

Stockholm School of Economics
Department of Accounting
Bachelor Thesis in Accounting and Financial Management
December 2022

Giants at Play

A study on the impact of institutional ownership on firm performance

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Abstract

This study examines whether changes in the level of institutional ownership impact the market value and operating performance of firms. This is done by testing three different hypotheses based on different institutional ownership characteristics on a sample of 197 Swedish large- and mid-cap listed companies between the years 2016-2021. Our results show no relationship between total and domestic institutional ownership and firm performance, a positive relationship between foreign and non-blockholding institutional ownership and firm performance, and a negative relationship between blockholding institutional ownership and market value. We first conclude that foreign and non-blockholding institutional ownership, in line with the active monitoring view and the findings on informational availability combined with the agency theory, are effective monitors of their investee firms. We also conclude that blockholding institutional owners, in line with the private benefits view, are ineffective monitors who decrease shareholder value. Our results bring nuance to previous literature and theory, suggesting that the research space would benefit from further research.

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Keywords: Institutional Ownership, Firm Performance, Blockholding, Agency Theory, Monitoring

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1. Introduction

1.1 Background

Modern corporate structures are characterized by complex structures consisting of many different stakeholders, all with different individual agendas. In each stakeholder's pursuit of their agenda there runs a risk of conflicting interests, this conflict of interest is commonly referred to as the agency problem. Berle and Means (1932) first examined these problems in the context of the separation of ownership (shareholders) and control (board or managers).

The literature on possible solutions to the agency problem is extensive and spans many decades. Agrawal & Knoeber (1996) argue that in the case of corporate control mechanisms as solutions for the agency problem, there are seven mechanisms worth considering, one of which being institutional shareholdings. Further, Gillan and Starks (2003) suggest that due to their growth, worldwide influence, and size of ownership, institutional investors have the potential to play an important role in the monitoring of investee firms. Their importance is largely suggested to be because they are among the few investors that despite high monitoring costs are incentivized to provide extensive monitoring of management and boards (Gillan and Starks, 2003).

Considering that institutional investors as a group of owners are inherently different as suggested by Ferreira and Matos (2008), our choice to study subgroups of institutional investors could provide insights into relationships otherwise not found. As Gillan and Starks (2003) suggest, the way an institutional investor impacts the corporate governance of an investee firm can be impacted, *inter alia*, by whether they are a blockholding investor as well as whether they are a foreign investor.

Previous studies have been made to empirically examine if institutional ownership can solve parts of the agency problem by regressing different variables of institutional ownership on different variables representing firm performance. Ferreira and Matos (2008) found evidence from a selected group of non-US countries that foreign and independent (pressure in-sensitive)¹

¹ Independent investors (pressure in-sensitive) are investors that are seeking to maximise the value of the firm, with few business ties to the firm. Dependent investor (pressure sensitive) are characterised by having many business ties with the firm, hindering them from monitoring in a value maximising way in fear of hurting the business relationship with the firm. Ferreira and Matos (2008) classify independent institutions as mutual fund

investors were effective monitors in the firms they invested in, showing a positive association with Tobin's Q, return on assets, and net profit margin and a negative association with capital expenditure. Cornett et al. (2007) found similar results on a sample of large US firms, showing that independent institutional investors were positively associated with industry-adjusted return on assets. With a different approach, Bjuggren et al. (2016) found somewhat contradicting evidence in a Swedish sample, showing that both foreign and domestic institutional investors had a positive association with investment performance, as measured by marginal Q. Lastly, with regards to studies made on blockholding institutional investors Bhojraj and Sengupta (2003) found evidence that bond ratings decreased and bond yields increased as the share of blockholding institutional ownership increased. However, Shleifer and Vishny (1986) and Huddart (1993) presented models that support the positive effect that blockholding investors could have on firm performance.

Based on the research described above, we find that there is a lack of literature examining the impact of foreign and blockholding institutional ownership in the case of large Swedish firms and on a recent dataset. We believe that the relevancy of Sweden as a test subject is strengthened by the suggestions of Agnblad et al. (2001), claiming that the ownership structure of Swedish companies is rather unique in that its concentration of ownership is high, something that is quite opposite to the Anglo-Saxon model. Since much of the previous literature is made on Anglo-Saxon countries, this makes Sweden a rather interesting subject of further research, even more considering that the Swedish financial markets have some indications of being underdeveloped with a strong, but decreasing, separation of ownership and control (Agnblad et al., 2001).

We further argue for the relevancy of Swedish companies as a subject of research considering that the Swedish capital market is of high and growing interest among foreign and institutional investors, with an increase in overall institutional ownership of public markets from 77% in 2007 to 89% in 2017, where foreign ownership account for 41% of the outstanding public equity in Sweden (The shareholding in Sweden, 2017). Sweden is also a large target for Foreign Direct Investments (FDIs), landing on the 14th spot for FDI attractiveness, with a close to all-time high FDI of 220 billion SEK in 2021 (Global rebound from crisis level, 2022).

managers and investment advisers, and grey institutions (pressure sensitive) as bank trusts, insurance companies, and other institutions.

1.2 Purpose

The purpose of our study is to examine how changes in levels of institutional ownership impact the performance of firms, measured both in operating performance and market value. Inspired by the research of Ferreira and Matos (2008), we have acknowledged that institutional investors are a heterogeneous group who inherently exhibit rather different behaviors, so in an attempt to advance the understanding of this relationship, we expand our research to encompass four subdivisions of institutional investors; foreign, domestic, blockholding and non-blockholding. Based on the implications of the agency theory, the effects of different ownership characteristics become an interesting topic for research. The theory states, inter alia, that the separation of ownership and control (owners and managers being different actors) leads to costs incurred to the owner since the manager will act in their own best interest above the best interest of the owner (Jensen and Meckling, 1976). Our research aims to find out if certain institutional investor groups are associated with increases in firm performance, which if true would indicate a reduction in agency costs and suggest improved monitoring. The desired outcome of this study is to provide the reader with a greater understanding of how differences in institutional ownership levels could lead to changes in performance in investee firms. Based on our reasoning above, our study aims to answer the following research question:

“Do increases in institutional ownership lead to improvements in firm performance, and is this relationship different based on the domicile and size of ownership of the institution”

1.3 Contribution

Our first contribution to the existing literature is that we increase the understanding of how institutional ownership impacts operating performance and market value on a more recent dataset than previous literature. We also contribute by examining the impact of both the domicile of investors and the size of their ownership on a sample of large- and mid-cap Swedish companies, something that has not been done before. Since Sweden is a country with a more consolidated ownership structure than the Anglo-Saxon law countries (Agnblad et al. 2001), on which most of the research is conducted, our study contributes to establishing a nuanced body of literature on the subject. Further, we contribute with the construction of new proprietary variables on a sample of Swedish firms, based on data provided by the Holdings database.

