Adverse selection occurs if foreign shareholders eschew investments in listed companies due to a fear of large domestic owners' misbehaviour. This potentially leads to market failure *ex-ante* (e.g. Bator, 1958; Stiglitz, 1989) for foreign investors (Johnson et al., 2000). Moral hazard follows if large domestic investors utilise their power/knowledge to benefit themselves at other shareholders' expense *ex-post* (e.g. Berglund & Westerholm, 2010). To avoid these agency problems, the NCG model has six preventive protection measures as mentioned in subsection 2.2.

2.5. Adverse effects of the NCG model

The root of adverse effects of the NCG model is asymmetric information: large investors might have private interests not shared with all shareholders (cf. La Porta et al., 2002a; Maury & Pajuste, 2005; Lekvall, 2018). In line with Demsetz and Lehn (1985), private benefits can be pecuniary (monetary) or non-pecuniary. In state ownership, the benefits might advance political goals (Shleifer & Vishny, 1997), e.g. save jobs and produce lower output prices (e.g. Arrow, 1969). Claessens et al. (2002) found that company value decreases when blockholders' control rights exceed their cash flow rights, which is consistent with the *entrenchment effect.* Large owners might become entrenched when they have good liaison with the management, and when the management is willing or forced, to carry out their agenda (cf. La Porta et al., 1999a).

Large domestic owners also render the company less interesting to prospective foreign shareholders when they pursue a private agenda (Johnson et al., 2000). Foreign investors, who are disadvantaged compared to domestic blockholders due to asymmetric information, (e.g. Lewis, 1999), might fear that large active owners will advance their private interests. For example, blockholders might prevent value-increasing takeovers (McConnell and Servaes, 1990). This kind of behaviour strengthens the home bias (Berglund & Westerholm, 2010).

Large state shareholders, represented by proxies, might be incapable of monitoring the management. This leads in the worst-case scenario to company asset deployment by the executives (cf. Demsetz; 1983; Belkaoui & Pavlik, 1992; Ang et al., 2000; Hartzell & Starks, 2003). Shleifer and Vishny (1986b), however, argue that it requires some ownership concentration to reward the owners for monitoring and providing proper working conditions for the management.

Gilson (2006) asserts that controlling shareholders who lack the market for corporate control are less responsive to changes in their economic environment. Hence, there might be agency problems in having a controlling blockholder, especially if minority shareholder protection in the country is weak (Shleifer & Vishny, 1997). Overall, we posit the following hypothesis:

Hypothesis 1: Ownership concentration is negatively associated with company valuation and performance.

The state as the largest owner might not maximise profits (Arrow, 1969), and may have the tendency to promote political goals (Hart et al., 1997), or advance social peace (Roe, 2002), rather than create long-term shareholder value. Following Putniņš (2015), the use of State-Owned Enterprises (SOEs) should be limited to market failure circumstances. Notably, state-owned companies have had performance improvements *ex-post* privatisation (e.g. Megginson et al., 1994). Thus, we hypothesise the following:

Hypothesis 2: There is a negative relationship between state ownership and company valuation.

3. Methodology

3.1. Data
The data used in the empirical analysis covers the distinct six-year period 2001-2006, and all OMX Helsinki listed stocks, leaving 177 unfiltered observations per fiscal year. Following Ekholm and Maury (2014), we omit banks and insurance companies from the sample, due to their non-comparable valuation ratios. Also, companies with extreme and incomplete data sets have been truncated. The final sample comprises a balanced panel with 119 annual and 714 total observations. FactSet Europe Ltd. provided the data, except for the ownership data that were manually collected from the yearbook *Pörssitieto*.

3.2. The model and variables
We examine the relationship between ownership concentration and firm performance by estimating the following regression model:

$$y_{it} = a + \hat{b}_1 x_{1it} + \hat{b}_2 x_{2it} + \hat{b}_3 x_{3it} + \hat{b}_4 x_{4it} + \hat{b}_5 x_{5it} + \hat{b}_6 \log x_{6it} + \hat{b}_7 x_{7it} + u_{it} \quad (1)$$

where y_{it} represents the dependent variable (Tobin's Q; ROA), i the entity and t the time interval, which is one year. a is the regression intercept and u_{it} and the error term. The dependent variable *y=valuation (Tobin's Q) and performance (ROA) proxies*, the independent variable *x_1=ownership concentration measures*, and the control variables *x_2=company beta coefficient*, *x_3=dividend payout ratio*, *x_4=return volatility*, *x_5=capital turnover*, *x_6=leverage*, and *x_7=size*. We employ dummies for controlling year, industry, and investor identity effects.

