

# Blockholder Heterogeneity

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## Evidence from the Stockholm Stock Exchange

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**Abstract:**

Using the empirical framework of Cronqvist and Fahlenbrach (2007); I analyze the effects of heterogeneity across blockholders based on a blockholder-firm panel data set that tracks all unique blockholders among listed firms on the Stockholm Stock Exchange. The results show evidence of significant blockholders' fixed effects in investment and financial policies. These effects are also economically important and they drive a significant effect on firm performance. I also analyzed sources of the heterogeneity, more particularly the block size, the holding period and the diversification level and I find that blockholders with larger block size, longer holding period and/or higher level of diversification are associated with larger effects on corporate policies and firm performance. Finally, I focused on determining the origin of the blockholders fixed effects; the results show that the effects are rather consistent with the influence hypothesis: Blockholders seem to influence decisions when they invest rather than select firms that have policies consistent with their beliefs.

**Keywords:** blockholders; blockholders heterogeneity; corporate policies; firm performance; blockholders effects

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## INTRODUCTION

Based on the seminal work of Shleifer and Vishny (1986), a large body of empirical work investigated the role of large shareholders in corporate decisions and firm performance. Despite the extensive research body, only a few important corporate policies are in fact significantly influenced by the presence of a blockholder. Cronqvist and Fahlenbrach (2007) argue that the results are biased because the underlying studies do not account for large shareholders' heterogeneity. In my study, which is largely inspired by Cronqvist and Fahlenbrach (2007) and is the first one to investigate the impact of shareholders' heterogeneity in the Swedish context, I aim to verify the relevance of the heterogeneity of large shareholders and investigate the main drivers behind this heterogeneity (i.e. the importance of the identity, type or other characteristics).

The Swedish ownership model as well as the various types of large shareholders present on the Stockholm Stock Exchange makes the investigation intellectually appealing – in comparison to the American study. First, the Swedish model is characterized by ownership concentration: more than 90 percent of the companies on the Stockholm Stock Exchange have a well-defined owner or group of owners who controls at least 25 percent of company votes (Söderström et al. (2003)). Second, with few exceptions, the structure of ownership in listed Swedish firms is stable, which increases the link between the large shareholder and the company, making him more able to exert control. Third, the composition of the large shareholders is famed by the influence of banks and financial nobility of families despite the rising importance of pension funds and foreign owners. Ultimately, most of the companies have more than a blockholder, which raises the question of interaction between several blockholders. Testing for large shareholders' heterogeneity on Stockholm Stock Exchange would not only provide us with answers regarding the role of Large shareholders in corporate policies and firm performance but also put in evidence the relevance of the institutional setting.

## PURPOSE AND CONTRIBUTION

The purpose of this thesis is threefold. First, after investigating relevant literature, I will try to formulate hypotheses as for the relevance, importance and sources of shareholders heterogeneity that are in line with the Swedish institutional setting. Second, I would empirically gauge the effects relative to the identity of the shareholders. Third, I will investigate the patterns and the factors driving the heterogeneity i.e. investigate whether the type and the characteristics associated to the shareholder help explaining the heterogeneous impact on the corporate decisions and firm performance.

The contribution of my thesis is twofold. First, I construct a unique dataset, containing comprehensive data for the period 1985-2005 of the blockholders (more than 5% of the votes) of Swedish listed firms with their capital and voting shares. Second, I try to investigate whether certain types, characteristics (esp. the blockholder ability and diversification level) drive the observed the blockholders' fixed effects.

## OUTLINE

The second section will be devoted to laying the theoretical foundations of the hypotheses, and this by reviewing the relevant literature (I give a special importance to the paper of Cronqvist and Fahlenbrach (2007)) and detailing the significant aspects of the Swedish institutional setting. Based on these theoretical foundations, I derive testable hypotheses that pose the problem adapted to the Swedish context. In section IV, we present the data and the methodology used as well as the summary statistics. The empirical findings will be presented in the next section; I conclude by discussing the findings and suggest new routes for future research.

## SECTION II: PREVIOUS RESEARCH:

The central question behind the investigating the shareholders' heterogeneity is the will to better understand the role of large shareholders in firms. So I will start by first presenting the relevant theoretical and empirical literature to the role of blockholders in firms, I pursue then to detail the reasons behind the shareholders' heterogeneity idea and its implementation; I conclude by presenting the relevant features of the Swedish model, in comparison the American model; and sketch its expected impact on the results of the study.

### A. THE BLOCKHOLDER PRESENCE, DOES IT MATTER?

In their influential paper, Shleifer and Vishny (1986) suggested the monitoring role of large shareholders as a potential solution to the shareholders-managers agency problem. This insight triggered a body of theoretical and empirical research that supported the agency-related role of blockholders<sup>1</sup> (e.g. Morck et al. (1988), McConnell and Servaes (1990)). Pioneered by Holderness and Sheehan (1988), Researchers started addressing the question whether major corporate policies are different when a firm has a blockholder, however, the relationship between ownership concentration and many major corporate decisions remained unaddressed (Holderness (2003)). Most of the studies concern executive compensation, leverage and takeover activity and also the impact of the presence of a blockholder on performance.

I summarize below some of the major studies that were interested in the impact of the presence of a blockholder among the shareholders.

**Table I**

Previous findings on the role of the blockholder  
Previous findings are sorted in alphabetical order of the authors.

| Author(s)                              | Sample and Period                           | Dependant variable(s)   | Main results  |
|--|---|---|---|
| Agrawal and Knoeber [1996],            | 383 large US firms (from Forbes 800). 1987. | Tobin's Q by market value of stock, preferred stock and debt to book value of assets. | Tobin's Q increases significantly with insider ownership. Years of CEO employment decreases significantly with blockholder ownership, but not vice versa. |
| Anderson, Bates, Bizjak, Lemmon (2000) | 199 firms 1985 - 1994                       | Level of diversification  | Outside blockholdings are insensitive to the level of diversification.  |

<sup>1</sup> Though this is still the dominating view; there have been theoretical papers that the blockholder incentive to monitor companies is conditional on many factors such as risk aversion(This happens namely when large shareholders tend to be less well diversified and would therefore prefer the firm to pursue more conservative investment policies.), information gathering costs and legal liability.

| Author(s)   | Sample and Period   | Dependant variable(s)  | Main results  |
|---|---|--|---|
| Berrone, Surroca and Tribó (2005)   | 3,638 Spanish firms<br>1996-2000  | R&D Investment   | Impact of large shareholders on the R&D investment is (1) negative when blockholders are banks, (2) positive when blockholders are non-financial corporations, and (3) null when blockholders are individuals. In addition, we find a systematic negative relationship between the number of blockholders and R&D investment. |
| Curcio [1994], Discussion Paper, Centre for Economic Performance, London School of Economics. | 389 quoted, UK, manufacturing firms.<br>1972-86.  | Tobin's Q.   | Tobin's Q is significantly decreasing with board ownership in the [25-100%] range. Profitability is significantly decreasing with the disparity between equity and voting ownership both with regard to Tobin's Q and productivity growth.  |
| Denis et al. (1997)   | 5.545 firm-years (1.394 different firms)<br>1985-1988   | The probability of top executive turnover  | The probability of top executive turnover is positively related to whether or not the firm has an outside blockholder (not significant to the 5% level)   |
| Dlugosz, Fahlenbrach, Gompers, and Metrick (2006)   | 7,649 firm-years and covers 1,913 unique firms<br>1996 to 2001  | Q is a measure of industry-adjusted Tobin's Q, OWN : fraction held by outside blockholders   | Significant blockholder coefficients. Robust relationship between outside block ownership and firm value  |
| Holderness and Sheehan [1988]   | 101 majority held and 101 diffusely held large NYSE and AMEX listed firms.<br>1979-84.                                | 1) Tobin's Q by firm's market value to replacement cost of plants and inventories. 2) Return on equity.  | Finds no significant difference in performance between majority held (MH) and diffusely held (DH) firms.  |
| McConnell and Servaes [1990]  | 1.173 firms in 1976 and 1.093 firms in 1986. US firms listed on NYSE or AMEX.<br>1976 & 1986.                         | 1) Tobin's Q (market value of stock, preferred stock and debt to replacement value of assets). 2) Return on assets by EBITDA divided by value of assets. | No measure of blockholder ownership seems to have any effect.   |
| McConnell and Servaes [1995]  | 990 firms in 1976, 876 firms in 1986, and 780 firms in 1988. US firms listed on NYSE or AMEX.<br>1976, 1986 and 1988. | Tobin's Q by market value of stock, preferred stock and debt to replacement value of assets.   | Tobin's Q now is significantly increasing with blockholder ownership. For all sample periods the relation between Tobin's Q and all ownership variables is insignificant for high-growth firms and significantly positive and roof-shaped for low-growth firms.   |

| Author(s)                                    | Sample and Period  | Dependant variable(s)   | Main results   |
|--|--|---|--|
| Mehran (1995)                                | 153 manufacturing firms<br>1979 and 1980                               | Form of executive compensation  | The use of incentive-based compensation also declines with the percentage of stock held by outsider blockholders |
| Mehran [1995]                                | 153 large and small industrial US firms.<br>1979-80.                   | 1) Tobin's Q by market value of all firm securities to replacement costs of all tangible assets. 2) Return on assets. | Blockholder ownership is not significant in any sense.   |
| Ronald W. Masulis, Cong Wang, Fei Xie (2005) | 3,333 acquisitions made by 1,268 firms<br>January 1990 - December 2003 | Bidder returns : five-day cumulative abnormal returns   | All blockholding measures have positive, but insignificant effects on bidder announcement returns.               |
| Ryan and Wiggins (2000)                      | 1095 firms<br>1997   | Form of executive compensation  | The presence of large blockholders reduces the need for incentive compensation.                                  |

As we may deduce from the table “Surprisingly few major corporate decisions have been shown to be different in the presence of a blockholder.” Holderness (2003) in his survey however reports one exception that is that external blockholders appear to monitor the form and level of managerial compensation. Conversely, there is little evidence that blockholders affect leverage.

As a summary, we notice that there is no clear pattern regarding the impact of the presence of a blockholder on the corporate policies or the firm performance. Though intuitive, Schleifer and Vishney hypothesis seems to have too little support from empirical studies.

## **B. BLOCKHOLDER HETEROGENEITY: AN EVENTUAL SOLUTION:**

To explain these puzzling and mixed results<sup>2</sup>, Cronqvist and Fahlenbrach (2007) argue that one explanation for the lack of evidence of blockholder effects is that previous empirical investigations do not incorporate blockholder heterogeneity into an economic analysis of large shareholders. In fact, large shareholders can have heterogeneous beliefs, skills, and preferences. It seems sensible to think that each blockholder has his/her own “definition” of “good policies”, of the best way to exert control and so on. If the blockholders are that heterogeneous and this heterogeneity has significant economic effects, then relying on the oversimplified blockholder-dummy framework can be misleading.

<sup>2</sup> Another explanation to the mixed results could be that the previous studies did not account for the existence of a second (or third...) important large shareholder. The literature suggests that one blockholder should be sufficient to bestow all benefits on a firm that arise from concentrated ownership. However, to be a “major” shareholder does not necessarily means to exert control or to enforce one’s ideas, esp. in the presence of multiple large shareholders. A second blockholder (or more) can alleviate the conflict by shifting the voting outcome more towards the dispersed shareholders preferred policies, and therefore cancelling the “blockholder” effect.



Inspired by Bertrand and Schoar (2003), the authors develop an empirical framework that accounts for the economic effects of the blockholders' heterogeneity. However, the idea of blockholder heterogeneity however "made its appearance" as early as 1988 in Holderness and Sheehan (1988) who, through analysis of the role of majority shareholders, stated that "the identity of large-block shareholders appears to be important." Bertrand and Schoar (2003), using a similar empirical framework, investigated the impact of manager heterogeneity on corporate decisions and found that manager fixed effects matter for a wide range of them. Berrone, Surroca and Tribó (2005) studied the impact of the blockholders on the R&D investment by grouping them by type.