1.4 Delimitation

The sample used in this study is limited to Swedish large- and mid-cap firms excluding firms that were cross-listed with their main listing in another country than Sweden. We used panel data that spanned between the years 2016-2021.

Many of the previous studies on the topic of institutional ownership and firm performance have included an additional categorization of institutional investors, namely pressure-sensitive and pressure-insensitive investors (Ferreira and Matos, 2008; Cornett et al., 2007; Lin and Fu, 2017). Because of limitations to the databases we had access to and the ambiguity of categorization of pressure-sensitivity, we were unable to collect data on pressure-sensitive and in-sensitive institutional investors on our sample of Swedish firms. Therefore we have chosen to limit our study to categorizing institutional investors as either foreign, domestic, blockholding, or non-blockholding.

2. Literature and Theory

2.1 Theory

2.1.1 Agency Theory

Previous literature on the impact of institutional ownership on firm performance has used agency theory in an attempt to make sense of their results or to formulate their hypotheses (Lin and Fu, 2017; Bjuggren et al., 2016; Ferreira and Matos, 2008). Therefore we provide an overview of the agency theory and its implications to provide a theoretical background that can help us understand the relationship between institutional ownership and firm performance.

An agency relationship is defined as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent" (Jensen and Mackling, 1976). Accepting the economic assumption that humans act in predictable ways determined by what maximizes their utility, there is a case to be argued that agents will not always act in the best interest of principals. This leads to so-called "agency costs", a cost incurred on principals

that represent the loss in economic value as a consequence of the agents not making decisions that fully maximize the return of the principals (Jensen and Mackling, 1976).

An important cost tied to the principal-agent relationship is the monitoring expenditures incurred on the principal. In the case of institutional investors, the monitoring expenditures are the costs related to information gathering, and information vetting of, the managers, board, and the company as a whole. Since monitoring costs are reduced as information availability and quality are increased (Jensen and Meckling, 1976), we find the need to review the literature on institutional ownership and informational availability, to provide a deeper understanding of what factors could explain the relationship between institutional ownership and firm performance.

2.1.2 Institutional Investment and Information Availability

As mentioned above, increases in informational availability, and by extension decreases in monitoring costs, lead to increases in shareholder value. With theoretical support already established, we chose to extend our understanding by reviewing empirical research on the relationship between informational availability and shareholder value. Prior research from Penman (1980) suggests that voluntary disclosures of earnings forecasts provide relevant information to support investors in their investment decisions, so we chose to look at previous literature on voluntary disclosure. We then conclude this subsection by reviewing the literature on institutional ownership and voluntary disclosure to form an empirical base that we can use to support some of the suggestions of the agency theory.

Balakrishnan et al. (2014) examined the impact of voluntary disclosure on firm value, proxied by the book-to-market ratio. They found that an increase in the probability of voluntary disclosure was associated with a subsequent reduction in the book-to-market ratio. Balakrishnan et al. (2014) argued that these results showed the causal effect of increases in voluntary disclosure on firm value.

With the results of Balakrishnan et al. (2014) in mind, we review what previous literature has found on the relationship between institutional ownership and voluntary disclosure. Tsang et al. (2019) studied the impact of foreign and domestic institutional ownership on voluntary firm disclosures, proxied by managerial earnings forecasts. Their results found that foreign

institutional ownership led to increased likelihood and frequency of management forecasts along with a higher degree of informativeness. Domestic institutional ownership only had a positive association with the likelihood and frequency of management forecasts and a negative association with informativeness.

Boone and White (2015) also studied the relationship between institutional ownership and firm transparency and information production. In line with the methodology of Tsang et al. (2019), they used voluntary management disclosure as a proxy for information production. However, Boone and White (2015) further extended the scope of their study by also studying the volume of and level of agreement among analyst forecasts as well as the level of information asymmetry. The results were similar to those of Tsang et al. (2019), showing that institutional ownership was associated with higher levels of voluntary management forecast along with increased accuracy of these forecasts (Boone and White, 2015). The same results were found for analyst forecast volume and consensus as well as for the level of information asymmetry.

The results of Boone and White (2015) and Tsang et al. (2019) in combination with the findings of Balakrishnan et al. (2014) provide empirical evidence that increased institutional ownership leads to improved informational availability and by extension increased firm performance, providing a solid ground for our use of the agency theory in our hypotheses development.

2.1.3 Monitoring Views

Among the previous literature surrounding the impact that institutional investors can have on investee firms, the role played by institutional investors is commonly separated into 3 views on monitoring: 1) "active monitoring view", 2) "passive monitoring view" and 3) "private benefits view" (or "exploitative view") (Bhojraj and Sengupta, 2003; Elyasiani and Jia, 2010). The Active monitoring view proposes that institutional investors have three characteristics; they generally hold large proportions of the shares in a portfolio company, have greater expertise, and have lower monitoring costs relative to private shareholders (Bhojraj and Sengupta, 2003). Because of these characteristics, these investors have a strong incentive to actively monitor a company's performance and governance. The primary method by which institutional investors can actively monitor and impact the corporate governance of an investee firm is through voting at annual general meetings, divesting shares to show dissatisfaction, and meetings with management (Gillan and Starks, 2003). Under the active monitoring view, firm

performance is assumed to increase along with increases in ownership (Elyasiani and Jia, 2010).

The "passive monitoring view" suggests that institutional investors do not engage in the corporate governance of their investee firms. One reason could be that institutional investors are only out to passively trade stocks in firms to balance their portfolio and to gain short-term profits (Elyasiani and Jia, 2010). Under the passive monitoring view firm performance is not expected to be affected by increases or decreases in ownership (Elyasiani and Jia, 2010).

The last of the three hypotheses are the private benefits view. The private benefits view suggests that institutional investors will use their large influence over their investee firms to benefit privately at the expense of smaller shareholders with less influence (Bhojraj and Sengupta, 2003). In contrast to the active monitoring view, the private benefits view assumes that firm performance will decrease along with increases in ownership (Bhojraj and Sengupta, 2003).

2.2 Previous Literature

In section 2.1 we have presented theories that can help us understand how institutional ownership might affect firm performance. This section includes a review of the previous literature on the subject of institutional ownership and firm performance. The purpose of this review is to map out the research space we aim to contribute to.