Tobin's Q is the market proxy for valuation and is used in Morck et al. (1988), Maury and Pajuste (2005), Maury (2006), and Ekholm and Maury (2014). Tobin's Q also avoids the estimation of the rate of return or marginal costs (Lindenberg & Ross, 1981; Salinger, 1984). Because of data limitations, we compute Tobin's Q yearly in this paper by dividing the company's total market value (end of period stock prices multiplied by shares outstanding) by the company's book value of total assets.

Return on assets (ROA) serves as a proxy for performance and is used in Maury and Pajuste (2005), Maury (2006), and Ekholm and Maury (2014). ROA captures the company's (historical) profitability relative to its total assets. We calculate ROA for this paper by dividing the compa-

ny's net income by its total averaged assets and expressed in a percentage format.

Ownership of 10 percent provides shareholders in Finland the right to call an extraordinary shareholders' meeting (5:4§), and demand minimum dividend (13:7§), according to the Limited Liability Companies Act (LLCA 624/2006 and section 6). Due to the variation in ownership definitions in CG studies (cf. Claessens et al., 2002; La Porta et al., 2002b; Maury & Pajuste, 2005; Ekholm & Maury, 2014; Edmans & Holderness, 2016), and for robustness, this paper employs four distinctive definitions. First, we employ a discrete ownership dummy to observing whether the company has concentrated ownership or not. The dummy is coded as 0 below 10 percent ownership of the largest owner, and 1 at and above 10 percent. Second, we multiply the ownership dummy by the largest owner percentage to capture the ownership threshold effect. Third, we use a continuous variable, the percentage of the largest owner of the firm, to detecting ownership's relative effect on firm valuation and performance. Finally, we employ traditional company and year-specific Herfindahl index (HFI) to measure ownership concentration, which defines as the squared sum of the three largest owners' ownership share (e.g. Herfindahl, 1950). HFI is used in several ownership studies (e.g. Demsetz & Lehn, 1985; Hill & Snell, 1989; Denis et al., 1997; Goergen & Renneboog, 2001; Ekholm & Maury, 2014).[8]

CG studies traditionally control for several variables, such as company age, size, industry, leverage, long-term debt, sales, tangibility, and total assets (e.g. Gompers et al., 2003; Maury & Pajuste, 2005; Laeven and Levine, 2008; Ekholm & Maury, 2014). This paper utilises the following six control variables. First, the yearly *beta coefficient* measures individual stock's level of systematic risk, or non-diversifiable risk. Betas in this study are approximated using weekly logarithmic stock returns and respective OMX all shares index returns.[9] We expect the beta coefficient to have a positive effect on valuation and performance, as a higher beta implies higher return potential. Second, we employ the percentage of a company's earnings that is paid out, i.e. the *dividend payout ratio* (e.g. Elton et al., 1983). Dividend cut sends a negative signal to the market about the company's future sales growth (e.g. Lintner, 1956; Lang & Litzenberger, 1989; Michaely et al., 1995; La Porta et al., 2000a), and a higher dividend payout ratio associates with stronger minority shareholder rights (La Porta et al., 2000b). We expect the dividend payout ratio to have a positive effect on performance, as companies with a higher dividend payout ratio tend to reproduce sales and be profitable over time. Third, for robustness, we employ one-year *return volatility* as a proxy for company-specific risk. The strong owner's role becomes important in an uncertain environment (Demsetz & Lehn, 1985). We calculate historical *return volatility* as the standard deviation of the company's daily logarithmic return and standardize it for 250 days. We expect *volatility* to have a positive effect on performance, as higher risk associates with higher returns. Fourth, *capital turnover* (CT) measures a company's ability to turn investments into sales. CT computes by dividing the company's yearly sales by total assets. We expect CT to have a negative impact on performance, as it commonly correlates negatively with the profit margin. Fifth, we employ *leverage*, which reduces the free cash flow for managers and, thus, limits their capacity to use managerial power (e.g. Myers & Majluf, 1984; Eckbo, 1986; Jensen, 1986). Following Maury and Pajuste (2005), *leverage* is computed by dividing company's long-term liabilities by the total assets. We expect leverage to have a negative effect on

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8 A drawback with the Herfindahl index is that it does not reveal the individual shareholder's relative power, especially where two shareholders out of the three largest can form winning coalitions.