Using a panel data set of all unique large shareholders among a sample of large U.S. public corporations during the period 1996-2001, the authors started by identifying the ultimate blockholder in each firm in the sample, they then added additional blockholders' indicators (dummy variables) to a benchmark equation relating a corporate decision (e.g. investment, R&D...) to firm related explanatory variables. By controlling for year and firm effects, the authors run a panel data regression to capture the fixed effects relative to each of the blockholders' indicators. Using the Fisher test, they deduced that all fixed effects are different from zero and then that the identity of the blockholder matters. They found that adding blockholder fixed effects to a model that already controls for important firm variation improves the model fit. Trying to a higher level of heterogeneity, the authors gathered the blockholders in a rather adhoc categories and then used the same methodology to test for the fixed effects related to the different blockholders' categories and thus types. Though the results were significant for some categories, the adhoc grouping hinders the authors from drawing clear economical conclusions. Based on the vector of blockholders fixed effects, the authors tried to gauge the economic importance of the heterogeneity as such and they deduced that in fact, that the blockholders significantly differ from one another. Besides their study of major corporate policies, the authors investigated the eventual existence of a systematic relation between the presence of a blockholder and the performance of a firm.

The existence of a correlation between the blockholder indicator and the corporate policy does not however inform us about the causality direction. The authors envisaged two hypotheses: the selection vs. the influence hypothesis. According to the former, the blockholders systematically select firms in which they invest major stakes based on a preference for certain policies, while the latter suggests that the blockholders rather influence the firm corporate decisions.

The main results of Cronqvist and Fahlenbrach (2007) are summarized below:

Investment, financial, and executive compensation policies are systematically related to the particular large shareholder present in a firm;

The effects are mainly concentrated in blockholder categories such as activists, pension funds, corporations, individuals, private equity firms and mutual funds.

The estimated effects are economically large. (The blockholders are heterogeneous).

The evidence is more consistent with an influence explanation for activist, pension fund, corporate, individual, and private equity blockholders, but more consistent with a systematic selection explanation for large mutual fund shareholders.

Blockholders with more potential power are associated with larger effects on corporate policies and firm performance.

Despite the innovation and the contribution of these authors, their empirical study suffers from several limitations:

The role of blockholders may well be different in our sample of larger, established firms than in smaller, entrepreneurial firms. For example, one could argue that the scope for influence is smaller among our large firms.

The empirical framework does not account for the effect of the level of diversification: The level of diversification could blend the link between the presence of a blockholder (e.g. a financial institution) and the corporate policies, in comparison with the individual blockholder. The number of the firms under the control of the individual blockholder is usually low and these firms usually belong to the same industry, dependent on the skills of this blockholder. Financial institutions however, invest in a wide range of firms and industries. Since different industries presumably require different sets of corporate strategies that are more in line with the industry requirements and the specific business environment during a certain period; a high level of diversification will “overlook” such heterogeneity and fall again in the averaging problem. However, well-diversified blockholders are usually financially powerful and therefore are in a better position to exert control.

The authors determine ownership based on who is the largest ultimate owner of a particular entity even if there are other owners as well.

In order to determine the potential power of the blockholder, the authors use the average of the blockholder characteristics (block size, board representation, and management involvement). They base their empirical investigation on the average holding of each blockholder. This averaging, though it can provide satisfactory results, could bias the results especially if the holdings of some shareholders are not similar.

## **C. THE SWEDISH INSTITUTIONAL SETTING**

Understanding the institutional setting of Sweden is prerequisite to appropriately approach the blockholders' impact among Swedish firms.

### **1. CORPORATE LAW AND OWNERSHIP MODEL:**

La Porta et al. (1998) suggest that corporate law and the quality of its enforcement are important factors underlying the distribution of cash flows and voting rights among the security holders and how these are protected. Swedish law is generally considered to belong to the civil group, where minority shareholders are weakly protected. It follows that losing control involuntarily and thus becoming a minority shareholder may be such a costly proposition in terms of surrendering the private benefits of control that the controlling shareholders would do everything to keep control (La Porta, De-Silanes, Shleifer (1999)). However, weak formal shareholder protection in Sweden could be assumed to be complemented by other factors, for instance accounting standards, tax compliance and investigative journalism. Still, Sweden is well known for its weak minorities and strong owners.

As is the case of most countries in Continental Europe, except the UK, most companies are dominated by a controlling owner. A large fraction of listed firms are privately controlled, in most cases, by a family. Control structures are very concentrated mainly through control devices such as dual class shares, pyramids and cross holdings. (Söderström et al. (2003) More than 90 percent of the companies on the Stockholm Stock Exchange have a well-defined owner or group of owners who controls at least 25 percent of company votes (Söderström et al. (2003)). The largest firms are still controlled by an old financial nobility of families in the 3-5th generation and banks, but to a much lesser extent by institutions that provide the majority of the capital.

### **2. Political Intervention and concentrated Ownership:**

The concentrated ownership has been also historically supported by the politicians (namely the social democrats). Ideologically, Swedish politicians tried to promote a concentrated ownership structure because they believe that strong owners are value enhancing. In the Swedish society, the objective of the firm is to maximize the stakeholders' value and therefore benefit to the society as a whole. In an environment where the owners will be threatened by hostile takeovers and control loss, they will be prone to short-termism and be more inclined to pursue private benefits. The Swedish legislator chose a model of concentrated ownership to increase the loyalty of the shareholders to the firm- assuming thus an increasing social responsibility- and to permit to the large shareholders to pursue long term objectives that maximize the value of the company, which are more-in-line with sustainable society. The increase of the use of concentration-enhancing devices in anticipation of the deregulation of the financial markets could suggest that the politicians aimed at "informally" restricting the foreign control on the Swedish industry. This could be motivated by ideological reasons in the sense that foreign shareholders do not share the same social awareness and responsibility, the thing that will create an incongruity in a rather stable system and threaten its continuity.

### **3. Separation between Cash-flow and voting rights:**

The current Swedish legal system allows the implementation of different control-enhancing mechanisms that separate control and ownership to enable financially constrained entrepreneurs to turn to the external market for financing without losing control of the firm. The most important control mechanisms used have been dual-class shares, pyramiding and circular ownership. However, dual-class share structures are still the primary control device (Agnblad, Berglöf, Högfeldt and Svancar (2001)). It still is widely used nowadays, despite the pressure exerted by institutional and foreign investors to reduce the differential between the cash-flows and voting rights. The use of dual-class shares constantly increased since 1950 (Only 18% of the largest listed firms used it (Högfeldt, 2004)). During the quarter century from 1968 to 1992 the percentage of listed companies using dual class shares increased from 32 to 87 percent (Henrekson and Jakobsson, 2003). Furthermore, the Swedish owners could assure ownership concentration among a smaller group of shareholders by establishing a pyramidal structure that is investing a majority stake in one company, which in its turn owns large stakes in other companies. For instance, Wallenberg family by controlling Investor, the most important pyramid-holding, could exert control on 14 large companies in 1998. The effect is extreme when the pyramid structure is coupled with the dual-class mechanism. Pyramidal structures are much dependent on the tax system, especially the allowance of tax-exempt inter-corporate dividend.

### **4. Model in Transition:**

Since the beginning of the 90s, the Swedish ownership model underwent a transition driven by liberal policies and major political events (Affiliation in the EU). The major events were the tax reform (mainly during the years 1990/91) and the financial market deregulation that ended in 1993, abolishing all the restrictions on foreign ownership and control. The channeling of savings in the economy towards an investment in the stock market (namely through the public pension funds) triggered a major change in the shareholder distribution among different categories, given the big assets in control. These changes increased the owners' dispersion, the relative weight of the institutional and foreign shareholders and reduced the use of dual class shares.

### **5. Major implications:**

Due the wide use of the control-enhancing mechanisms among Swedish firms, it makes little sense to use the definition of blockholders as defined by SEC Rule 13d-3 i.e. the shareholders who beneficially own at least 5 percent of a firm's outstanding common stocks. I would define a blockholder in the Swedish context as being the shareholder who holds at least 5% of the votes at the end of a certain year. Using the ownership share would distort the picture by excluding influential shareholders with high voting power because they own small shares in the outstanding common stock. This is illustrated by the striking example of the Wallenberg family in Electrolux (in 1996 for e.g.); they owned only 1,3% of the common stock while they controlled 45,2% of the votes.

The types of shareholders present in the Swedish market could be different from their peers in the U.S., This is illustrated mainly by the heavy presence of the state (Svenska Staten), which, according to our dataset, was the major blockholder during the last 20 years. Also the corporatist pension funds and the cooperative movement (e.g. Kooperativa Rörelserna) are active blockholders in some Swedish firms.

The ultimate owner determination in Swedish firms is not straightforward but requires going through the very widely used cross holdings and pyramids.

### SECTION III: HYPOTHESES:

Following the American study, which serves as an inspiration, we try, as primary objective, to uncover whether the blockholders' heterogeneity in the Swedish context matters. We then investigate whether this heterogeneity is economically important. At last, we try to examine the sources behind this heterogeneity, more specifically the blockholder type.

#### **A. HETEROGENEITY ON THE STOCKHOLM STOCK EXCHANGE, DOES IT MATTER?**

We will start first by investigating whether the identity of the large shareholder is informative about the corporate policies. It seems intuitive to think that different shareholders have different beliefs regarding the policies that the firm should adopt i.e., what set of corporate policies will maximize firm value. Holderness and Sheehan (1988), while studying the role of majority shareholders, stated that "the identity of large-block shareholders appears to be important." This heterogeneity would have economic effects on the firm towards a certain direction that go beyond the mere presence effects. I think, however, that the effects would be even stronger and more significant if the ownership structure is stable and the blockholders are not well diversified.

If the ownership structure is stable, then the blockholders seem to stick to their investments for a relatively long time. This would increase the knowledge of the blockholder of the firm and its ability to influence it; also it would be hard to imagine a blockholder continuing to invest in a company and does not agree upon its policies. As for low diversification; which is common among family blockholders (the major blockholder category in Stockholm Stock Exchange); the non-well diversified blockholder has little incentive to invest in a company, where he does not exert control or adhere to the present policy, and thus benefiting from either control or private benefits.

Since the ownership structure in Swedish Listed firms (esp. before the abolition of foreign restrictions) has been stable and families are the major blockholder type in SSE, I expect to find that the identity of a specific blockholder in a firm significantly explains the firm policies.

*H<sub>0</sub> : The identity of the blockholder is informative about the firm policies*

#### **B. ARE THE EFFECTS ECONOMICALLY IMPORTANT?**

If the heterogeneity gives an additional piece of information about the corporate policies, is it economically significant. Do the blockholders differ significantly from one another in their views regarding the corporate policies? However, the heterogeneity between blockholders in terms of corporate policies is not economically significant per se if it does not translate in heterogeneity in terms of performance.

*H<sub>1</sub>: The heterogeneity among blockholders is economically important.*

## C. SOURCES OF BLOCKHOLDER HETEROGENEITY

Though the identity induces a sense of uniqueness from others, it however includes an identifiable piece that gives the sense of affiliation. Many shareholders could share the same characteristics for they are regulated by the same legislation, have defined legal forms and similar structures, pursue the same objective and so on. In investigating blockholder heterogeneity, we separately focus on two kinds of characteristics: (1) Characteristics that are inherent to the identity of the blockholder e.g. its legal form, its financial strength, its size... (2) Characteristics that are associated with the blockholder (e.g. his level of diversification) or related to his position in the company he invests in such as its voting power, its involvement with the management...

### 1. Blockholders Types or categories:

We focus here on characteristics that are inherent to the identity of the blockholders rather than its situation in the firm he invests in e.g. his voting power. Categorizing shareholders in ownership types, though the type may not be completely homogeneous, give an idea on the presence of certain common traits and characteristics. To link certain governance styles to certain characteristics of blockholders could help identify economically significant patterns as what determines the corporate policies. Given the extreme difficulty to implement significant *à posteriori* categorizing<sup>3</sup>, I suffice myself to implement an *A priori* categorizing. *A priori* categorizing groups blockholders based on their legal form, profession (e.g. bank, hedge fund, venture capital...) or whether it is an individual (alternatively a family), a corporation or an institution (financial institution e.g.). A bank, as an ownership type, presumes a certain financial strength, a certain level of diversification, scientific and technical approach, a specific decision making process and in general certain characteristics that may not be exactly the same among all banks, but are distinct enough to make them different from a private investor.