2.2.1 Institutional Investors and Firm Performance

Institutional investors have been the subject of a large body of literature investigating their different effects on firms, in this section, we review the literature on their impact on firm performance. While investigating institutional investors, researchers have recognized that institutional investors are a heterogeneous group, and distinctions between the different types should be made to come to more accurate conclusions. Distinguishing between an institutional investor's country of origin (Ferreira, Matos 2008), business relations with the firm they invest in (Ferreira and Matos, 2008; Elyasiani and Jia), and size of the position in the firm (Bhojraj and Sengupta, 2003; Elyasiani and Jia, 2010) are some of the more common distinctions made on institutional investors.

Ferreira and Matos (2008) found that total, foreign and independent (pressure-insensitive) institutional ownership is positively associated with higher firm performance proxied by firm value (Tobin's Q), operating performance (ROA and net profit margin) and level of (over)investment (capital expenditure). No such significant relationship was found for domestic and dependent (pressure-sensitive) institutional ownership. Similarly, Hutchinson et al. (2015) found empirical evidence of a positive association between total institutional ownership and firm performance, also proxied by ROA and Tobin's Q. Cornett et al. (2007) also found results similar to Ferreira and Matos (2008), showing evidence of a positive association between both total and pressure-insensitive institutional ownership and operating cash flow returns, measured as industry-adjusted ROA. They also found no evidence of pressure-sensitive institutional ownership and firm performance. The results of these three studies all present the positive impact that institutional ownership could have on firm performance, categorized either by total, domicile, or pressure sensitivity. However, none of these papers included research on the impact of blockholding ownership, all of the studies were also conducted on either consolidated data on multiple countries or specific Anglo-Saxon countries².

In contrast to the results found by Ferreira and Matos (2008), Bjuggren et al. (2016) found no differences in the association between foreign and domestic institutional ownership and firm performance. Their results showed that both foreign and domestic institutional ownership led to increases in firm performance, a possible reason for this difference in findings could be the choice of the dependent variable. Most of the previous literature used ROA (or some adjusted version of ROA) and Tobin's Q, while Bjuggren et al. (2016) measured the impact on investment performance through the use of marginal Q as the dependent variable.

Our review of the literature shows that although there is almost a consensus regarding some aspects of the association between institutional ownership and firm performance, such as the impact of pressure-sensitive and pressure-insensitive investors, there is still contradicting evidence on the impact of the domicile of an institutional investor and firm performance. With our arguments presented in section 2.2.1 as support, we choose to assume that foreign institutional investors do have a greater association with firm performance than domestic institutional investors in our hypothesis development. Extending our review of the

² The studies on specific countries that we found were on the US and Australia.

characteristics of institutional ownership we present previous literature on the association between institutional ownership size and firm performance in the subsection below.

2.2.1.1 Institutional Ownership Size and Firm Performance

As an extension of their private benefits view, Bhojraj and Sengupta (2003) chose to study how large blockholding (ownership above 5%) impacts the monitoring abilities of institutional investors. According to their hypothesis, large blockholding investors could use their considerable influence to make governance decisions that benefit them personally at the expense of the investee firm (Bhojraj and Sengupta, 2003).

Bhojraj and Sengupta (2003) found evidence that increased institutional ownership had a positive association with bond ratings and a negative association with bond yields, supporting the active monitoring view. However, their results also found support for the private benefits hypothesis; they found that concentrated institutional ownership (blockholders with greater than or equal to 5% ownership of a company) decreased (increased) bond ratings (yields). Their results are therefore twofold, with overall increases in institutional ownership showing support for the active monitoring view, but with increases in blockholding institutional ownership showing support for the private benefits view. These results shed a light on the possibility of an inverted U-shaped relationship between the size of institutional ownership and firm performance. Bjuggren et al. (2016) found evidence of a similar relationship with their results indicating a marginally diminishing positive effect of overall institutional ownership on investment performance. These results show that the monitoring views are not mutually exclusive, hence why we are choosing to study this relationship ourselves, in the context of institutional ownership and firm performance.

As an extension of the active monitoring view, we look at the opposite effect that blockholding investors could have on firm performance. From their model that observed the effects and implications of a takeover attempt on the large and small shareholders of a firm, Shleifer and Vishny (1986) argue that blockholding shareholders stand to gain more from active monitoring than non-blockholding shareholders, and are therefore more willing to incur the monitoring costs needed to improve firm value. Similarly, Huddart (1993, p.1417) states that "Monitoring is necessary to induce managers to work hard; only concentrated share ownership induces shareholders to monitor", which is in line with the idea that blockholders increase firm

performance. The possibility of these results is also supported in theory by Bhojraj and Sengupta (2003) in their opposing "shared benefits hypothesis", where they argue that blockholding investors could indeed have positive (negative) effects on bond ratings (yields). Under the shared benefits view the positive effects of blockholding investors are said to have a spillover effect, thereby improving shareholder value for all investors and not only the blockholding ones.

Elyasiani and Jia (2010) found further support for the active monitoring view concerning blockholding investors. In their study, they divided the institutional ownership variable into two groups, one with ownership above 5% and the other below 5%. Their approach was however unique in that they incorporated the stability of institutional ownership as the independent variable in their model instead of the institutional ownership size. Their results showed support for the suggestions of Shleifer and Vishny (1986) and the active monitoring view relating to blockholding investors, showing a larger coefficient for ownership stability in the group of investors owning above 5% than for investors owning below 5% (Elyasiani and Jia, 2010). The authors argue that this indicates a larger incentive to monitor and/or greater ability to improve firm performance as ownership stability increases for investors owning large stakes of above 5% of the shares in a firm. Further, these findings suggest that the stability of institutional ownership could be an important explanation for the ability and willingness of blockholding institutional investors to effectively monitor.

The mixed results of previous research on blockholding institutional ownership and firm performance provide an opportunity for our study to contribute. There also seems to be a gap in the research regarding the specific effects of blockholding institutional ownership on ROA and Tobin's Q, two measures commonly used as proxies for firm performance as mentioned above.