9 Since the betas are *ex-post* variables, they are estimated three years prior to the ownership data for this paper (cf. Bowie & Bradfield, 1998). Notably, the first three-year period, from 1.1.1998 to 31.12.2000, was encountered by a heavy stock price increase at the beginning, followed by a sudden decrease and another increase towards the end period.

performance, due to increasing bankruptcy risk. Finally, *total assets* is employed as the proxy for company size. We take a logarithm of total assets to normalizing the variability in the sample data. Since profits converge over time, we expect company size to have a negative effect on performance.

We use *owner category* dummies[10] to control for different owners' impact on firm performance (cf. Nickel et al., 1997; Thomsen & Pedersen, 2000). The *Year and industry* dummies are used to control for the impact of economic cycles and industry-specific effects. Industry division is per the OMX Helsinki sector classification.[11]

4. Descriptive statistics and correlations

Table 1 below provides summary statistics for the variables used in this paper. The table shows that the mean Tobin's Q exceeds unity. This implies, *ceteris paribus*, that the sample companies' market value exceeds, on average, their recorded assets. Tobin's Q values have steadily increased since 2001, which might signal the stock market rise during 2001-2006.

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10 Throughout the regressions we use dummy variables as yes=1 and no=0. Indiv equals one if the largest investor is an individual investor, family or private investment firm and zero otherwise. Inst equals one if the largest investor owns for institutional purposes, is an insurance company, co-operative, pension fund, mutual fund or a PLC and zero otherwise. Found equals one if the owner is classified as firm founder, one of the founders, founder's close relative, board member or the firm CEO and zero otherwise. PLC equals one if the largest owner is the firm subsidiary or a strategic partner and zero otherwise. Govt equals one if the largest owner category is government and zero otherwise. Finally, Endow equals one if the owner is not-for-profit organisation, association or foundation and zero otherwise; source: FactSet (2007) and the Yearbook Pörssitieto (2001 – 2006). Owner categories are not reported in the tables.

11 Throughout the regressions, we used 7 industry classifications. We omitted two groups due to their negligent sample size. These were Utilities and Health Care. The industry sectors are 1. Materials, 2. Industrials, 3. Consumer Discretionary, 4. Consumer Staples, 5. Financials, 6. Information Technology, and 7. Telecommunication Services.

Table 1. Summary statistics of variables employed in the estimated regression equation over the period 2001-2006. n denotes the number of observations. The main dependent variable is Tobin's Q. The second dependent variable is ROA. ROE and ROTC are employed as supplementary dependent variables for robustness of ROA. Independent ownership variables are the percentage of the largest owner and Herfindahl Index. The control variables are: beta coefficient, dividend payout ratio, yearly volatility, capital turnover, company leverage, and log of assets, i.e. size, respectively. Variable abbreviations: Tobin's Q (TobQ), ROA, ROE, ROTC, largest owner dummy: >10% = 1; <10% = 0 (OD), largest owner's percentage ownership (Larg), Herfindahl index (HFI), company beta coefficient (Beta), dividend payout ratio (Div), volatility (Vola), capital turnover (CT), leverage (Lev), logarithm of total assets (logs).

SUMMARY STATISTICS						
MAIN DEPENDENT VARIABLES	**Mean**	**Minimum**	**Median**	**Maximum**	**St. dev**	**n**
TobQ	1.054	0.071	0.805	6.490	0.836	714
ROA	3.304	-115.308	5.086	43.324	12.743	714
ADDITIONAL PERFORMANCE VARIABLES						
ROE	5.370	-824.915	10.677	122.340	40.445	714
ROTC	3.804	-733.535	7.041	113.861	33.199	714
OWNERSHIP VARIABLES						
Larg	25.109	0.430	22.055	72.000	16.246	714
HFI	1,093.393	0.410	690.334	5,221.610	1,118.443	714
CONTROL VARIABLES						
Beta	0.356	-2.697	0.303	1.748	0.374	714
Div	68.382	0.000	47.671	6,642.066	260.929	714
Vola	28.074	0.414	19.930	187.695	28.149	714
CT	1.170	0.013	1.133	3.820	0.615	714
Lev	15.200	0.000	13.557	104.311	13.807	714
Logs	2.267	0.174	2.114	5.315	0.904	714

Return on equity (ROE) exceeds the return on total capital (ROTC, i.e. return on investment, ROI), which exceeds ROA. This is because tangible assets bind more capital and generate lower value for ROA. ROE exceeds ROI, since bondholders demand higher fixed interest on capital than do equity holders. The Herfindahl Index mean value at 1093.4 implies that the largest owner's power contestability is implausible.