*H2: The impact over corporate policies is driven by specific blockholders' type.*

### 2. Blockholders characteristics within a specific firm:

The difference of behavior and more specifically impact across large shareholder does not only depend on heterogeneous beliefs but also on their ability to express them. It seems intuitive to expect blockholders that hold larger ownership stakes or are involved with management to have larger effects on average. Given the wide use of dual-class shares, the use of the ownership stakes does not reflect the relative power the shareholder enjoys in the firm, this is why we rely on the voting power to differentiate between shareholders.

*H3: The identity of blockholders with larger voting power is more informative about the firm policies.*

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<sup>3</sup> I have tried to categorize the blockholders based on their blockholder fixed effects either by sorting the effects or using clustering, but I was unable to link the results to any shareholder type or category.



### 3. Blockholders' monitoring in case of multiple blockholders:

In the financial literature dealing with the role of large shareholder, the ownership structure is typically pictured to include a single large (and presumably controlling) shareholder against dispersed shareholders.<sup>4</sup> Bloch and Hege (2001) developed a model in which two blockholders compete for effective control in a company. They argue that the relevant concept of control power is how contestable the leading shareholder's position is, and not only how concentrated the voting rights are. They found that Shareholder heterogeneity (captured by abilities) is as important as block size to determine ownership concentration and voting power. The ability of a certain shareholder will allow him to influence and lure minority shareholders by presenting interesting proposals regarding company strategies.

Most of Swedish firms (in our sample) have more than one blockholder. Besides the voting power, we may think that the longer the blockholder owns a shares' block in a firm, the more he understands the challenges/opportunities of the firm and therefore is he able to lure minority shareholders and then exert control (ability); however to be capable of actually influencing decisions, he needs to have a certain level of voting rights that allow him to enforce his views in a shareholders' meetings.

Using the period, during which a certain blockholder held shares in the firm, as a proxy for his ability to efficiently exert control; coupled with the relative size of the block; we will try to uncover whether these characteristics will inform us about the control concentration and therefore have an effect on the corporate decisions.

*H4: Voting power and monitoring ability are drivers of blockholder heterogeneity.*

### 4. Level of diversification and blockholder's effect:

The level of diversification could be a factor that blends the link between the presence of a well diversified blockholder (e.g. a financial institution) and the corporate policies, in comparison with the less diversified blockholder. The number of the firms under the control of less-diversified blockholder (e.g. the individual blockholder) is usually low and these firms usually belong to the same industry, dependent on the skills of this blockholder. Well diversified blockholders e.g. financial institutions however, invest in a wide range of firms and industries. Since different industries presumably require different sets of corporate strategies (we can think of IT industry in contrast to mining industry) that are more in line with the industry requirements and the specific business environments; a high level of diversification will "overlook" such heterogeneity and fall again in the averaging problem.

The level of diversification could constitute an element of answer why the American authors were unable to reject the hypothesis that all blockholder fixed effects are zero for insurance companies,

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<sup>4</sup> Faccio and Lang (2002) show that 39 percent of western European firms have at least two large shareholders holding at least 10 percent of the votes.



money managers, banks, trusts, and universities; while stating the presence of significant blockholder fixed effects for, among others, individuals and corporations.

However, the blockholders associated with high level of diversification are usually financially powerful and therefore have more ability to exert control.

*H5: The blockholder's effect on corporate policies is less apparent for well-diversified blockholders.*

#### **D. ORIGIN OF BLOCKHOLDER HETEROGENEITY**

If the heterogeneity is important, where such variation does across blockholders actually come from? An important issue to address is the issue of causality. Two interpretations are possible:

##### **1. Influence Interpretation:**

The causality goes either from the presence of a blockholder to a change of policies i.e. a large shareholder influences policies in the same way across all its investments because of a belief that a particular set of policies maximizes firm value. However, a blockholder could have different beliefs regarding what constitutes good policies in different industries, geographical locations...

##### **2. Selection Interpretation:**

The causality goes from changes in firm policies to an investment by a large shareholder i.e. different blockholders systematically select firms based on different corporate policies.

In the Swedish case and due to the stability of the ownership structure, we expect to find the heterogeneity is more in line with an influence interpretation esp. before 1993 and the complete abolition of the restrictions on foreign investments. After 1993, and the flow of external capital, I expect that foreign companies to influence existing corporate policies if they hold a major stake in the company, otherwise they would systematically select firms.

## SECTION IV: METHODOLOGY AND DATA DESCRIPTION

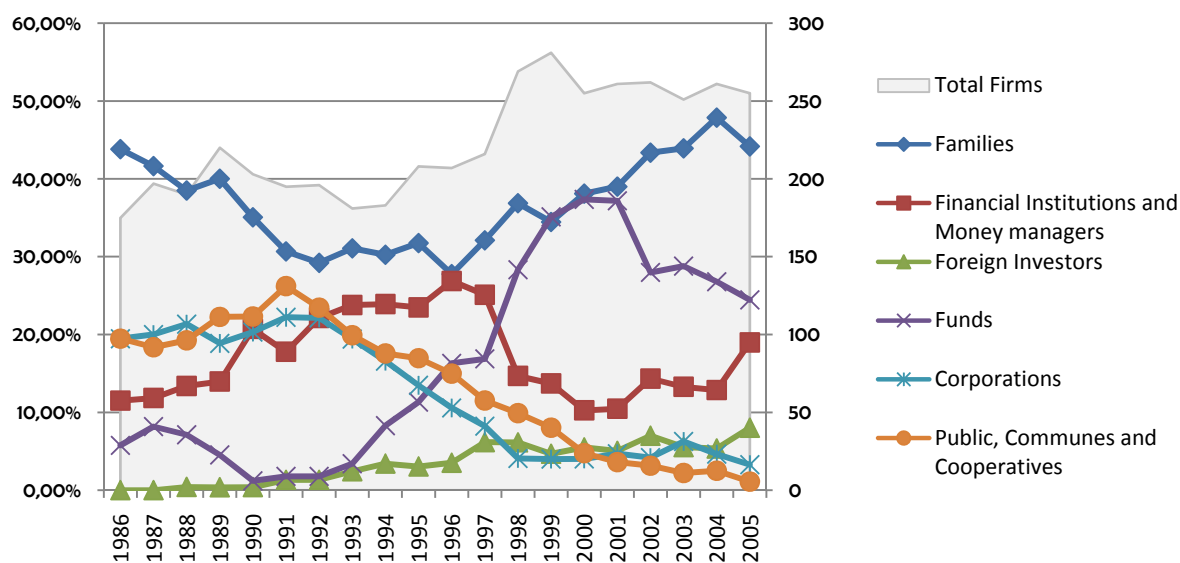
In this section we will first present our database, and thereafter go through our definitions and assumptions that we have made in our thesis. After that, we go through our method of analysis and present descriptive statistics of the data.

### A. DATABASE DESCRIPTION

The final dataset is based on two datasets, one accounting dataset and another of ownership data. Both datasets already include of all companies listed on the-, o- and the attract-40 list or their historical equivalents on the Stockholm stock exchange between 1985 and 2005. However the final dataset includes only companies having blockholders that invest in two companies or more during this period. I was able to find 234 unique blockholders, investing in more than one company. I obtain then a panel of 524 unique firms (controlling for name changes and mergers) over the period of the period 1986-2005, and 3116 year-firm observations.

The main dataset includes up to 12 Accounting variables and some other company specific variable such as age and industry as well as 234 dummy variables related to each unique blockholder. Other datasets e.g. blockholders dataset which includes its category, its holdings characteristics (duration, voting share, capital share) are also available.

To have an idea about the distribution of the blockholders during the 21 years of study, I grouped the blockholders in six big groups (Families; Private Firms; Financial Institutions and Money Managers; Public, Communes and Cooperatives; Funds and Foreigners). I would like to remind that the dataset includes only the blockholders that invest in two companies or more.



Graph 1. Blockholders distribution during 1986-2005

Graph 1 shows the number of holdings of blockholders in each category as a percentage of all holdings. From the graph, we can deduce that:

Families has been and still is the dominant blockholder (until 2005);

The beginning of the nineties experienced major changes, the number of corporations and public holdings decreased significantly to reach less than 5% in the year 2005. Meanwhile, the foreign blockholders' holdings (share) constantly increased over the years since 1990 going from 0.8% in 1990 to 8.03% in 2005. This is most probably driven by the abolition of the restrictions on foreign investments in Swedish Listed firms.

The Funds holdings' share sharply increased in the nineties (more precisely after 1992); Though this share decreased in the beginning on the 21th century, but Funds as Blockholders still hold around 27% of the total blocks. The channeling of savings in the economy towards an investment in the stock market (namely through the public pension funds) triggered a major change in the shareholder distribution among different categories, given the big assets in control.

As for the accounting data, I exclude financial firms and utilities due to their special balance sheet structure. Additionally, this has also been common practice in previous studies, so this will enhance the comparability of our results. Following *Averstad and Rova (2007)*, I excluded firms that could also be classified as foreign. This concern only a few number of companies and will most likely not affect the results obtained from the remaining dataset. I also chose to exclude the years, during which any of the companies undergoes a significant event such as a merger offer or restructuration.

## **B. CONSTRUCTION OF NEW BLOCKHOLDER-FIRM PANEL DATA SET**

In order to analyze the effects of blockholder heterogeneity, we require a panel data set that allows us to identify and track each unique blockholder, both over time in a given firm and also across firms at any given point in time. Because such a data set cannot be obtained from standard databases, we construct a new blockholder-firm panel data set.

We chose to include all the companies listed in the A, Attract-40 and O-List in *Stockholm Stock Exchange* during the period 1985-2005, for which the accounting data is available. I controlled for the name changes across firms so to identify unique companies. I obtained then an unbalanced panel of 524 firms during 21 years (1985-2005).

As for ownership data, I collected raw historical data and definitions of ownership spheres and families from the annually published *Owners and Power in Sweden's Listed Companies* by *Sundin and Sundqvist (1985-2002)* and *Fristedt and Sundqvist (2003-2005)* which is regarded as very reliable; I included only the shareholders that hold 5% or more of voting shares. Not using the ownership share as a measure for a block is motivated by the extensive use of control enhancing devices.

A Shareholder could own a significant share of capital of the company while having a relatively small share of votes. (In 2004, Nordea owns 38.4% of the shares of Doro; however it controls only 7.6% of the voting shares). Using the ownership may overestimate/underestimate the influence a certain blockholder could have on the company. I use the definition of spheres, as defined by *Sundin and Sundqvist (1985-2002)* and *Fristedt and Sundqvist (2003-2005)*, to determine the ultimate shareholder<sup>5</sup>.

The next step involves identifying and tracking all unique blockholders that are present in at least two different firms. I start by controlling for the naming inconsistency across firms and years. An example would be Arbetsmarknadens Förs AB and AFA försäkring or also AMF Pension, AMF Försäkring AB and AMF pensionsförsäkring AB. Another issue is the fact that some blockholders (mainly corporations) change their names, so in order to correctly track the blockholder-firm effects; I had to control for the name changes. Also, I grouped under one name, the blockholder (private person), his family, his wholly owned companies under one name e.g. Johansson Lars, Johansson Lars o Familj, Johansson Lars o Familj o Bolag are counted as one.

A more complicated case arises when various investment vehicles are sometimes used by the same blockholder. Due to the widespread use of pyramiding, we resort to use the spheres definitions established by *SIS Ägarservice*, e.g. the Wallenberg family exerts control on several companies through several other investment devices such as Investor, Patricia, Export Invest, and Wallenberg Stiftelse. The rules for determining the appropriate sphere are reported in Appendix I. For the blockholders, members of a certain spheres, the sphere is substituted to them in the database of unique blockholders.

I started with a dataset of 12989 blockholder-firm-years. Since, for the need of the study, we need only to keep only observations of blockholders that invest in two companies or more. I obtain a panel data of 234 unique blockholders (investing in more than a company during the period 1986-2005). The corresponding Accounting data is obtained from the database originally collected by Anders and Nyberg (2005) (as complemented by Averstad and Rova (2007)). The remaining years and variables are obtained from the SIX Trust Database.