2.3 Hypotheses

2.3.1 Total Ownership Hypothesis

Drawing from our theoretical background and literature review presented above, we can develop a framework for understanding the relationship between institutional ownership and firm performance. In line with the active monitoring view, which suggests that increases in ownership lead to a greater influence over high-level decisions as well as greater personal

benefits in case of increased firm performance, we conclude that there is expected to be a positive relationship between institutional ownership and firm performance. We draw the same conclusion from previous results on similar research that provides evidence for a positive relationship between institutional ownership and firm performance (Ferreira and Matos, 2008; Cornett et al., 2007; Hutchinson et al., 2015). We have therefore chosen to formulate our first hypothesis in the following way:

***H1:** Institutional ownership has a positive association with firm performance.*

2.3.2 Domicile of Investor Hypothesis

Based on results presented by Ferreira and Matos (2008) on the positive impact of foreign institutional ownership on firm performance along with the results of Tsang et al. (2019) showing that foreign institutional ownership leads to superior increases in informational availability, which according to the agency theory can lead to increases in firm performance, we have chosen to include the following hypothesis as well:

***H2:** The positive association between institutional ownership and firm performance is stronger for foreign institutional investors than for domestic institutional investors.*

2.3.3 Blockholding Hypothesis

In an attempt to further understand the relationship between different types of institutional ownership and firm performance, we have developed a third hypothesis regarding the size of ownership. Based on the results of Bhojraj and Sengupta (2003), firms with ownership above 5% should have a lower association with firm performance than firms with ownership below 5%. We formulate our third hypothesis in the following manner:

***H3:** The positive association between institutional ownership and firm performance is only present for non-blockholding institutional investors with blockholding institutional investors having a negative association with firm performance.*

3. Method

In this section, we present the models used to estimate the effect of institutional ownership on firm performance, along with the reasoning behind our choice of model. We then explain in detail the variables used in the model and finally the procedures for selecting our sample.

3.1 Research design

Given that our dataset has a time dimension and firm dimension we are working with panel data. Further, since some data points are missing, we have an unbalanced data panel.

Since both of the dependent variables we are testing are continuous we use a linear regression model to estimate firm performance based on institutional ownership. We use 5 different ordinary least squares (OLS) regression models to test our three different hypotheses, all with the same dependent and control variables³ but testing different institutional ownership variables. We make use of fixed effects in our model. Since each company is observed over time we have used time fixed effects to control for otherwise omitted unobservable variables that are constant across companies but vary over time, such as macroeconomic changes. Also, we use industry fixed effects⁴ to control for unobservable variables that vary between each industry but are constant over time that may affect our dependent variables.

In our models, "Performance" represents the two different dependent variables that will be tested, ROA and Tobin's Q. The institutional ownership variables in the different models are total institutional ownership (TIO), domestic institutional ownership (DIO), foreign institutional ownership (FIO), total ownership of institutional investors with over 5% ownership (Over5%), and total ownership of institutional investors with under 5% ownership (Under5%). Further, *i* is a subscript for firms and *t* is a subscript for time. "Controls" represent the sum of all control variables, "Industry" represents industry fixed effects and "Time" represents time fixed effects. The control variables used are a combination of firm-level financial variables and governance-related variables. We go into more detail on the choice and nature of the variables in section 3.2.

³ All control variables are the same except for book-to-market which was only used when regressing with ROA.

⁴ The broader "Sector" categorization on the Holdings database was used for our industry classification.

3.1.1 Models

3.1.1.1 Hypothesis 1

Model 1:

$$Performance_{it} = \beta_0 + \beta_1 TIO_{it} + \sum Controls_{it} + Industry + Time + \varepsilon_{it}$$

3.1.1.2 Hypothesis 2

Model 2:

$$Performance_{it} = \beta_0 + \beta_1 DIO_{it} + \sum Controls_{it} + Industry + Time + \varepsilon_{it}$$

Model 3:

$$Performance_{it} = \beta_0 + \beta_1 FIO_{it} + \sum Controls_{it} + Industry + Time + \varepsilon_{it}$$

3.1.1.3 Hypothesis 3

Model 4:

$$Performance_{it} = \beta_0 + \beta_1 Over5\%_{it} + \sum Controls_{it} + Industry + Time + \varepsilon_{it}$$

Model 5:

$$Performance_{it} = \beta_0 + \beta_1 Under5\%_{it} + \sum Controls_{it} + Industry + Time + \varepsilon_{it}$$

3.2 Variables

3.2.1 Dependent Variables:

To measure firm performance we use Tobin's Q and ROA. Tobin's Q tells us if a firm is over or undervalued compared to its intrinsic value by measuring the replacement cost of total assets, and can thus be used as a proxy for firm valuation. Sarkissian and Schill (2006) argue that the valuation increase in firms that come with foreign equity listings is not permanent. Since firms that are listed on two or more stock exchanges are common for large- and mid-cap Swedish

firms⁵, we want to make sure that the valuation increase stems from effective monitoring of institutional investors, rather than being transitory increases. To complement Tobin's Q we also use the profitability metric ROA as a proxy for firm performance measure if institutional investors also have an impact on the long-lasting operating performance of the firm. The use of both Tobin's Q and ROA as metrics for firm performance is common in past literature (Ferreira and Matos, 2008; Hutchinson et al., 2015; Elyasiani and Jia, 2010).

Return on Assets

Return on assets is calculated as follows:

$$\text{Net Income} / ((\text{Total Assets} + \text{Total Assetst+1}) / 2)^6$$

Tobin's Q

Following (Ferreira and Matos, 2008) Tobin's Q is calculated as follows:

$$(\text{Book value of total assets} + \text{Market Value of equity} - \text{Book value of equity}) / \text{Book value of total assets}^7$$

3.2.2 Institutional Ownership Independent Variables:

Domestic Institutional Ownership (DIO): Following (Ferreira and Matos, 2008), domestic institutional ownership is calculated as the sum of holdings of institutional investors domiciled in Sweden, as a percentage of the market capitalization of the firms.

Foreign Institutional Ownership (FIO): Following (Ferreira and Matos, 2008), foreign institutional ownership is calculated as the sum of holdings of institutional investors domiciled in other countries than Sweden, as a percentage of the market capitalization of the firms.

Total ownership of institutional investors with over 5% ownership (Over5%): Following Bhojraj and Sengupta (2003) Over5% is calculated as the sum of holdings of institutional investors that own 5% or more of total market capitalization, as a percentage of the market capitalization of the firms.

⁵ When conducting a screen in Capital IQ, a majority of the firms on the Nasdaq Stockholm stock exchange are also listed in Germany, the UK or the US.

⁶ Net income (item (IS) - 15) and total assets (item 1007) are both taken from Capital IQ.

⁷ Total assets (item 1007), Market value of equity (item 100054) and book value of equity (item 1275) are all taken from Capital IQ.

Total ownership of institutional investors with less than 5% ownership (Under5%):

Following Bhojraj and Sengupta (2003) Under5% is calculated as the sum of holdings of institutional investors that own less than 5% of total market capitalization, as a percentage of the market capitalization of the firms.

3.2.3 Firm-level Control Variables:

Firm size: Following Elyasiani and Jia (2010) we use a proxy for firm size which is calculated by taking the log of the book value of total assets⁸. Firm size is associated with firm performance in previous literature (Cornett et al., 2007), which is why we have chosen to include it as a control variable in our model.