The largest owner's share has remained moderately stable in Finland. The largest owner owned, on average, 25.1 percent of the company in 2001-2006, the smallest value being 0.4 percent (2002), and the maximum 72 percent (2004). The mean sum of the three largest shareholders ranged between 38.1 (2005) and 41.4 percent (2002). Shareholdings of the largest owners declined steadily in 2001-2006, as e.g. the state had been privatising its shareholdings and/or foreign investors had purchased (part of) the shares of founders in some companies. Though large shareholdings are common in Finland, the high standard deviation shows that the data comprise companies with different ownership structures. Family-owned companies, and transportation industry, process industry, entrepreneur-owned, more mature, and state-owned companies have traditionally had a concentrated ownership structure. In sum, the largest owner share was fairly high and stable during the period 2001-2006. There does not seem to be a general tendency for the largest owners to decrease their shareholding, which is also consistent with Finnish stock market illiquidity.

Table 2 shows that valuation and performance (ROA, ROE, ROTC) correlate negatively with all ownership definitions. The beta coefficient has a negative, but low, correlation with performance variables. Tobin's Q is positively correlated with the beta coefficient. The dividend payout ratio is per expectations throughout company valuation and performance variables. Interestingly, volatility correlated negatively with all accounting multiples but positively with Tobin's Q. CT correlates positively with ROA and Tobin's Q, but negatively with ROE and ROTC. This is probably because ROA has total assets in the denominator, whereas ROE and ROTC do not. Given that the total assets are included in the denominator of CT, ROA and CT correlate with each other, and ROE and ROTC better capture the effect of CT. There is a negative correlation between leverage and valuation and performance. The logarithm of total assets correlates negatively only with Tobin's Q, which is in line with expectations. However, it correlates positively with accounting multiples, suggesting that larger companies have higher profitability. No severe multicollinearity was detected among the independent variables as their VIF values were below 2.

Table 2. Correlations between variables employed in the estimated regression equation over the period 2001-2006. Variable abbreviations: Tobin's Q (TobQ), ROA, ROE, ROTC, largest owner dummy: >10% = 1; <10% = 0 (OD), largest owner's percentage ownership (Larg), Herfindahl index (HFI), company beta coefficient (Beta), dividend payout ratio (Div), volatility (Vola), capital turnover (CT), leverage (Lev), logarithm of total assets (logs). Each regression model includes one ownership definition at a time. ROE, ROE, ROTC are also included separately in the models, not simultaneously.

CORRELATIONS

	TobQ	ROA	ROE	ROTC	OD	Larg	Herf	Beta	Div	Vola	CT	Lev	logs
TobQ	1												
ROA	0.299	1											
ROE	0.118	0.813	1										
ROTC	0.124	0.788	0.978	1									
OD	-0.119	-0.079	-0.067	-0.060	1								
Larg	-0.154	-0.088	-0.089	-0.096	0.534	1							
HFI	-0.147	-0.069	-0.073	-0.085	0.407	0.938	1						
Beta	0.272	-0.079	-0.073	-0.051	-0.127	-0.105	-0.120	1					
Div	0.025	0.047	0.034	0.032	0.023	-0.031	-0.042	-0.062	1				
Vola	0.126	-0.048	-0.030	-0.015	-0.055	-0.050	-0.062	0.169	-0.036	1			
CT	0.153	0.030	-0.043	-0.027	-0.048	-0.214	-0.219	0.033	0.026	0.111	1		
Lev	-0.434	-0.102	-0.029	-0.038	0.080	0.133	0.117	-0.114	-0.040	-0.047	-0.303	1	
logs	-0.216	0.166	0.175	0.151	-0.159	-0.065	-0.067	0.176	0.045	-0.182	-0.186	0.193	1