Although we have been careful in assigning unique identifiers to all the blockholders in our dataset, for instance by correcting misspellings and identifying various investment vehicles used by the same investor, our blockholder-firm panel data set is still subject to some limitations. To aggregate many individual blockholders under a certain sphere assumes that all its members share a common strategy and policies, the thing that could ignore the heterogeneity among members and capture only the shared component.

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<sup>5</sup> I do not include shareholders, whose voting share is less than 5%, even if he, along with shareholders from the same sphere, could reach 5% of votes. To be able to use their shares, all these shareholders must move together; the thing that I assume to be relatively improbable due to the fact that the every specific voting share is too low to motivate any of the shareholders to act.

## C. MAIN VARIABLES

I set to analyze a broad range of important corporate policy variables. The specific investment variables we study are investment policy, investment to Q and cash-flow sensitivities, and research and development (R&D) policy. The financial variables we analyze are leverage, dividend policy, and cash holdings. The variables required to perform the analysis are presented and detailed below.

### Dependent Variables

#### 1. Investment Policies:

In studying the investment policy of Swedish listed firms, I used the definition of investment of Holmen and Högfeldt (2005). We avoid using the definition of Cronqvist and Fahlenbrach (2007) since it leads to a distribution with a lot of distortions. This is may be due to either that all the firms in the American dataset are old and mature or the Swedish definition is more appropriate to the Swedish context.

**Investment** is capital expenditures over lagged Total Assets.

In studying the R&D policy, we define the R&D investment as:

**R&D** is the ratio of R&D expenditures over lagged total assets.

#### 2. Financial Policies:

I intend to study three financial policies i.e. Leverage, Dividend policy and Cash; the definitions of the corresponding dependent variables are listed below:

**Leverage** is long-term debt plus current liabilities divided by long-term debt plus current liabilities plus book value of common equity.

Alternatively, we use the definition proposed by Holmen and Högfeldt (2005). **Leverage** is the ratio of Long term debt divided by book value of total assets

**Dividends/earnings** is the ratio of the sum of common dividends and preferred dividends over earnings before depreciation, interest, and tax (EBITDA).

For the cash policy, I again avoid using the definition of Cronqvist and Fahlenbrach (2007) because it leads to a distorted distribution.<sup>6</sup>

**Cash holdings** is defined as cash and short-term investments over lagged total assets.

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<sup>6</sup> The distorted distributions seemed to be obtained due to the use of NET PPE in the denominator of the ratios.

### 3. Firm performance

The firm performance is to be measured through (eventually three) different variables. ROA gives an idea about the operational profitability of the company and how efficient does it use the resources at its disposal. I define<sup>7</sup> ROA as follows:

**Return on assets** is the ratio of EBITDA over lagged total assets.

It is also common to define ROA as the ratio of EBIT over Lagged total assets.

I also use the Tobin's Q as a performance measure. In contrast to ROA, that is historical, Tobin's Q is a forward looking metric, since it takes into consideration the future prospects of the company. Tobin's Q, originally defined as the enterprise value divided by the replacement cost of all assets, will be for the sake of the study measured through a widely used proxy.

**Tobin's Q** is defined as the market value of assets divided by the book value of assets. The market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity.

### 4. Control Variables

Following Cronqvist and Fahlenbrach (2007), we use two control variables – besides ROA and Tobin's Q- that are lagged cash flow and Total Assets. I keep the same definition of "Total Assets", I, however, used the definition of Cash-flow as suggested by Holmen and Högfeldt (2005).

**Total assets** is defined as the natural logarithm of book assets.

**Cashflow** is defined as Earnings before Interest, Taxes and Depreciation (EBITDA) divided by book value of total assets at the beginning of the year.

### 5. Adjustment for outliers:

Before using the dataset for analysis, I needed to control for data distortions and this by eliminating outliers with extreme values. For that purpose, I used a set of rules:

An observation is considered to be an outlier if the ROA is higher than 50% or lower than -50%, or if Tobin's q is above 10 or below 0.1 or if investment is higher than 2 or lower than -2. The number of excluded observations is very small comparing the total number of observations.

Having cleaned the data, the mean and median values do not differ much from each other, showing that the influential outliers have been excluded.

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<sup>7</sup> I stick to the definition of Cronqvist and Fahlenbrach (2007) whenever it does not lead to a distorted variable distribution to enhance comparability

#### D. METHODOLOGY:

I use both descriptive and regression analysis to analyze the complete database. The descriptive analysis is carried on to give an intuition about the characteristics of the blockholders in the Swedish context, which may explain a certain impact on the corporate policies. The regression analysis aims at measuring this effect and tries to find the reasons behind it.

For this latter purpose, we use the empirical framework of Cronqvist and Fahlenbrach (2007) that presented two panel regression models to capture the blockholders effects on corporate policies.

##### 1. Individual blockholders' effects:

I estimate the following model for each variable of interest,

$$y_{it} = \lambda_t + \delta_i + \beta X_{it} + \Gamma Z_{it} + \varepsilon_{it} \quad (1)$$

where  $i$  indexes firms and  $t$  indexes years.  $y_{it}$  is one of the firm policy variables of interest,  $\lambda_t$  are year fixed effects,  $\delta_i$  are firm fixed effects,  $X_{it}$  is a vector of time-varying firm-level controls,  $Z_{it}$  is a  $J \times 1$  vector of blockholder indicators, and  $\varepsilon_{it}$  is an error term.

$\Gamma$  is the focus of our study and is a  $1 \times J$  vector of blockholder fixed effects, where  $J$  is the total number of different large shareholders in our data set. The model already controls for the fluctuations in corporate policies over time as well as the cross-section differences between firms,  $\Gamma$  then captures exclusively the effects relative the different blockholders, these effects come both from (1) the cross-section of  $j$ 's stakes in different firms in a given year and (2) from the time-series of its holdings.

However, to calculate the effects relative a certain blockholder technically requires that this blockholder is not present in only one firm during the entire time period in which the firm is in the dataset. In this case, the blockholder effect will be perfectly correlated with the firm effect. I choose to be on the safe side, and adopt for the stringent requirement that a blockholder should at least be present in two firms.

The rest of the study includes working with the output of the regression  $\Gamma$ .

##### 2. Blockholders' type effects:

I estimate the following model for each variable of interest,

$$y_{it} = \lambda_t + \delta_i + \beta X_{it} + \gamma D_{it} + \varepsilon_{it} \quad (2)$$

where  $\mathcal{D}_{it}$  is a  $K \times 1$  vector of blockholder category indicator variables. These different categories could be Families, corporations, Funds, and so on.  $\gamma$  is a  $1 \times K$  vector of blockholder category fixed effects. This model specification imposes the restriction that the effect related to any blockholder  $j \in J_k$  is identical to  $\gamma_k$ , where  $J_k$  is the set of blockholders of type  $k$ . Thus, all large shareholders in a particular category are restricted to have the same effect.

## **E. DESCRIPTIVE STATISTICS:**

### **1. Summary statistics of large shareholders**

In our blockholder dataset, we notice that the blockholder with the highest number of holdings is the Swedish State (It has 400 holdings in 90 different companies during 1986-2005), the thing that confirms the fact that the Stockholm Stock Exchange is dominated by the state. The first family (The Wallenberg family) comes in the seventh position by 300 holdings in 29 different companies during the same period. In our panel, the average blockholder holds 16.52% of the capital shares and 20% of the voting shares. Out of the 234 unique shareholders, we have 34 power spheres and 200 non-sphere blockholders. We see that the average large shareholder is present in 6 different firms, and the average blockholder fixed effect is estimated from 19 ( $\approx 4.466/234$ ) blockholder-years.

To start analyzing the blockholder distribution, I group the blockholders in balanced categories based on certain specificities i.e. (i) Families (ii) Funds (iii) Financial Institutions and money managers (iv) Corporations (v) Public, Communes and Cooperatives (vi) Foreign investors.

In some of these categories, we include multiple subcategories of blockholders, e.g., Financial Institutions and money managers include banks, insurances, Venture Capital and money managers; The category “Funds” include mutual, pension and hedge funds.

From table 2, we notice that the families are the dominant blockholder in the Swedish market, with 1535 holdings over 21 years. A family holds on average 21 share holdings; the average capital share is 17.85%, but and due to the extensive use of dual class share, their average voting share is about 23.66%. With 300 holdings, the Wallenberg family is the major family blockholder on Stockholm Stock Exchange.

Table 2 also shows that there are 34 blockholding corporations in our data set. For example, AGA, ASEA, Volvo, hold multiple blocks in our dataset. The striking observation is that the average capital share is 23.09 % and the average voting share is 26.61 %; which ensures in most cases a controlling position on the target company. The presumed preference for control these corporate blockholdings may be motivated by synergies or strategic product market relationships (Allen and Phillips (2000) and Fee, Hadlock and Thomas (2006)).



There are 32 funds in my dataset, their average holding is the highest among all groups and reaches 28 holdings by blockholder. Another interesting feature is the low average capital share (and also that this share is higher than the voting share). This is most probably due to the high level of diversification of the (pension) funds due to the large assets at their disposal, and to the fact they are constrained by law (e.g. AP Fonden) not to hold a controlling stake in a company.

Foreign investors, despite the relative importance of their holdings, are not very present in comparison. They have in total 184 holdings; this number is due to the restrictions on foreign investments that were only totally abolished in 1993.

Table 2 shows that there are 33 financial institutions, dominated by Banks, and money managers (investment firms). Finally, the public group contains just 8 blockholders, in which the state of Sweden is the major blockholder with 400 holdings. The state influence on the Stockholm Stock Exchange is decreasing esp. after the social democrats lost the election.

**Table 2**  
**Summary Statistics : Large Shareholders**

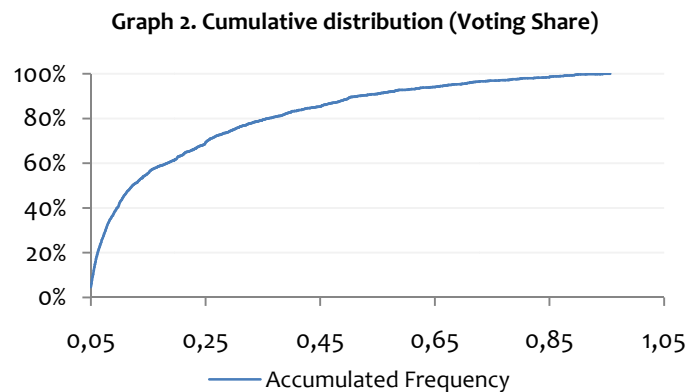
The sample is the blockholder-firm panel data set described in data section. “Funds” include Swedish and international public and private funds. “Corporations” are industrial firms. “Financial Institutions and Money managers” include banks, insurance companies, venture capital and investment companies. “Public, Communes and Cooperatives” include the state, all public investors, communes and cooperatives.

|                                   | Blockholders | Blockholders-<br>Years | Number of holdings per Blockholder |        |                              |     | Average Share |        |
|-----------------------------------|--------------|------------------------|------------------------------------|--------|------------------------------|-----|---------------|--------|
|                                   |              |                        | Mean                               | Median | 75 <sup>th</sup><br>Percent. | Max | Capital       | Votes  |
| Families                          | 93           | 1535                   | 20,25                              | 9      | 22                           | 300 | 17,85%        | 23,66% |
| Corporations                      | 34           | 565                    | 17,44                              | 8      | 14,75                        | 170 | 23,09%        | 26,61% |
| Funds                             | 32           | 894                    | 27,94                              | 15     | 28,25                        | 158 | 8,52%         | 8,13%  |
| Foreign Investors                 | 34           | 184                    | 5,41                               | 4,5    | 5,75                         | 16  | 18,31%        | 20,22% |
| Fin. Institutions and M. Managers | 33           | 766                    | 25,64                              | 7      | 13                           | 285 | 12,97%        | 14,66% |
| Public, Com. and Coop.            | 8            | 522                    | 80,13                              | 37,5   | 66,25                        | 400 | 17,18%        | 20,00% |

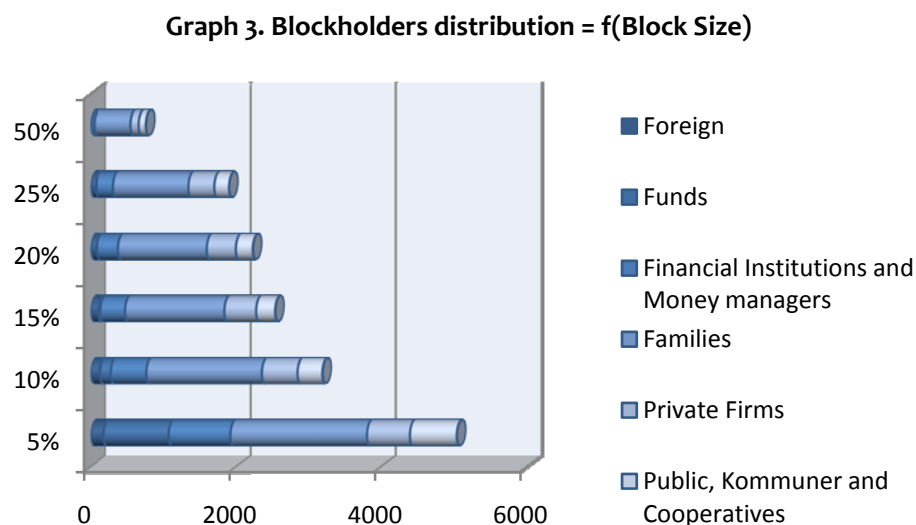
#### *Blockholder distribution and level of voting share:*

Graph2 shows the cumulative frequency of each level of stock ownership in the dataset; it shows that around 50% have less than 12.3% of voting share and around 70% of the holdings are less than 25% of voting share.