Leverage: Following Ferreira and Matos (2008) we control for the leverage of a firm. Leverage is calculated as the ratio between the book value of total debt and the book value of total assets: Book value of total debt/ Book value of total assets⁹.

Book to market: Following Ferreira and Matos (2008) we are including the book-to-market ratio as a control variable only for ROA. Book to market is calculated by taking the log of the ratio between the book value of total assets and the market capitalization¹⁰.

Revenue Growth: Similar to existing literature, we use revenue growth as a control variable (Maury and Pajuste, 2005). Revenue growth is calculated as the revenue in year_t divided by the revenue in year_{t-1}¹¹.

3.2.4 Governance Control Variables

Since our hypotheses' are drawn from agency theory and the monitoring views, we have chosen to use these governance control variables with the intent to isolate the effect that institutional ownership has on firm performance through its use of monitoring.

⁸ Total assets are taken from Capital IQ (item 1007).

⁹ Total debt (item 4173) and total assets (item 1007) are both taken from Capital IQ.

¹⁰ Total debt (item 4173) and total assets (item 1007) are both taken from Capital IQ.

¹¹ Revenue is taken from Capital IQ (item 112)

Board size: Board size is measured as the number of board members governing a firm. We followed Cornett et al. (2015) in using board size to control for possible effects that board size could have on firm performance. According to Jensen (1993) small boards (<7) can help improve firm performance, arguing that large boards are less able to control the CEO and take necessary governance measures since open disagreements become too costly.

CEO/Chairman Duality: Following Cornett et al. (2007) we have included a control variable for instances where the same individual holds both the position of the CEO and Chairman of a firm. The control variable is a dummy variable with the value 1 representing the occurrence of CEO/Chairman duality and 0 representing no CEO/Chairman duality. Jensen (1993) argues that the boards of large corporations suffer from severe limitations that cause informational problems. One main limitation is that when the CEO is responsible for determining the agenda and providing information to the board. This inhibits even the best board members from effectively monitoring the CEO and the upper management (Jensen, 1993). The overall risk of combining the CEO and Chairman positions is the concentration of power that leads to the board being unable to make necessary changes in case of a failing CEO (Jensen, 1993).

Independent board: Hutchinson et al. (2015) and Cornett et al. (2007) both include a control variable for the percentage of independent board members. The data we gathered on board member independence followed the Swedish Corporate Governance Board's definition, stating that: "A member of the board who is employed by or is a board member of a company which is a major shareholder is not to be regarded as independent" (Swedish Corporate Governance Code, 2020). There is some research showing that independent board members are better at monitoring firms, Weisbach (1988) shows some evidence of this by finding that firm performance has a higher correlation with CEO turnover for firms where the boards consist of a majority of independent board members. Further, there is evidence showing that appointments, or proportions, of independent board members (outside directors), can increase firm value (Rosenstein and Wyatt, 1990; Byrd and Hickman, 1992).

Average board tenure: Average board tenure is defined as the average number of years that the board members have had their current seats on the board. A recent study by Huang and Hilary (2018) studied the impact of board tenure on Tobin's Q and ROA and found evidence of an inverted U-shaped relationship, indicating that firms with low board tenure improve firm

performance as they sit longer whilst firms with high board tenure decrease firm performance as they continue tenure.

3.3 Sample Selection

3.3.1 Data Collection

For our empirical study, we used a combination of 3 datasets: Holdings, Capital IQ, and Refinitiv Eikon.

The database Holdings was used to get data on the ownership of all the firms. We drew our sample by first filtering for large- and mid-cap firms on the Nasdaq Stockholm stock exchange. From that first selection, we got 267 firms. Next, we filtered for the owner type and selected "Fund Companies", "Pension Insurance", "Governments" and "Foundations". Thus we excluded "Investment & PE" and "Others" from the ownership data from holdings. In the "Others" filter different types of owners were grouped, such as brokerage companies. However, the predominant type of owners in that group were private investors, therefore we excluded them. When it comes to Investment & PE we excluded them based on our definition of institutional investors¹². Since the Holdings database does not have a function to extract multiple data points at the same time, we repeated this filter application process for all 267 firms in the list, extracting one excel file for each year available for a firm and ending up with 1410 files.

The database Capital IQ was used to extract all financial data and we used the "Screening" tool to get the company list we wanted. Since we sought Swedish firms our first criterion was that the exchange country/region should be Sweden. The second criterion was that it should be listed on OMX Nordic Exchange Stockholm. We also specified "Primary Listings" to only select firms for whom the Stockholm stock exchange was their primary listing. We reason that firms are primarily associated with the country of their primary listing and therefore we make our categorization of the domicile of a firm more accurate. The third criterion was to limit our sample to companies with a market cap equal to or greater than 150 million euros, to select the large- and mid-cap companies. From that selection, we got a total of 286 companies.

¹² Following (Ferreira and Matos 2008), we define Institutional investors as professional money managers with discretionary control over assets. Since investment & PE included closed-end investment funds, we chose not to include the category.

To gather data on governance variables we used the Eikon database, where we used a similar "Screening" tool and applied the equivalent criteria as used in Capital IQ. The resulting sample included 294 companies. The discrepancy between the number of companies between the two lists can be attributed to fluctuations in market capitalizations between the two points in time when they were extracted.

3.3.2 Sample Construction

Before we could merge our data into one master file that would be used for our regressions some modifications to the raw data were required. We first had to create the variables we needed from the raw data that we had downloaded from holdings, for this we used Python. The code first put together all 1410 excel files into one and then calculated the desired variables following the methodology of Ferreira and Matos (2008) and Bhojraj and Sengupta (2003). Lastly, we formatted our data to be in the desired wide format.

Next, we calculated the financial and control variables as described in section 3.2 from the extracted Capital IQ data. Before converting the wide data from Capital IQ and Eikon into the long format, we had to sort the firms from the different databases. Initially, because the names of the companies extracted from holdings were different from Capital IQ and Eikon, we had to match the company names between the 3 lists. We then merged all the lists and dropped companies that had missing information from one database, resulting in 43 removed companies. Finally, we decided to remove financial companies from our sample because of their unique financial structure, following Ferreira and Matos (2008) and Fama and French (1992)¹³. This was done by filtering for financial companies in holdings and manually removing them from the merged list we had. The removal of financial firms accounted for 27 firms, therefore we ended up with a sample of 197 companies. Once we had the same companies in every list, we used the pivot table in excel to transform the wide data extracted from Capital IQ and Eikon into long data. Finally, we combined the 3 data sets into a single master excel file.

¹³ Fama & French state (1992, p.429) "We exclude financial firms because the high leverage that is normal for these firms probably does not have the same meaning as for non-financial firms, where high leverage more likely indicates distress".