5. Results

We regress Tobin's Q against all ownership proxies and control variables. We then repeat these steps with ROA as the explained variable. One dummy is automatically omitted in the regressions in order to avoid perfect multicollinearity among the independent variables. Stata routinely omits variables if collinearity is detected and automatically estimates robust standard errors as we employ the robust command. While the explanatory variable (ownership) may correlate with the error term due to omitted variables, or have reverse causality, we regress ROA also against the lagged ownership definitions, following Ekholm and Maury (2014). We did not estimate regressions using firm fixed effects to reduce endogeneity problems, as e.g. in Fahlenbrach and Stulz (2009), as such models are better suited to a dynamic setting. Since the ownership structures change slowly over time, a firm fixed effects regression model would not capture the effect properly (see e.g. Edmans, 2014). Also, adding 119 dummy variables would

lower the degrees of freedom (df) by 118, which is a problem with the current data set comprising 714 observations.

As shown in Table 3, concentrated ownership has a significant negative relationship with Tobin's Q throughout all regressions except with the Herfindahl index, which is statistically insignificant.[12] Thus, the result supports hypothesis 1 and there is no evidence to support the notion that controlling owners improve company governance and reduce agency costs.[13] On the contrary, strong owners might take advantage of minority shareholders by extracting undue private benefits from the company. Regarding owner identities, state owner is negative and statistically significant at the 5% level. It is plausible that foreign investors might eschew investments in listed companies that have large domestic shareholders, particularly if the largest owner is state.

Concerning the controls, only the beta coefficient, leverage, and size (log of assets) are statistically significant. Tobin's Q and beta coefficient have a positive relationship. Thus, higher beta, or stock's level of systematic risk, is associated with a higher company valuation. Leverage is negative and significant at the 1% level, which might signal increasing debt costs. Leverage also has positive implications due to its tax-benefits, and debt disciplines managers by limiting free cash flow (FCF) available to them. Notably, Finnish companies have been able to take on additional debt, as interest rates have been reasonably low during 2001-2006. The size coefficient is negative and significant at the 5% level, indicating that large companies' relative market value is lower compared to smaller firms. Of industry sectors, materials, consumer discretionary, information technology and telecoms were positive and statistically significant. The R^2 is approximately 34 percent, which is a good fit.

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12 As regressions were run without the controls, the Herfindahl index was significant and negative. Herfindahl index provided the most negative coefficient -1.096 and highest significance at the 1% level. Since the average Herfindahl index value was not very high, collusion was also possible among the three largest owners. Herfindahl value of 1800 and above defines a concentrated structure (Herfindahl, 1950). Lower initial values result in higher coefficients.

13

Table 3. Regressions of Tobin's Q on ownership variables over the period 2001-2006. The dependent variable is Tobin's Q. The independent ownership variables are: concentrated ownership dummy variable (OD), dummy variable multiplied by the largest owner percentage (ODxLarg), percentage of the largest owner (Larg), and Herfindahl Index (HFI). The control variables are: beta coefficient (Beta), dividend payout ratio (Div), yearly return volatility (Vola), capital turnover (CT), company leverage (Lev), and size (Logs). The t-statistics, in parentheses, are based on robust standard errors. Year (not reported), industry (not reported) and owner category effects are controlled for in the regressions. Regression coefficients are computed utilising independent variables' decimal form (i.e. ownership%, dividend payout%, leverage% divided by 100, Herfindahl index by 10,000). Thus, percentage values change from e.g. 15.3% to 0.153, and Herfindahl index values from e.g. 5,500 to 0.550.

VARIABLE	(1)	(2)	(3)	(4)
OD	**-0.224***			
ODxLarg	(-2.91)	**-0.365***		
Larg		(-1.83)	**-0.359***	
HFI			(-1.66)	-0.474
				(-1.62)
CONTROLS				
Beta	**0.415***	**0.426***	**0.427***	**0.427***
	(3.79)	(3.83)	(3.83)	(3.81)
Div	0.011	0.010	0.010	0.010
	(1.25)	(1.21)	(1.20)	(1.17)
Vola	0.057	0.069	0.072	0.072
	(0.55)	(0.67)	(0.70)	(0.70)
CT	-0.067	-0.069	-0.067	-0.066
	(-1.15)	(-1.18)	(-1.16)	(-1.14)
Lev	**-2.142***	**-2.155***	**-2.158***	**-2.167***
	(-10.20)	(-10.28)	(-10.28)	(-10.31)
Logs	**-0.102**	**-0.096**	**-0.095**	**-0.093**
	(-2.47)	(-2.24)	(-2.23)	(-2.16)
OWNER CATEGORY				
Indiv	-0.055	-0.045	-0.048	-0.059
	(-0.39)	(-0.31)	(-0.33)	(-0.41)
Inst	-0.156	-0.126	-0.124	-0.135
	(-1.11)	(-0.88)	(-0.87)	(-0.94)
Found	-0.007	0.000	-0.006	-0.021
	(-0.05)	(0.00)	(-0.040)	(-0.13)
PLC	0.208	0.224	0.219	0.208
	(0.62)	(0.67)	(0.66)	(0.63)
Govt	**-0.362**	**-0.350**	**-0.355**	**-0.380**
	(-2.45)	(-2.20)	(-2.25)	(-2.42)
Constant	**1.586***	**1.471***	**1.469***	**1.431***
	(5.42)	(4.87)	(4.82)	(4.74)
P-value	0.000	0.000	0.000	0.000
R²	34.09%	33.71%	33.64%	33.59%
Number of obs.	714	714	714	714