Since higher voting power means a better ability to influence of the firm policies, I intend to see the distribution of the blockholders for different levels of blocks size. This also reveals to us which category is expected to be in control (when the block size increases). The first level is more than 5% and covers the whole dataset. I increase the threshold by 5% each time until 25% and then to 50%. Graph 3 displays the results.



The funds share shrinks significantly already when the threshold is 10%; it almost disappears thereafter; most funds are not entitled to be in control, which explains the observation. The same for the foreigners, this is however due to the relatively small holdings in the possession of these investors. At all levels of block size, families are dominating the market. The corporations have a stable share for all values. The financial institutions holdings steadily decrease when I increase the block size.



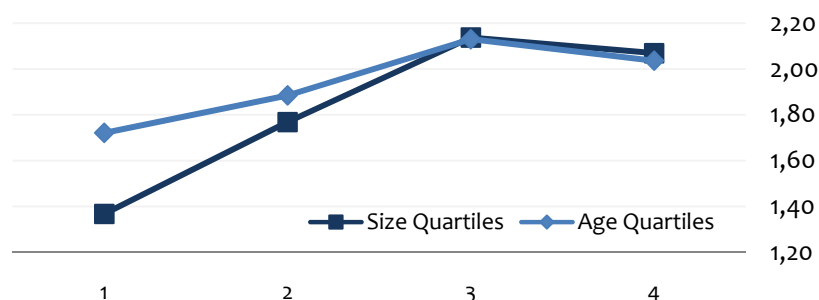
#### *Blockholder holdings' size and number of blockholders and firm characteristics:*

Do older firms have more blockholders? Do bigger firms do? The following graph (Graph 4) answers though partially this question. The (average) number of blockholders per firm steadily increases with size; intuitively a firm increases in size (here measured by the logarithm of total assets) by acquiring more assets, which requires more investment and then more capital inflows and thus, eventually, an increase in the shareholder base. However, the number ceases to increase when the firm becomes big

“enough” (in the fourth quartile) and slightly decrease. The same pattern is to be observed for age, though the presumed correlation between Age and Size could be behind this pattern.

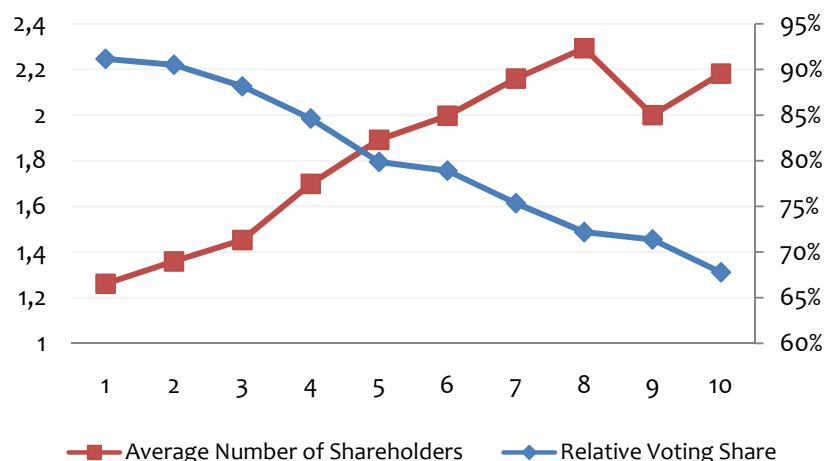
We notice then when the firm is small, the number of blockholders is relatively small; which makes us think that the influence on firm policies is easier when the firm is small, since there will be less rivalry and competition between blockholders.

**Graph 4. Size and Age Impact on number of Blockholders**



To confirm the intuition that it is easier for a blockholder to influence the company in small firms than in big firms and that the blockholders in control enjoys a better position. I define Relative Voting Share as the Voting Share of the biggest blockholder in the company divided by the sum of voting shares of the whole set of blockholders. This time, I divide the size in deciles and plot the Relative Voting Share and the average number of shareholders for every decile.

**Graph 5. Size Impact on the Relative Voting Share**



As the firm grows bigger, the relative voting share of the biggest blockholder constantly decreases, on average; this is to be explained by the increasing number of blockholders, which constantly increases for the 8 first deciles to stabilize thereafter around 2.1. The position of the biggest blockholder is more

and more challenged as the size of the firm grows bigger. It is then expected to find that the impact of the blockholders to be more apparent in small firms than in big firms.

### *Are the Blockholders independent?*

The existence of a blockholder in a certain firm and his impact on the firm policies depends on the existence of other blockholders in the same firm. For each blockholder, I look at the number of blockholders at the same firm for a specific year.

| Other Blockholders   | 0      | 1      | 2      | 3      | 4     | 5     | 6     |
|----------------------|--------|--------|--------|--------|-------|-------|-------|
|                      | 45,42% | 32,47% | 15,07% | 5,16%  | 1,58% | 0,25% | 0,04% |
| Average Voting share | 31,85% | 22,50% | 17,09% | 12,92% | 9,98% | 8,27% | 7,77% |

In more than 45% of the times, the blockholder is unique in the firm. This blockholder is most probably a controlling owner (Average Voting share =31.85%). The impact of this blockholder on firm policies should be more apparent in this situation than in the situation where he is not obliged to compete with other blockholders. The average voting share decreases when the number of other blockholders increases. As we will see later, the dependence among blockholders is relatively high, the calculation of the “average block overlap” reaches 40%.

## **2. Summary statistics of corporate policies**

I analyze a broad range of important corporate policy variables. I specifically focus on investment and financial policies. The investment policies encompass investment policy, investment to Q and research and development (R&D) policy. The financial variables I set to analyze are leverage, dividend policy, and cash holdings.

Table 2 presents means, medians, 75<sup>th</sup> percentiles and standard deviations for the corporate variables that I analyze. The first set of columns presents summary statistics for our new blockholder-firm data set. As a comparison, the second set of columns in the table reports the same statistics but for the accounting database that served as a basis for the study. This dataset includes all the public firms listed on A, O and Attract 40- lists during the time period of study (Financial firms and utilities were excluded).

On average, the firms in the new blockholder-firm sample are larger and more profitable (higher ROA); they also have a higher leverage whereas they hold less cash and pay less dividend (relative to earnings).

**Table 3**  
**Summary Statistics : Corporate Variables**

The table reports descriptive statistics for the corporate variables analyzed. The “Blockholder-firm sample” excludes financial firms and utilities. All variable definitions are reported in Appendix II. "All Accounting Sample" refers to all the firm-year observations for which the accounting data is available. “N” refers to the number of firm-year observations.

|                     | Blockholder-firm Sample |        |                        |         | All Accounting Sample |        |                        |         |
|---------------------|-------------------------|--------|------------------------|---------|-----------------------|--------|------------------------|---------|
|                     | Mean                    | Median | 75 <sup>th</sup> Perc. | St. Dev | Mean                  | Median | 75 <sup>th</sup> Perc. | St. Dev |
| Investment policies |                         |        |                        |         |                       |        |                        |         |
| Investment          | 0,088                   | 0,059  | 0,107                  | 0,151   | 0,091                 | 0,060  | 0,112                  | 0,157   |
| R&D                 | 0,020                   | 0,000  | 0,003                  | 0,061   | 0,017                 | 0,000  | 0,000                  | 0,058   |
| Financial policies  |                         |        |                        |         |                       |        |                        |         |
| Leverage            | 0,594                   | 0,619  | 0,738                  | 0,198   | 0,585                 | 0,610  | 0,734                  | 0,202   |
| Dividends/earnings  | 0,071                   | 0,103  | 0,179                  | 2,101   | 0,082                 | 0,100  | 0,178                  | 1,854   |
| Cash holdings       | 0,143                   | 0,091  | 0,186                  | 0,165   | 0,158                 | 0,094  | 0,191                  | 0,242   |
| Firm performance    |                         |        |                        |         |                       |        |                        |         |
| Return on assets    | 0,101                   | 0,112  | 0,167                  | 0,126   | 0,089                 | 0,104  | 0,150                  | 0,116   |
| Tobin's Q           | 1,552                   | 1,273  | 1,697                  | 0,881   | 1,598                 | 1,285  | 1,721                  | 1,011   |
| Control variables   |                         |        |                        |         |                       |        |                        |         |
| Cash flow           | 0,101                   | 0,112  | 0,167                  | 0,126   | 0,107                 | 0,114  | 0,172                  | 0,145   |
| Total assets        | 9 830                   | 1 600  | 6 980                  | 24 400  | 8 196                 | 1 131  | 4 978                  | 22 927  |
| Ln(Total Assets)    | 21,324                  | 21,195 | 22,666                 | 1,889   | 21,036                | 20,846 | 22,328                 | 1,883   |
| N                   | 2042                    |        |                        |         | 3123                  |        |                        |         |

## SECTION V: RESULTS

### A. BLOCKHOLDERS FIXED EFFECTS IN CORPORATE POLICIES:

*H<sub>0</sub> : The identity of the blockholder is informative about the firm policies*

Holderness and Sheehan (1988), through analysis of the role of majority shareholders, stated that “the identity of large-block shareholders appears to be important.” Using the framework outlined in equation (1), I will try to investigate whether this holds for the corporate policies on Stockholm Stock Exchange. Table 4 reports regression results. It shows two panel regressions for each corporate policy variable. The first row reports the adjusted  $R^2$  and the number of firm-years for a benchmark model specification which includes year and firm fixed effects and time varying firm-level characteristics only. The second row adds blockholder fixed effects, and reports the number of blockholders, the median effect, and an F-test for the joint significance of the blockholder fixed effects. Adding blockholder fixed effects significantly improves the model fit of almost all of the regressions despite having already controlled for important observable and unobservable heterogeneity across firms through time-varying controls and firm fixed effects. Also, for most of the policies, the F-statistics are statistically significant at 1% significance level, rejecting the null hypothesis that all blockholder fixed effects are zero.