Table 1
Sample Construction Process

Sample construction steps	Number of firms
Download data from Eikon	294
Download data from Capital IQ	286
Download data from Holdings	267
Less: Firms that were missing from one data base or did not have the Stockholm Stock Exchange as their primary listing (from the holdings database)	(43)
Less: Financial firms	(27)
Final sample	197

Before doing our regression we also decided to winsorize some of our variables. We chose to winsorize instead of truncating because we believe that the outliers truly are part of the distribution but we still want to reduce the skewness of our data. For example, since revenue growth_t is calculated by dividing revenue_t by revenue_{t-1} , if for some reason the firm underperformed a year with revenues close to zero, the revenue growth of the next year would be unreasonably high, however, the firm would still have growth in revenues so we would want to keep that data point. We winsorized at a 5% level for ROA, revenue growth, and leverage since they all presented skewness. Tobin's Q was winsorized at the top 10% since it was extremely skewed to the right.

4. Findings and Analysis

4.1 Description of Data

4.1.1 Description of Statistics

Table 2 provides descriptive statistics on our variables. The variables are separated into four different categories; firm performance variables (dependent variables), institutional ownership variables (independent variables), firm-level variables (control variables), and corporate governance variables (control variables). The variable for total institutional ownership (TIO) has a mean of 43.4%, this variable is split into sub-variables for foreign (FIO) and domestic (DIO) ownership as well as split based on ownership by institutions owning above 5% (Over5%) or below 5% (Under5%) of the outstanding shares. Looking at the ownership from foreign or domestic institutions we see that domestic institutional investors (24.7%) on average

hold a larger share of the sample companies than foreign institutional investors (18.7%). When it comes to the size of the institutional investors' holdings, we see that the level of institutional ownership held by investors holding less than 5% of the shares outstanding (28.3%) is almost twice the level held by investors holding more than 5% of the shares outstanding (15.1%). The standard deviations of the ownership sub-variables FIO, DIO, and Over5% are around the same level between 0.125 - 0.130, however, Under5% has a standard deviation that is higher at 0.151.

To understand how our results may differ from previous literature we are also presenting some comparisons of the descriptive statistics found in our sample. Looking at the institutional ownership variables, we see that TIO, FIO, and DIO all have more than 5 times higher values than those shown in Ferreira and Matos (2008), however, we see that Elyasiani and Jia (2010) showed similar values of TIO. Looking at Over5% we see that the level found in our sample is around half that found in Bhojraj and Sengupta (2003).

4.1.2 Correlation and Multicollinearity

Table 3 and 4 show the correlation between our variables and the results from the VIF test on our model.

We observe that the correlation coefficients between ROA and all control variables to be relatively low. We observe that the correlation coefficient between Tobin's Q and leverage (-0.52) and firm size (-0.52) to be moderate and statistically significant, which supports our choice to include them as control variables. The lesser correlation of the other control variables with the dependent variables is unexpected, however we opt to use them following our reasoning in section 3.2 and past literature. Under5%, leverage, book-to-market, board size and firm size are all moderately correlated with some independent variables. However, looking at the VIF test results we see that our variable's highest value is well below the cutoff point of 10 which means multicollinearity is not seen as an issue in our research.

Table 2
Summary of Statistics

Variables	Mean	Median	Std Dev	Min	Max	N	0.05	0.25	0.75	0.95
Firm performance variables										
ROA	0.0667	0.0639	0.0638	-0.0861	0.1982	1112	-0.0855	0.0364	0.0985	0.1981
Tobin's Q	2.4229	1.7754	1.4946	0.6595	6.0198	1041	0.9966	1.2783	3.0257	6.0198
Institutional ownership variables										
TIO	0.4341	0.4477	0.1892	0.0011	0.8742	1035	0.1028	0.2925	0.5642	0.7478
FIO	0.1873	0.1666	0.1296	0.0000	0.5874	1035	0.0078	0.0895	0.2739	0.4330
DIO	0.2467	0.2388	0.1262	0.0011	0.7341	1035	0.0431	0.1640	0.3244	0.4659
Over5%	0.1510	0.1315	0.1254	0.0000	0.6422	1035	0.0000	0.0561	0.2350	0.3800
Under5%	0.2831	0.2724	0.1550	0.0011	0.7471	1035	0.0583	0.1548	0.3929	0.5524
Firm-level variables										
RevG	1.1475	1.1007	0.2076	0.8534	1.7155	1104	0.8536	1.0272	1.2078	1.7145
Lev	0.2648	0.2570	0.1686	0.0010	0.5798	1138	0.0010	0.1340	0.3774	0.5798
BM	1.0271	0.8308	0.8543	0.0148	6.8960	1041	0.1199	0.3994	1.4226	2.5917
Fsize	3.8264	3.8072	0.7604	0.9047	5.7200	1138	2.5780	3.2880	4.3670	5.0590
Corporate governance variables										
Bsize	8.5700	8.0000	2.5661	4.0000	18.0000	667	5.0000	7.0000	10.0000	13.0000
IndBM	66.2800	66.6700	19.3025	0.0000	100.000	667	37.5000	50.0000	80.9100	100.000
AvgBT	6.6368	6.0192	2.8428	0.8214	17.6667	667	2.8350	4.6940	8.1900	12.3270
CEOCD	0.1259	0.0000	0.3320	0.0000	1.0000	667	-	-	-	-

Note: This table shows a summary of statistics for our firm performance (ROA, Tobin's Q), institutional ownership (TIO, FIO, DIO, Over5%, Under5%), firm-level (RevG, Lev, BM, Fsize) and corporate governance (Bsize, IndBM, AvgBT, CEOCD) variables. Section 3.2 provides definition of variables.

4.2 Hypothesis Testing

To test our hypothesis we ran a multitude of regressions on different dependent and independent variables of which the results are presented here. We also administered a multitude of tests to check the adequacy of our model. We first tested for cross-sectional dependency using the Breusch-Pagan LM test and the PesaranCD test to see if residuals are correlated across firms over time, both of which indicated that cross-sectional dependence was present. To test for heteroskedasticity we used the Breusch-Pagan test. The test returned a p-value rejecting the null, indicating heteroskedasticity. We also tested for serial correlation using the Breusch-Godfrey/Wooldridge test which came out positive, indicating that our variables are correlated with themselves over time. To mitigate all of these problems, we clustered our standard errors at the firm level to account for residual correlation within firms for multiple years.