* denotes statistical significance on the 10% level, ** denotes statistical significance on the 5% level, and *** denotes statistical significance on the 1% level. Owner identity Endowment (Endow) has been omitted in the regression to avoid perfect multicollinearity.

Table 4 provides results for including the interaction term (largest owner percentage multi-plied by the state dummy) in the full model against Tobin's Q. As revealed by the table, both ownership and the state dummy have a negative and significant relationship with Tobin's Q. However, the interaction term is positive and significant. The immediate interpretation is that state's negative effect becomes less pronounced as its ownership increases. However, a radical increase in ownership decreases stock liquidity, which has a tendency to affect firm value neg-atively.[14] The alternative explanation is that the negative effect of the state is so pronounced that it is not dependent, *per se*, on the level of ownership if the state is the largest blockholder.

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14 State owned companies' mean Tobin's Q value is 0.47 compared to all other companies' (excluding state owned firms) mean Tobin's Q value 1.11 in the sample. Also, the minimum state ownership is 11,07% and maximum 70.74% compared to e.g. endowment 0.45% and 26.38%, respectively, when the state is the larg-est owner.

Table 4. Interaction term regressions of Tobin's Q on ownership variables over the period 2001-2006. The dependent variable is Tobin's Q. The independent ownership variables are: concentrated ownership dummy multiplied by the largest owner percentage (ODxLarg), percentage of the largest owner (Larg), and Herfindahl Index (HFI). The interaction term is the largest owner percentage multiplied by the government identity dymmy (Largest x Govt). The control variables are: beta coefficient (Beta), dividend payout ratio (Div), yearly return volatility (Vola), capital turnover (CT), company leverage (Lev), and size (Logs). The t-statistics, in parentheses, are based on robust standard errors. Year (not reported), industry (not reported) and owner category effects are controlled for in the regressions. Regression coefficients are computed utilising independent variables' decimal form (i.e. ownership%, dividend payout%, leverage% divided by 100, Herfindahl index by 10,000). Thus, percentage values change from e.g. 15.3% to 0.153, and Herfindahl index values from e.g. 5,500 to 0.550.

VARIABLE	(1)	(2)	(3)
ODxLarg	-0.434**		
Larg	(-2.02)	-0.440*	
HFI		(-1.87)	-0.589*
			(-1.85)
INTERACTION TERM			
Largest x Govt	0.776***	0.783**	0.760**
	(2.59)	(2.51)	(2.51)
Controls			
Beta	0.440***	0.440***	0.439***
	(3.92)	(3.92)	(3.90)
Div	0.010	0.010	0.010
	(1.23)	(1.23)	(1.19)
Vola	0.067	0.070	0.070
	(0.64)	(0.68)	(0.68)
CT	-0.073	-0.072	-0.071
	(-1.25)	(-1.23)	(-1.21)
Lev	-2.144***	-2.145***	-2.158***
	(-10.29)	(-10.29)	(-10.33)
Logs	-0.100**	-0.099**	-0.097**
	(-2.35)	(-2.34)	(-2.26)
OWNER CATEGORY			
Indiv	-0.036	-0.039	-0.052
	(-0.25)	(-0.27)	(-0.36)
Inst	-0.121	-0.118	-0.131
	(-0.84)	(-0.83)	(-0.91)
Found	0. 012	-0.006	-0.010
	(0.08)	(-0.04)	(-0.07)
PLC	0.223	0.229	0.216
	(0.70)	(0.69)	(0.65)
Govt	-0.631***	-0.637**	-0.658**
	(-3.31)	(-3.31)	(-3.41)
Constant	1.447***	1.449***	1.406***
	(4.80)	(4.76)	(4.67)
P-value	0.000	0.000	0.000
R²	33.87%	33.81%	33.74%
Number of obs.	714	714	714

* denotes statistical significance on the 10% level, ** denotes statistical significance on the 5% level, and *** denotes statistical significance on the 1% level. Owner identity Endowment (Endow) has been omitted in the regression to avoid perfect multicollinearity.