**Table 4**  
**Blockholder fixed effects and corporate policies**

For each corporate policy variable, I implement two regressions, which are reported in two rows as follows: the first row reports the adjusted  $R^2$  and the number of firm-years for a benchmark model specification which includes year and firm fixed effects and time-varying firm-level characteristics; the second row also adds blockholder fixed effects, and reports the number of blockholders, the median estimated blockholder fixed effect, and an F-test for the joint significance of the blockholder fixed effects. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels.

| Panel A : Investment Policies |                 |        |           |         |               |
|-------------------------------|-----------------|--------|-----------|---------|---------------|
| Dependant Variable            | N. Blockholders | Median | Adj $R^2$ | F-Test  | N. Firm-years |
| Investment                    |                 |        | 0,0916    |         | 1877          |
| Investment                    | 182             | 0,000  | 0,274     | 1,84*** | 1877          |
| Investment to CF sensitivity  |                 |        | 0,265     |         | 1877          |
| Investment to CF sensitivity  | 185             | 0,205  | 0,5198    | 1,24**  | 1877          |
| Investment to Q sensitivity   |                 |        | 0,3001    |         | 1877          |
| Investment to Q sensitivity   | 204             | 0,030  | 0,5987    | 1,98*** | 1877          |
| R&D                           |                 |        | 0,0263    |         | 1877          |
| R&D                           | 179             | 0,000  | 0,24      | 2,07*** | 1877          |

**Panel B : Financial Policies**

| Dependant Variable | N. Blockholders | Median | Adj R <sup>2</sup> | F-Test  | N. Firm-years |
|--------------------|-----------------|--------|--------------------|---------|---------------|
| Leverage           |                 |        | 0,31               |         | 1877          |
| Leverage           | 179             | 0,001  | 0,47               | 2,22*** | 1877          |
| Dividends/Earnings |                 |        | 0,03               |         | 1877          |
| Dividends/Earnings | 179             | -0,006 | 0,56               | 8,72*** | 1877          |
| Cash holdings      |                 |        | 0,11               |         | 1877          |
| Cash holdings      | 179             | 0,001  | 0,26               | 1,44*** | 1877          |

Investment, is the first variable to be studied, it is defined as capital expenditures divided by lagged net property, plant, and equipment. The benchmark regression includes as explanatory variables year and firm fixed effects, lagged Q, lagged cash flow, and the lagged logarithm of total assets. We find that the model fit increases by 18 percentage points when we add blockholder fixed effects. Also, the F-statistic is large and significant (p-value = 0.000), rejecting the hypothesis that all blockholder fixed effects are zero for firms' capital expenditures decisions. This increase of fit is relatively very big comparing to the one resulting from the American study (2%); which denotes a strong relationship between the existence of a blockholder and the investment policy. This is also valid for all the other regressions.

I then study the Investment to CF (Q) sensitivities; the blockholders' effects related to these sensitivities are calculated using *Cronqvist and Fahlenbrach (2007)* method.<sup>8</sup> Once again, we find significant blockholder fixed effects in these sensitivities that substantially increase the explanatory power of the model - more than 25% in both cases. The same conclusion holds for the R&D investment policy, which includes significant blockholder effects (F-statistic significant).

From Panel B reporting the financial policies results, we notice that there are significant blockholder effects in the various financial corporate policies. All these effects are significantly different from zero (p-value=0.000), and increase the fit of the model by more than 10%.

Though the American study reports significant blockholder effects in the different corporate policies for the sample studied, the magnitude of these effects is much larger in the case of Stockholm Stock Exchange. This could be driven by the stability of the ownership structure on the Swedish market, but also by the ownership concentration (Henrekson and Jakobsson (2003)). The increase in the fit of the various models suggests that the identity of the blockholder is informative about the corporate

<sup>8</sup> "The benchmark regression for investment to Q (cash flow) sensitivity involves regressing investment on year and firm fixed effects, lagged cash flow, lagged Q, lagged logarithm of total assets, and firm fixed effects interacted with lagged Q (cash flow). We then add blockholder fixed effects as well as those effects interacted with lagged Q (cash flow). The estimated coefficients of interest are those on the interaction terms." *Cronqvist and Fahlenbrach (2007)*

policies<sup>9</sup>; but is silent about the causality. Do blockholders influence decisions or just select firms that adopt firms that adopt policies, they find valid?

### **Remarks about the empirical framework:**

Estimating the blockholders effects over the whole period assumes that the blockholders' preferences, skills and beliefs do not change over time. Though, it is intuitively to think that the preferences do not change over a short period of time, but it seems too pushed to assume that the effects are time-invariant over 20 years. For this purpose, we concentrate, mainly due to data limitations<sup>10</sup> to study an eventual shift in blockholders' effects around the year 1993, where the restrictions on foreign investment were completely abolished. We estimate the blockholders effects during the period 1986-1993 and the period 1994-2005 for the different corporate policies. We obtain two vectors of blockholders for each corporate policy. By regressing the two vectors for the early and the late periods shows a positive correlation in five out of seven regressions; which allows us to continue to continue working on the whole period as one.

The framework as presented in equation (1) assumes independence between the blockholders effects, which ignores the effect of the interaction between two or more blockholders and therefore underestimates the whole blockholders' effects. Due to the relatively large number of blockholders (234), it is not feasible to add dummy variables to account for the interaction for eventual interactions between even only two blockholders (This is due to the insufficient remaining degrees of freedom). Therefore, we satisfy ourselves with assessing the severity of the problem by calculating the "average block overlap". We expect that assuming estimation would decrease the blockholders effects because blockholders tend to stick together at the same company for a long period.

To calculate the average block overlap, I create a matrix of blockholders both in columns and rows and add one to the intersecting cell when the two blockholders exist in the same company during a certain year. The matrix just considers the two-dimension dependency. The diagonal increases when the blockholder is the sole blockholder during a certain year. Thereafter, I divide the cell entries by the sum of the columns which corresponds to the number of firm-year observations relative to a certain blockholder to obtain the mutual dependency between two blockholders. Averaging these individual dependencies, I obtain the "average block overlap", which is quite high as expected. It amounts to about 40%. Although, the problem is highly likely to bias the blockholders effects downwards, it is possible to ignore the dependencies since the blockholders' effects are already highly significant as presented above.

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<sup>9</sup> I have performed a series of regressions to check that the results presented above are robust. Our results are robust to scaling R&D expenditures with lagged sales, using alternative leverage ratios.

<sup>10</sup> When we divide the time period in shorter periods, most of the blockholders effects vanish, due to the fact that the majority of blockholders invest only in two companies. If the blockholder invests in only one company during the whole period of the subsample, its effects will be perfectly correlated with the firm effects and thus will be dropped.



## B. ARE THE EFFECTS ECONOMICALLY IMPORTANT?

*H1: The heterogeneity among blockholders is economically important.*

I address the economic significance of the blockholders' effects in three ways: I start by examining the distribution of the blockholders' fixed effects and then by checking whether the increase in the fit of the panel data models is driven by the mere fact of the increase of the number of the explanatory variables; As a final step, I check whether the blockholders fixed effects are related to any difference in performance.

### 1. Magnitude of blockholders fixed effects:

Do the effects of the blockholders in the lower tail of the fixed effects distribution significantly differ from those assigned to the blockholders in the higher tail? Are the differences between the blockholders' fixed effects significant?

Table 5 shows the 25<sup>th</sup> and 75<sup>th</sup> percentile of each blockholder fixed effects vector, along with the mean of the variable in question among the firms in my sample.

| <b>Table 5</b>   |                 |                 |       |
|--|-----------------|-----------------|-------|
| <b>Distribution of blockholder fixed effects</b>   |                 |                 |       |
| All variable definitions are reported in Appendix II. I report here the size distributions of the blockholder fixed effects estimated in Table 4. The first two columns report the 25th and 75th percentiles for each of the blockholder fixed effects distributions obtained from the panel regressions in Table 4. The third column reports the average value relative to each corporate variable. |                 |                 |       |
|  | 25th percentile | 75th percentile | Mean  |
| Investment policies  |                 |                 |       |
| Investment   | -0,012          | 0,017           | 0,088 |
| R&D  | -0,001          | 0,002           | 0,020 |
| Financial policies   |                 |                 |       |
| Leverage   | -0,015          | 0,017           | 0,594 |
| Dividends/earnings   | -0,089          | 0,063           | 0,071 |
| Cash holdings  | -0,006          | 0,011           | 0,143 |

As for the investment policy, the difference between the effects of blockholder in the upper quartile is higher with 0,029 than the effect of a blockholder in the lower quartile. Comparing this difference to the average investment (as defined in Appendix II) (i.e. 0,088); we can conclude that there is a significant difference between the upper and the lower quartiles.

For R&D investment, the difference between the upper and lower quartiles is at least 0,003, which is relatively small comparing to the average R&D investment. However, the difference in the calculation and reporting of R&D accounting post among Swedish firms could have generated this.

The average leverage ratio is around 0,6. A blockholder in the higher tail is associated with 3,2% larger leverage. While for dividend policy, the difference between the two quartiles (0,152) is very significant since it is higher than the average dividend ratio. As for cash, the blockholder in the higher quartile has 0,017 more cash than a blockholder in the lower quartile compared an overall ratio of 0,143.

Comparing the difference in effects between quartiles gives an appreciation of the economic significance of the blockholders effects that need to be explored further in what follows.

## **2. Statistical significance versus Economic significance:**

Is the increase in the fit of the models as discussed above generated by an actual blockholder effect or is the mere statistical result of the inclusion of additional variables? Comparing the blockholders effects to various simulated distributions will help us determine whether the effects are a mere statistical issue and are empty of economic significance.

The simulated distributions are obtained by assigning blockholders to random firm-year observations and then estimating the blockholders effects. These effects have in principle no actual economic significance since the blockholders are randomly assigned to a certain firm. I repeat the regression 100 times to obtain a set of simulated distributions. These simulated distributions are then compared to the original vector of blockholder effects using the two-sample Kolmogorov-Smirnov (KS) test of equality of distributions.

In Table 6, I report the size distributions of blockholder fixed effects. We notice the KS statistics are significant at the 1% level for all corporate policies, so the hypothesis of equality of distributions is rejected (most of the probabilities associated with the KS statistics are zero or almost zero). As a conclusion, the estimated blockholder fixed effects reported in table 4 are substantially different from what we would expect if the blockholdings were simply randomly distributed across firms i.e. the increase of the fit of the model as reported in Table 4 are not induced by an economically insignificant increase of variables but rather through a meaningful additional explanatory variables. Consequently, we can conclude that the presence of a specific blockholder in a certain firm informs us about its policies.

Table 6

**Size distributions of blockholder fixed effects**

All variable definitions are reported in Appendix II, Panel A reports the size distributions of the blockholder fixed effects estimated in Table 4, The first set of columns reports the 25th and 75th percentiles for each of the blockholder fixed effects distributions obtained from the panel regressions in Table 4, The second set of columns reports the 25th and 75th percentiles for simulated distributions, obtained by re-assigning all blockholders to random firm-years and then re-estimating the blockholder fixed effects, This procedure is repeated 100 times, which produces the simulated distributions, The final set of columns performs two-sample Kolmogorov-Smirnov (KS) tests for the equality of the blockholder fixed effects distribution and the simulated distribution, and reports KS statistics and p-values, , \*\*\*, \*\*, \* denote significance at the 1%, 5%, and 10% levels,

|                        | fixed effects distributions |                 | Simulated distributions |                 |           |         |
|------------------------|-----------------------------|-----------------|-------------------------|-----------------|-----------|---------|
|                        | 25th percentile             | 75th percentile | 25th percentile         | 75th percentile | KS-test   | p-value |
| Investment policies    |                             |                 |                         |                 |           |         |
| Investment             | -0,012                      | 0,017           | -0,013                  | 0,002           | 0,2411*** | 0,000   |
| Inv, to CF sensitivity | -0,001                      | 0,002           | -0,005                  | 0,002           | 0,2089*** | 0,000   |
| Inv, to Q sensitivity  | -0,014                      | 0,015           | -0,006                  | 0,002           | 0,1905*** | 0,002   |
| R&D                    | -0,089                      | 0,062           | -0,029                  | 0,002           | 0,2048*** | 0,001   |
| Financial policies     |                             |                 |                         |                 |           |         |
| Leverage               | -0,006                      | 0,011           | -0,015                  | 0,002           | 0,2599*** | 0,000   |
| Dividends/earnings     | -0,098                      | 1,780           | -0,159                  | 0,116           | 0,2311*** | 0,000   |
| Cash holdings          | -0,025                      | 0,469           | -0,032                  | 0,019           | 0,2624*** | 0,000   |

### 3. Blockholders fixed effects and firm performance:

We have concluded from the two previous subsections, that the blockholder fixed effects are large and significant. Another dimension of the economical significance of the blockholder presence is definitely its impact on the firm performance. The blockholder presence even if it influences the corporate policies would be empty of any economical significance if this is not translated in “heterogeneity” in the performance of the firms, in which they invest. I therefore set to investigate whether this heterogeneity among blockholders induces heterogeneity among firm performance.