We also test for stationarity using the Augmented Dickey-Fuller test. The test returns a p-value rejecting the null hypothesis, indicating that we have stationarity. Finally, we test endogeneity in our model with a Hausman Specification test, between the fixed effects and random effects models. The null hypothesis tells us that the unique errors are not correlated with the regressors which would mean exogeneity in our model, and the random effects model would be preferred. However, in our test, we reject the null hypothesis suggesting that the error terms of our model are correlated with the independent variables and that we have endogeneity in the model. This is to be expected, something we discuss further in section 5.2.2. Finally, we show the results of our regressions without the use of industry fixed effects in table 5 and 6. They are consistent with the significance levels of our regressions shown in tables 7, 8, and 9, which included both time and industry fixed effects, indicating that there is some robustness to our models.

4.2.1 Hypothesis 1

Table 7 presents the results of our panel regressions with TIO as the independent variable, where we look at the association between the total amount of institutional ownership and firm performance as measured by ROA as a proxy for operating performance and Tobin's Q as a proxy for firm value. The coefficients are positive for both ROA and Tobin's Q but they don't show any significance, therefore we find no evidence that the total amount of institutional ownership in a firm is positively related to firm performance.

Table 7**Institutional Ownership and Firm Performance: Total Institutional Ownership**

	ROA	Tobin's Q
TIO	0.030 (0.020)	0.573 (0.584)
RevG	0.026 (0.020)	1.253*** (0.337)
Lev	-0.010 (0.038)	-2.513** (1.034)
BM	-0.026*** (0.006)	
Fsize	-0.008 (0.008)	-0.751*** (0.237)
Bsize	0.001 (0.002)	-0.055 (0.048)
IndBM	-0.0002 (0.0002)	-0.005 (0.005)
AvgBT	0.001 (0.001)	0.063** (0.032)
CEOCD	0.003 (0.012)	0.384 (0.248)
Observations	653	653
R-square	0.225	0.465

Note: This table presents the results of the OLS regression of ROA and Tobin's Q on the explanatory variable total institutional ownership (TIO). Industry fixed effects and time fixed effects are used in the regression model. Clustered standard errors at the firm level are presented in parentheses. Firm-level control variables include revenue growth (RevG), leverage (Lev), book-to-market (BM) and firm size (Fsize). Governance control variables include board size (Bsize), independent board members (IndBM), average board tenure (AvgBT) and CEO-chair duality (CEOCD). Section 3.2 provides definition of variables. The sample consists of Swedish large and mid cap companies, between 2016 and 2021. Financial firms are omitted from the sample. Significance levels are presented in the following way: ***p<0.01, **p<0.05, *p<0.1

4.2.2 Hypothesis 2

Table 8 presents the results from our panel regressions when using DIO and FIO as independent variables, where we investigate the potential difference in the relationship between the amount of domestic and foreign institutional ownership on firm performance. The regression results

for the DIO variable show a negative coefficient sign for both ROA and Tobin's Q. However, the coefficients are not statistically significant and therefore no evidence is found regarding the relationship between DIO and firm performance.

Looking at the regression results when using the FIO variable the coefficients are both positive for ROA and Tobin's Q. They are both statistically significant below the 5% level, suggesting that foreign institutional ownership has a positive effect on the operating performance and firm value of companies in Sweden. The fact that ROA is statistically significant also suggests that the increases in firm performance are not transitory. Interpreting these results we further see that the effect of increased foreign ownership in Swedish firms is economically significant. If foreign institutional ownership increases by one percentage point, ROA will increase by 0.00095, or 0.095 percentage points, and Tobin's Q will increase by 0.02401. This represents 1.42% of the mean value of ROA in our sample, and 1% of the mean value of Tobin's Q in our sample. Since our results are only significant for foreign Institutional ownership, no comparison between the relative effects of foreign and domestic institutional ownership can be made, and no conclusion regarding our second hypothesis can fully be drawn.

As for our firm-level control variables, we see that revenue growth is positive and statistically significant for both regressions with DIO and FIO when it comes to Tobin's Q but no significance is found for ROA. We also see that the book-to-market variable is statistically significant for both DIO and FIO and that it has a negative relationship with ROA. These findings support our choice to include these as control variables since they affect our dependent variables.

Firm size is statistically significant for both regressions testing DIO and FIO with regards to Tobin's Q but not for ROA in the case of DIO, and only at a 10% significance level for FIO. We further see that the effect is negative for both ROA and Tobin's Q. We also see that average board tenure and CEO chair duality are significant at a 10% level for Tobin's Q in the case of DIO, and that average board tenure is statistically significant at a 5% level of Tobin's Q in the case of FIO. Regarding our governance control variables, their effects are much smaller than the effects of the firm-level control variables. This suggests that corporate governance has less impact on firm performance than financial firm characteristics, which is expected since financials have a direct connection to firm performance that corporate governance factors do not have.

Regarding our R-squared, our model explains 22.4% of our observed variables for ROA and 47.1% for Tobin's Q when testing DIO, and 24.8% of our observed variables for ROA and 49.1% when testing FIO.

Table 8

Institutional Ownership and Firm Performance: Domestic and Foreign

	ROA		Tobin's Q	
DIO	-0.033 (0.023)		-1.302 (0.830)	
FIO		0.095*** (0.032)		2.401** (0.946)
RevG	0.022 (0.020)	0.030 (0.019)	1.168*** (0.318)	1.324*** (0.325)
Lev	-0.010 (0.037)	-0.010 (0.034)	-2.557*** (0.986)	-2.339** (0.975)
BM	-0.027*** (0.005)	-0.023*** (0.005)		
Fsize	-0.005 (0.007)	-0.014* (0.008)	-0.704*** (0.210)	-0.910*** (0.247)
Bsize	0.001 (0.002)	0.001 (0.002)	-0.053 (0.048)	-0.045 (0.046)
IndBM	-0.0001 (0.0002)	-0.0003 (0.0002)	-0.003 (0.005)	-0.007 (0.004)
AvgBT	0.001 (0.001)	0.002 (0.001)	0.053* (0.030)	0.068** (0.031)
CEOCD	0.004 (0.013)	0.002 (0.012)	0.403* (0.241)	0.322 (0.245)
Observations	653	653	653	653
R-square	0.224	0.248	0.471	0.491

Note: This table presents the results of the OLS regression of ROA and Tobin's Q on the explanatory variables domestic institutional ownership (DIO) and alternatively foreign institutional ownership (FIO). Industry fixed effects and time fixed effects are used in the regression model. Clustered standard errors at the firm level are presented in parentheses. Firm-level control variables include revenue growth (RevG), leverage (Lev), book-to-market (BM) and firm size (Fsize). Governance control variables include board size (Bsize), independent board members (IndBM), average board tenure (AvgBT) and CEO-chair duality (CEOCD). Section 3.2 provides definition of variables. The sample consists of Swedish large and mid cap companies, between 2016 and 2021. Financial firms are omitted from the sample. Significance levels are presented in the following way: ***p<0.01, **p<0.05, *p<0.1.