Table 5 provides regression results for ROA and ownership. As can be seen from the table, all ownership definitions are statistically insignificant against ROA. Thus, we do not find evidence between concentrated ownership and ROA. The R^2 of the model is rather low, only 14 percent.

Table 5. Regressions of ROA on ownership variables over the period 2001-2006. The dependent variable is ROA. The independent ownership variables are: concentrated ownership dummy variable (OD), dummy variable multiplied by the largest owner percentage (ODxLarg), percentage of the largest owner (Larg), and Herfindahl Index (HFI). The control variables are: beta coefficient (Beta), dividend payout ratio (Div), yearly return volatility (Vola), capital turnover (CT), company leverage (Lev), and size (Logs). The t-statistics, in parentheses, are based on robust standard errors. Year (not reported), industry (not reported) and owner category effects are controlled for in the regressions. Regression coefficients are computed utilising independent variables' decimal form (i.e. ownership %, dividend payout %, leverage % divided by 100, Herfindahl index by 10,000). Thus, percentage values change from e.g. 15.3% to 0.153, and Herfindahl index values from e.g. 5,500 to 0.550.

VARIABLE	(1)	(2)	(3)	(4)
OD	-1.749			
ODxLarg	(-1.26)	-3.905		
Larg		(-1.15)	-4.159	
HFI			(-1.14)	-4.594
				(-0.93)
CONTROLS				
Beta	**-5.463****	**-5.399****	**-5.402****	**-5.389****
	(-2.36)	(-2.32)	(-2.31)	(-2.31)
Div_payout	0.111	0.103	0.103	0.101
	(0.56)	(0.53)	(0.53)	(0.52)
Vola	2.022	2.087	2.113	2.129
	(1.03)	(1.08)	(1.10)	(1.11)
Capital_turn	1.054	1.007	1.013	1.045
	(0.85)	(0.80)	(0.80)	(0.83)
Leverage	**-15.647*****	**-15.686*****	**-15.700*****	**-15.824*****
	(-4.71)	(-4.67)	(-4.67)	(-4.74)
Logsize	**4.380*****	**4.392*****	**4.391*****	**4.432*****
	(4.06)	(4.11)	(4.10)	(4.13)
OWNER CATEGORY				
Indiv	2.390	2.593	2.590	2.413
	(1.48)	(1.59)	(1.60)	(1.49)
Inst	1.688	2.001	2.039	1.882
	(1.35)	(1.57)	(1.60)	(1.48)
Found	2.799	3.029	3.012	2.773
	(1.49)	(1.60)	(1.61)	(1.50)
PLC	4.876	**5.151***	**5.141***	4.948
	(1.59)	(1.66)	(1.66)	(1.62)
Govt	-1.411	-1.088	-1.076	-1.456
	(-0.81)	(-0.63)	(-0.62)	(-0.86)
Constant	**-9.137***	**-9.577***	**-9.474***	**-10.124***
	(-1.80)	(-1.85)	(-1.81)	(-1.95)
P-value	0.000	0.000	0.000	0.000
R²	14.29%	14.28%	14.28%	14.20%
Number of obs.	714	714	714	714

* denotes statistical significance on the 10% level, ** denotes statistical significance on the 5% level, and *** denotes statistical significance on the 1% level. Owner identity Endowment (Endow) has been omitted in the regression to avoid perfect multicollinearity.

6. Conclusions

This paper examines the relationship between ownership concentration and firm performance within the Nordic corporate governance model. We employ the NCG model and agency theory as theoretical frameworks in understanding agency problems between large and minority shareholders in the Nordic context. Potential benefits of the NCG model are that strong owners effectively engage in maximising shareholder value for all shareholders, and take long-term responsibility for the company (Lekvall, 2018). The main hypothesis of the paper is that ownership concentration is negatively associated with company valuation and performance.