To investigate this issue, we use two performance measures: Tobin Q and ROA. As mentioned before, these measures are complementary: In contrast to ROA, that is historical, Tobin’s Q is a forward looking metric, since it takes into consideration the future prospects of the company. The benchmark regression regresses the performance measure on the firm and year effects as well as the lagged logarithm of total assets.

The following table reports results:

**Table 7**  
**Blockholder fixed effects and firm performance**

All variable definitions are reported in Appendix II. Panel A reports two regressions for each corporate policy variable. The first row reports the adjusted R<sup>2</sup> and the number of firm-years for a benchmark model specification which includes year and firm fixed effects and Lagged total assets. The second row also adds blockholder fixed effects, and reports the number of blockholders, the median estimated blockholder fixed effect, the 25th and 75th percentiles of each blockholder fixed effects distribution, and an F-test for the joint significance of the blockholder fixed effects. Each fixed effect is weighted by the inverse of its standard error to account for estimation error.

| N                | Nb.<br>Blockholders | Median | 25th<br>percentile | 75th<br>percentile | Adj. R <sup>2</sup> | F-Test  | Number of Firm-<br>Years |
|------------------|---------------------|--------|--------------------|--------------------|---------------------|---------|--------------------------|
| Return On Assets |                     |        |                    |                    | 0,143               |         | 2415                     |
| Return On Assets | 201                 | -0,005 | -0,077             | 0,067              | 0,295               | 1,86*** | 2415                     |
| Tobin Q          |                     |        |                    |                    | 0,114               |         | 2415                     |
| Tobin Q          | 201                 | -0,008 | -0,145             | 0,168              | 0,299               | 2,28*** | 2415                     |

It is to be mentioned that the median effects associated with a large shareholder are not significantly different from zero. This is in line with findings of McConnell and Servaes (1990) and Mehran (1995). We notice that including the blockholder fixed effects improved the fit of the model by 15% (18%) when the dependent variable is Return On Assets (Tobin Q). Also, the F-statistics are statistically significant at 1% percent level, rejecting the null hypothesis of no blockholder fixed effects in ROA and Q. It is also to mention that the blockholder in the upper quartile is associated with 6,7% higher returns, all else equal, while the blockholder at the lower quartile is associated with 7% lower returns. Given that the average ROA is about 10% in the sample, the magnitude of this effect is also large in economic terms. It does not however seem sensible to interpret blockholder fixed effects in ROA as evidence that some blockholders want returns to be lower. The fact that the empirical setting only controls for the shared benefit of control could be the reason of the association. It could be possible that the blockholders extract private benefits as stated by Barclay and Holderness (1989).

As for Tobin Q as a performance measure, We also find that a blockholder at the 75th percentile is associated with 17% higher Q ratio, all else equal, while one at the 25th percentile is associated with 15% lower Q ratio. However, this difference is not large compared to the average Q ratio in our sample of 1,552.

## C. SOURCES OF THE BLOCKHOLDER HETEROGENEITY

In this section, we intend to check whether the heterogeneity is induced by certain characteristics of the shareholders or type, this investigation will be twofold: I will start by checking whether certain policies could be attributed to a certain type of shareholders e.g. families or banks, etc. Second, I intend to check whether individual blockholder characteristics (e.g. block size that captures a blockholders' power to monitor and influence important corporate policies.) play a role in the heterogeneity between blockholders.

### 1. Blockholders' heterogeneity and blockholders' types:

*H2: The impact over corporate policies is driven by specific blockholders' type.*

I try to investigate here whether the blockholder fixed effects in corporate policies are present for all blockholder categories or are concentrated in some of them. I start by using the *ad-hoc* balanced categories of the blockholders i.e. (Families; Corporations; Funds; Foreign Investors; Financial Institutions and Money Managers; State, Communes and Cooperatives). After generating the categories indicators, I use the framework outlined by in equation (2) to obtain blockholder fixed effects relative to each blockholder category. Table 8 reports separate F-tests for the joint significance of the blockholder fixed effects for each group of large shareholders.

**Table 8**  
**Blockholder fixed effects for different categories of large shareholders**

Reported are F-tests for the joint significance of the blockholder categories. For each F-test we report the value of the F-statistic and the p-value in parentheses. For the "Investment to cash flow" and blockholder fixed effects by "Investment to Q" regressions, the F-tests are for the joint significance of the interaction between the blockholder fixed effects and cash flow and Q, respectively. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels.

| Category                          | N  | Inv.            | Inv. to CF      | Inv. to Q       | R&D               | Lev.              | D/E                 | Cash            |
|-----------------------------------|----|-----------------|-----------------|-----------------|-------------------|-------------------|---------------------|-----------------|
| Foreign Investors                 | 93 | 0,08<br>(0,780) | 0,01<br>(0,919) | 1,21<br>(0,272) | 0,07<br>(0,797)   | 2,69<br>(0,101)   | 0,02<br>(0,884)     | 0,23<br>(0,633) |
| Funds                             | 34 | 0,79<br>(0,374) | 1,25<br>(0,263) | 0,04<br>(0,841) | 4,82**<br>(0,020) | 2,27<br>(0,132)   | 1,15<br>(0,285)     | 1,97<br>(0,161) |
| Fin. Institutions and M. Managers | 32 | 0,66<br>(0,417) | 0,03<br>(0,860) | 0,01<br>(0,918) | 1,49<br>(0,223)   | 2,82*<br>(0,093)  | 0<br>(0,987)        | 0,01<br>(0,906) |
| Families                          | 34 | 0,21<br>(0,643) | 0,39<br>(0,532) | 0,65<br>(0,422) | 1,2<br>(0,273)    | 0,19<br>(0,661)   | 0,55<br>(0,458)     | 0,68<br>(0,408) |
| Corporations                      | 33 | 0,36<br>(0,551) | 0,69<br>(0,406) | 5,01<br>(0,025) | 1,24<br>(0,266)   | 0,15<br>(0,699)   | 13,93***<br>(0,000) | 0,04<br>(0,835) |
| Public, Com. and Coop.            | 8  | 1,52<br>(0,217) | 1,57<br>(0,211) | 0,41<br>(0,524) | 0,4<br>(0,527)    | 4,32**<br>(0,038) | 9,27***<br>(0,002)  | 0,42<br>(0,155) |

Table 8 shows that, in the case of the State and public investors, the fixed effects are significant for Leverage and dividend policies; we also document significant blockholders fixed effects for the financial institutions and Money managers for the leverage policy. Also, the presence of the corporations among the blockholder seems to be informative about the dividend policy, less significantly but still significant, is the presence of funds for the R&D policy. The fact that foreign investors and families do not have any significant fixed effects related to them could be caused to the heterogeneity of these groups; to belong to the “Families” group does not give any idea about the beliefs, skills and preferences of the investors. Even clearer is the case of foreign investors group, which gathers blockholders that substantially differ from each other, some are corporations, others are individuals or banks. Therefore, I grouped the blockholders in different groups and rerun the tests. Each blockholder belongs to one of these groups [ (1) Families or Individuals (2) Venture Capital (3) Insurance Companies and Money managers (4) Mutual Funds (5) Banks, foundations and Universities (6) Corporations (7) Public and Cooperatives (8) Pension funds (9) Hedge fund]. Table 9 reports the results i.e. the respective F-tests of joint significance of the blockholder fixed effects for each group.

**Table 9**  
**Blockholder fixed effects for different categories of large shareholders (II)**

I use a different categorization of the blockholders. Reported are F-tests for the joint significance of the blockholder categories. For each F-test we report the value of the F-statistic and the p-value in parentheses. For the “Investment to cash flow” and blockholder fixed effects by “Investment to Q” regressions, the F-tests are for the joint significance of the interaction between the blockholder fixed effects and cash flow and Q, respectively. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels.

| N                                |     | Inv.               | Inv.to CF       | Inv. to Q       | R&D             | Lev.               | D/E                 | Cash            |
|----------------------------------|-----|--------------------|-----------------|-----------------|-----------------|--------------------|---------------------|-----------------|
| Individuals/Families             | 102 | 0,85<br>(0,357)    | 0,68<br>(0,411) | 0,83<br>(0,363) | 1,72<br>(0,190) | 0,91<br>(0,340)    | 0,76<br>(0,382)     | 0,94<br>(0,332) |
| Venture Capital                  | 17  | 0,23<br>(0,629)    | 0<br>(0,954)    | 0<br>(0,998)    | 0,63<br>(0,429) | 2,16<br>(0,142)    | 0,02<br>(0,890)     | 0,52<br>(0,473) |
| Mutual Fund                      | 14  | 0<br>(0,978)       | 0,37<br>(0,541) | 0<br>(0,974)    | 0,57<br>(0,449) | 0,01<br>(0,942)    | 0,03<br>(0,870)     | 1,81<br>(0,179) |
| Corporation                      | 44  | 0,41<br>(0,523)    | 1,65<br>(0,200) | 3,56<br>(0,060) | 2,2<br>(0,138)  | 6,02**<br>(0,014)  | 17,48***<br>(0,000) | 1,28<br>(0,258) |
| Pension Fund                     | 12  | 0,8<br>(0,371)     | 0,28<br>(0,594) | 2,43<br>(0,119) | 1,46<br>(0,227) | 8,92***<br>(0,003) | 3,15*<br>(0,076)    | 0,01<br>(0,943) |
| Hedge Fund                       | 6   | 9,46***<br>(0,002) | 2,85<br>(0,092) | 0,78<br>(0,377) | 0,08<br>(0,776) | 1,56<br>(0,212)    | 0,03<br>(0,871)     | 0,8<br>(0,372)  |
| Public, Cooperatives             | 8   | 2,6<br>(0,107)     | 2,53<br>(0,112) | 0,51<br>(0,476) | 0<br>(0,995)    | 8,78***<br>(0,003) | 8,86***<br>(0,003)  | 1,02<br>(0,314) |
| Insurance Com. Money Managers    | 21  | 0,53<br>(0,468)    | 0,43<br>(0,510) | 4,81<br>(0,029) | 1,4<br>(0,237)  | 4,44**<br>(0,035)  | 0,9<br>(0,344)      | 0,23<br>(0,634) |
| Banks, Foundations, Universities | 10  | 0,47<br>(0,493)    | 0,09<br>(0,770) | 0,29<br>(0,588) | 0,1<br>(0,749)  | 1,1<br>(0,295)     | 0,82<br>(0,364)     | 1,15<br>(0,284) |

Distributing the foreign group on the other groups and “exploding” the funds group; changes slightly the results; we find significant effects for the corporations for both the dividend and the leverage policies, which confirm earlier results. Again, significant blockholder effects for the state-owned holdings in terms of leverage and dividend policies. The presence of Insurance companies or money managers is also informative about the leverage policies as previous results may suggest. A new evidence of significant blockholders effects arise from these new categories i.e. there seems to be significant blockholders effects in the case of pension funds for both dividend and leverage policies.

As a summary, the blockholder effects seem to be concentrated on the financial policies, more particularly the dividend and the leverage policies. The state presence is informative about these policies, so is the presence of a corporation or a pension fund. In contrast, I was unable to find any significant blockholders effects related to the other blockholder categories. This ad-hoc grouping may blend actual blockholders effects due to intra-groups heterogeneity.

## **2. Blockholders’ heterogeneity and blockholders’ characteristics:**

In order to investigate further the sources of the blockholder heterogeneity and thus the fixed effects, I would try to study the impact of individual blockholders’ characteristics on the blockholder fixed effects.

More specifically; I predict that blockholders with larger voting stakes and longer holding periods would have more power in the firm which translate into larger fixed effects (in absolute value). I predict also that the level of diversification of a blockholder (measured as the number of industries one blockholder invests in during the study period) would have a negative effect on the ability of the empirical framework to detect the impact of this blockholder on a certain corporate policy since it may be assumed that different industries require different corporate policies. However, the negative effect could be thwarted by the heavy weight of the well-diversified blockholder due to its presumable financial power.