Our final sample comprises a balanced panel with 119 annual and 714 total observations over a period of economic stability. We find that increasing ownership concentration of the single largest owner has a negative and significant relationship with Tobin's Q but our results do not support a similar conclusion for ROA.[15] We also hypothesised that there is a negative relationship between state ownership and Tobin's Q as government owner may have a tendency to promote political goals more than shareholder value (e.g. La Porta et al., 2002a; Putniņš, 2015). Regressions with state interaction term suggest that it is not decisive how much government ownership increases, but the fact that government is the largest owner renders the relationship between state ownership and Tobin's Q negative. The results reveal that the inherent risk of the NCG model materialises in this paper: blockholders' private benefits from control dominate shareholder value maximisation, and/or blockholders waive their managerial control function. Given our results and arguments, it is not surprising that state-owned companies demonstrate performance improvements *ex-post* privatisation (e.g. Megginson et al., 1994). In the present context, large owners in Finland can omit dividend payments to minority shareholders when company performance is weak (e.g. Maury, 2004; Kinkki, 2008). Overall, it seems that having a certain type of blockholder sends a negative signal to the market, which minority owners and foreign investors should take into consideration (cf. Berglund & Westerholm, 2010).

This paper could not properly answer the following. First, endogeneity problems may occur because ownership structure, investment opportunities, and company value can be jointly determined (e.g. Demsetz & Villalonga, 2001; Lemmon & Lins, 2003). Second, it could not be ruled out that state owner might select to support weak companies rather than cause weak performance (cf. Thomsen & Pedersen, 2000). Third, we recognise that there are extreme values inherited in the sample since Finnish data is characterized by an illiquid stock market and concentrated ownership structure (e.g. Hietala & Keloharju, 1995). Regarding the first issue, we were unable to find a proper instrument for ownership concentration, and the data are not sufficiently dynamic for the firm fixed effects model. If we assume valuation to cause changes in ownership, stockholders should buy shares based on companies' realised profitability, which supports the efficient markets hypothesis (see Fama; 1969; 1970; 1991). However, newer research has shown that investor attention plays an important role (e.g. Barber & Odean, 2008; Gargano & Rossi, 2018). Regarding the extreme values, these are pertinent to the Finnish market and contain valuable information. Truncating the outlier values did not alter the results or their significance. The correlations were statistically significant throughout all ownership definitions in the regressions. When we regressed ownership and firm performance in reverse fashion, the outcome was not statistically significant. In analysing the results, we emphasize the value of descriptive research by relying on economic logic and testing alternative hypotheses as suggested by Edmans and Holderness

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15 When we employed lagged ownership variables in the regressions against, we found a negative and significant relationship with ownership concentration and ROA. This result is, however, questionable, as we assume that ownership is non-dynamic (cf. Edmans, 2014).

(2016). Accordingly, the results of this paper posit that growing ownership concentration has a negative relationship with Tobin's Q.

We found a negative relationship between state ownership and valuation. However, this argument needs more data and research. It would also be important to distinguish the nationality and age of the largest investor since different tax-schemes influence investor behaviour regarding ownership thresholds and tax benefits (see Fama & French, 1998). Including board characteristics, as control variables, would be informative as, for instance, mandatory gender quotas can reduce value even for well-governed companies (Adams & Ferreira, 2009). We also leave it to future CG researchers to scrutinise whether certain blockholders are more efficient in monitoring managers than are others, and to run a quadratic ownership model to test, with a larger data set, whether ownership has a non-monotonic relationship with firm performance (cf. White & Domowitz, 1984; de Miguel et al., 2004). Finally, it would be beneficial to see results from periods of economic disruption, and whether they affect the behaviour of the largest owner.

In sum, the findings of this paper are consistent with the assumption that company value is a function of the structure of ownership. The results show that ownership concentration has a negative relationship with company valuation during a period of economic stability in the Nordic context, which might be bound to a certain owner's private benefits from control. The paper shows that there are avenues for improvement in listed companies in terms of agency problems between controlling owners and minority shareholders. Publishing these results may also stimulate a fundamental change in management philosophy on how to steer state-controlled PLCs for the benefit of all shareholders. The state could consider liquidating its ownership in certain companies and re-invest the assets through ETF funds. This would be a Pareto improvement. Finally, we recommend viewing these results in the Nordic context, not universally.

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