I started the regressions with 234 blockholders but 55 were dropped due to co-linearity issues. All regressions made, I end up by having a matrix of 179 observations (blockholders) for the various corporate policies. For each of these blockholders, I compiled the data regarding their different voting block sizes, holding periods and level of diversification. By construction, every blockholder has more than a holding; I took the average of these characteristics per blockholder.

Panel A of Table 10 reports summary statistics of the characteristics. The average voting share of each blockholder is 18% (relatively large comparing to 9.6% in the American study) in our data set, while they hold their shares for 3,24 years in average. They also invest in 3,16 industries in average.



**Table 10**  
**Blockholder fixed effects for different categories of large shareholders**

Panel A reports summary statistics for blockholder characteristics. "Voting Block size" is the fraction of Votes shares held by a blockholder. "Holding Period" is the number of years, during which the blockholder has a holding in a specific company. "Diversification" is the number of distinct industries a blockholder invests in. The first two characteristics are averaged by blockholder.. Panel B reports estimates from regressing the absolute value of blockholder fixed effects on these Voting Block Size alone, and combined with the other two characteristics. Each row corresponds to a separate regression. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels.

| <b>Panel A : Summary Statistics of Blockholders' Statistics</b> |     |      |        |         |         |         |
|---|-----|------|--------|---------|---------|---------|
|   | N   | Mean | Median | Minimum | Maximum | St. Dev |
| Voting Block Size   | 179 | 0,18 | 0,14   | 0,05    | 0,61    | 0,12    |
| Holding Period  | 179 | 3,24 | 2,77   | 1       | 12      | 1,82    |
| Diversification   | 179 | 3,16 | 2      | 1       | 8       | 2,03    |

| <b>Panel B: Blockholder fixed effects and blockholder characteristics</b> |                   |        |                |        |                 |        |
|---|-------------------|--------|----------------|--------|-----------------|--------|
|   | Voting Block Size |        | Holding Period |        | Diversification |        |
|   | Coef.             | T-Stat | Coef.          | T-Stat | Coef.           | T-Stat |
| <b>Investment Policies</b>  |                   |        |                |        |                 |        |
| Investment  | 0,14***           | 7,70   | 0,01***        | 6,45   | 0,00***         | 4,21   |
| R&D   | 0,02***           | 4,54   | 0,00***        | 5,02   | 0,00***         | 3,42   |
| <b>Financial Policies</b>   |                   |        |                |        |                 |        |
| Leverage  | 0,10***           | 8,88   | 0,01***        | 8,26   | 0,00***         | 4,77   |
| Dividends/Earnings  | 0,94              | 1,37   | 0,06           | 1,58   | 0,05            | 1,15   |
| Cash  | 0,08***           | 6,50   | 0,01***        | 7,19   | 0,00***         | 4,31   |
| <b>Firm Performance</b>   |                   |        |                |        |                 |        |
| Return On Assets  | -0,12             | -1,10  | 0,00           | -0,01  | 0,00            | -0,68  |
| Tobin Q   | 0,013             | 0,12   | 0,00           | 0,39   | 0,00            | 0,05   |

Panel B of Table 10 reports that the magnitude of the blockholder fixed effect, as measured by the absolute value of the effect, is positively associated with block size, holding period, and diversification.

A first comment on the results is that the blockholders, with larger blocks, have larger fixed effects in average for most of the corporate policies. However, I am unable to find a significant correlation between the performance and the voting block. To assess the economic magnitude of these effects, we can compare two blockholders: one with an average block size and one with a 12% (one standard deviation) larger-than-average block size. Using the results of the regressions, the blockholder with the larger stake has 67% larger investment fixed effect. And in general, we find that large shareholders



with more voting power, longer holding period have larger fixed effects in most corporate policies, which is in line with the hypothesis of Bloch and Hege (2001). Moreover, the effect of the diversification is positive and very small, though significant in most of the cases. The small magnitude of the effect may be due to the diversification effect: the blockholder effects are different (and eventually of different signs) in different industries since they require different corporate strategies, so taking the average would make the average small. The fact that the effect is positive is possibly due to the fact that the blockholders, that are usually well diversified, are very strong financially and are able to influence the corporate policies in the companies in which they have holdings. The impact of these characteristics on firm performance is not significant and is negative in the case of performance measured by ROA, while being positive in the case of Tobin Q.

To sum up, I have provided, through the above analysis, evidence that the heterogeneity documented in previous sections could be attributed, at least partially, to observable blockholders' characteristics. The voting power and the holding period are proxies for the blockholders' power and his ability to influence corporate policies and firm performance.

#### **D. ORIGIN OF THE BLOCKHOLDER HETEROGENEITY: INFLUENCE VS. SELECTION HYPOTHESIS:**

If the heterogeneity is important, where such variation does across blockholders actually come from? Does the blockholder influence the corporate policies or does (s)he systematically select the companies adopting policies that are inline with his views? Which way does the causality go? The direction of the causality could be detected by the policy changes timing. If the policy change happens before the blockholder actually invests in the firm then we are more in the selection hypothesis; otherwise, if the policy change happens when the blockholder is already a shareholder in the company. In order to empirically investigate the causality direction, I use the same methodology used by Cronqvist and Fahlenbrach (2007).

We randomly allocate each blockholder's ownership stakes into two subsets. Using the first subset of firms, we then estimate blockholder effects *as if* each blockholder had a stake in the firm one to four years (depending on data availability) [The American study goes only two years backwards] prior to its actual investment. That is, if blockholder  $j$  invested in firm  $i$  in year  $t$ , then I estimate this blockholder's "pre-investment fixed effect" as if the blockholder had invested in the firm in year  $t-4$  and sold its stake in year  $t$ . . . Using the second subset we estimate the blockholder fixed effects using equation (1). Next, I examine whether the pre-investment fixed effects and the actual blockholder effects are significantly correlated. Under the influence interpretation, we would expect zero or negative correlation between firms' policy choices just prior to and after a blockholder's investment. Under the selection interpretation, we expect the effects to have a positive correlation because firms' policy choices just prior to and after a blockholder's investment are similar.

**Table 11**  
Evidence for influence versus Selection

All variable definitions are reported in Appendix II. Each number in this table corresponds to a separate regression. Reported in the table are estimates from regressing “pre-entry blockholder fixed effects” (from a period prior to the blockholder’s investment) on the actual blockholder fixed effects. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels.

|                            | All    |         |
|----------------------------|--------|---------|
|                            | Coef.  | SE      |
| <b>Investment Policies</b> |        |         |
| Investment                 | -0,18  | 0,072** |
| R&D                        | -0,11  | 0,044** |
| <b>Financial Policies</b>  |        |         |
| Leverage                   | -0,05  | 0,04    |
| Dividends/Earnings         | -11,10 | 9,05    |
| Cash                       | -0,09  | 0,10    |
| <b>Firm Performance</b>    |        |         |
| Return On Assets           | -0,03  | 0,09    |
| Tobin Q                    | -0,30  | 0,06    |

Table 11 presents our results. It presents the evidence for all shareholders. We notice the there is clear evidence in favor of the influence hypothesis versus the selection hypothesis. All regressions lead to negative coefficients between the actual blockholders’ effects and the “pre-investment” effects. The timing of decisions seems to happen after the shareholders’ joins the firm. The coefficients are significant at the 5% level for the investment policies.

In contrast to the American study, which could not find a pattern that fits all shareholders, I report evidence that the blockholder heterogeneity is important in the Swedish context and is more consistent with an influence hypothesis for all shareholders and for all policies; the blockholders in Swedish firms seem to influence the policy choices of the firms they invest in rather than systematically select firms based on observable corporate policies, they judge optimal.

## SECTION VI: CONCLUSION

I have constructed a blockholder-firm panel data set that tracks all unique blockholders among listed firms on the Stockholm Stock Exchange; using the empirical framework of Cronqvist and Fahlenbrach (2007); I analyze the effects of heterogeneity across blockholders.

The results show evidence of significant blockholders' fixed effects in investment and financial policies. These effects are also economically important and they drive a significant effect on firm performance, as measured by Return on Assets and Tobin's Q. Categorizing the blockholders, I was able to associate certain governance styles with some blockholders categories : As for the State and public investors, the fixed effects are significant for Leverage and dividend policies; we also document significant blockholders fixed effects for the financial institutions and Money managers for the leverage policy. Also, the presence of the corporations among the blockholder seems to be informative about the dividend policy, less significantly but still significant, is the presence of funds for the R&D policy.

I also analyzed sources of the heterogeneity, more particularly the block size, the holding period and the diversification level and I find that blockholders with larger block size, longer holding period and/or higher level of diversification are associated with larger effects on corporate policies and firm performance.

Finally, I focused on determining the origin of the blockholders fixed effects; the results show that the effects are rather consistent with the influence hypothesis: Blockholders seem to influence decisions when they invest rather than select firms that have policies consistent with their beliefs.

This evidence on blockholder heterogeneity in the Swedish context also introduces a number of questions for future research. The first issue that may come to the mind is to include other corporate policies mainly the compensation, which we were unable to include due to data problems. Another interesting issue is to try to investigate patterns of corporate policies based on data mining; I tried, unluckily, to use clustering methods to infer *à posteriori* categories based on the blockholders' fixed effects; further tries and may be different methods could lead to interesting results. Another issue is to compare how the effects depend on the size of the firms, in which the blockholders invest. Also, the high "average block overlap" suggest that the results, though significant, underestimate the real blockholders' effects; a more appropriate method could give more realistic results.

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## Appendix I: Data Collection process:

To complement the information, I had several interviews with Sven-Ivan Sundqvist to investigate more the shareholders' structure esp. of the first years of the sample and to identify the ultimate owner of such entries.

We use the following assumptions in deciding whether certain owners belong to a certain sphere:

I form spheres as defined by *SIS Ägarservice*. (However certain spheres are ignored because either they are not power spheres such as *Lastbilsägar Sfären* or *Utländska Ägare* or also because they have only one member in the period of study e.g. *Skandia Sfären*)

The composition of certain spheres is changed following the recommendations of Sir Sven-Ivan Sundqvist due to certain errors or misclassifications but also using information about the actual power structure.

The members of the same family investing in a one company during a certain year are assumed to form sphere unless they are explicitly separated by *SIS Ägarservice* in two different spheres.

A company established abroad (classified as part of *Utländska Ägare*) sometimes simultaneously belongs to another power sphere; I reclassify this company as member of the power sphere. (e.g. *IKEA Finance S/A* is changed from *Utländska Ägare* to *Kamprad Sfären*)

Some spheres changed names throughout the years, they are considered as a unique sphere (e.g. The *Stats Sfären* used to be called *Samhälls Sfären* and its members then were grouped under the shareholder *Svenska Staten*)

Use the previous and the following years (and sometimes the same year) in order to determine the sphere, to which a certain shareholder at a specific year.

Check the shareholders' composition of a certain blockholder (if it is a firm) in order to know whether it is influenced by another blockholder – who owns a controlling share in the former firm.

## Appendix II: Variables definition:

I stick to the definition of Cronqvist and Fahlenbrach (2007) whenever it does not lead to a distorted variable distribution to enhance comparability. It is assumed if not otherwise mentioned. The corporate variables used in this paper are defined as follows:

### Investment policies

- Investment is capital expenditures over lagged total assets. *Holmen and Högfeldt (2005)*
- R&D is the ratio of R&D expenditures over lagged total assets.

### Financial policies

- Leverage is long-term debt plus current liabilities divided by long-term debt plus current liabilities plus book value of common equity.
- Dividends/earnings is the ratio of the sum of common dividends and preferred dividends over earnings before depreciation, interest, and tax (EBITDA).
- *Cash holdings* is defined as cash and short-term investments over lagged total assets.

### Firm performance

- Return on assets is the ratio of EBITDA over lagged total assets.
- Tobin's Q is defined as the market value of assets divided by the book value of assets. The market value of assets equals the book value of assets plus the market value of common equity less the sum of the book value of common equity.

### Control Variables

- Total assets is defined as the natural logarithm of book assets.
- Cashflow is defined as Earnings before Interest, Taxes and Depreciation (EBITDA) divided by book value of total assets at the beginning of the year. *Holmen and Högfeldt (2005)*