4.2.3 Hypothesis 3

Table 9 presents our results for the regressions with Over5% and Under5% respectively, where we test the third hypothesis.

The results of our regression on the Over5% variable show that the coefficients are negative for both ROA and Tobin's Q, but are only statistically significant for Tobin's Q. Regarding firm valuation, these findings support parts of our third hypothesis in that blockholding investors will have a negative association with firm performance, consistent with the private benefits view and in line with the findings of Bhojraj and Sengupta (2003).

The results of the regression model on institutional non-blockholding using Under5% as our independent variable show that the coefficients are positive and statistically significant for both ROA and Tobin's Q. These results are in line with the active monitoring view, and as with the regression on Over5% are consistent with the findings of Bhojraj and Sengupta (2003).

We can interpret our significant results in the following way; increases in total ownership by institutional blockholders, either by present blockholders increasing their ownership or by the emergence of new institutional investors making it over the 5% mark, will have a negative impact on firm performance. Increase in total ownership for the group of institutional non-blockholders that own less than 5%, either by increased ownership of current institutional investors, by the emergence of new Institutional investors in the firm, or by institutional blockholders reducing their position and diving below the 5% mark, will all increase the value as well as the operating performance of the firm.

As we saw in table 8 with foreign institutional investors, the effects of the size of institutional investors are economically significant. For a 1 percentage point increase in ownership by institutional non-blockholders ROA will increase by 0.00089, or 0.089 percentage points. This represents 1.33% of the average ROA of our sample. As for Tobin's Q, a 1 percentage point increase will increase Tobin's Q by 0.03018. This represents 1.24% of the average Tobin's Q in our sample. For a 1 percentage point increase in ownership for the group of Institutional investors over 5%, Tobin's Q will decrease by 0.02159. This represents 0.89% of the average Tobin's Q in our sample.

Regarding our control variables, we see that revenue growth is positive and significant, and leverage is negative and significant for Tobin's Q but not for ROA for both Over5% and Under5%. Book to market is negative and significant for ROA for both Over5% and Under5%. This is consistent with our regressions when looking at DIO and FIO. Firm size is negative and significant for Tobin's Q for both Over5% and Under5%, but only for ROA regarding Under5%. Average board tenure is positive and significant for Tobin's Q at a 5% significance level when testing Under5%, but only a 10% significance level for the Over5% variable. Independent board members coefficient is negative for Tobin's Q regarding Under5%, however only at a 10% significance level. As we saw in the regressions with DIO and FIO, the corporate governance control variables have a lesser impact than the firm-level financial variables.

Similar to the regressions with DIO and FIO, Our R-square is 22.3% and 24.5% when regressing Over5% and Under5% respectively on ROA, and is 48.7% and 51.3% when regressing Over5% and Under5% respectively on Tobin's Q. These values are similar to the R-Square value in table X when testing DIO and FIO.

Table 9**Institutional Ownership and Firm Performance: Blockholders and Non-Blockholders**

	ROA		Tobin's Q	
Over5%	-0.029 (0.025)		-2.159*** (0.697)	
Under5%		0.089*** (0.027)		3.018*** (0.764)
RevG	0.022 (0.020)	0.030 (0.020)	1.114*** (0.324)	1.314*** (0.328)
Lev	-0.010 (0.038)	-0.009 (0.036)	-2.417** (1.007)	-2.092** (1.011)
BM	-0.026*** (0.006)	-0.021*** (0.006)		
Fsize	-0.007 (0.008)	-0.020** (0.009)	-0.846*** (0.218)	-1.161*** (0.268)
Bsize	0.001 (0.002)	0.001 (0.002)	-0.054 (0.047)	-0.045 (0.046)
IndBM	-0.0001 (0.0002)	-0.0003 (0.0002)	-0.003 (0.005)	-0.008* (0.004)
AvgBT	0.001 (0.001)	0.002 (0.001)	0.052* (0.029)	0.072** (0.029)
CEOCD	0.004 (0.013)	0.002 (0.012)	0.405 (0.247)	0.305 (0.259)
Observations	653	653	653	653
R-square	0.223	0.245	0.487	0.513

Note: This table presents the results of the OLS regression of ROA and Tobin's Q on the explanatory variables total ownership of institutional investors with over 5% ownership (Over5%) and alternatively total ownership of institutional investors with under 5% ownership (Under5%). Industry fixed effects and time fixed effects are used in the regression model. Clustered standard errors at the firm level are presented in parentheses. Firm-level control variables include revenue growth (RevG), leverage (Lev), book-to-market (BM) and firm size (Fsize). Governance control variables include board size (Bsize), independent board members (IndBM), average board tenure (AvgBT) and CEO-chair duality (CEOCD). Section 3.2 provides definition of variables. The sample consists of Swedish large and mid cap companies, between 2016 and 2021. Financial firms are omitted from the sample. Significance levels are presented in the following way: ***p<0.01, **p<0.05, *p<0.1.

5. Discussion

5.1 Evaluation of Results

The results from our first regression found no significant relationship between institutional ownership and both ROA and Tobin's Q, these findings did not support our first hypothesis H1. Our results on the second regression are partly in line with our second hypothesis H2, with a positive association between foreign institutional ownership and both measures of firm performance, and no association between domestic institutional ownership and firm performance. Our third regression found mixed results with blockholding institutional ownership having a negative relationship with Tobin's Q, but no significant relationship with ROA. Non-blockholding institutional ownership had results consistent with H3, with a positive relationship with both measures of firm performance.

5.1.1 Total Ownership Hypothesis

As mentioned above, the results for our first hypothesis were not in line with our expectations. Our findings did not support the results of Ferreira and Matos (2008), Hutchinson et al. (2015), and Cornett et al. (2007), all of which showed a significant positive relationship between total institutional ownership and firm performance. Our results are also contrary to the implications of the agency theory, the active monitoring view, and the suggestions of Boone and White (2015), all of which either directly or indirectly argues for the positive effect on firm performance caused by increases in total institutional ownership. Since we are unable to draw any conclusions about the existence of a relationship from these insignificant results, we will instead discuss further possible reasons behind this discrepancy based on our model in section 5.2 and relating to our sample in section 5.3. Still, these results show us that in our limited sample of large- and mid-cap listed Swedish companies, there is no evidence of a relationship between total institutional ownership and firm performance. This could indicate that the relationships previously found are not universal.

5.1.2 Domicile of Investor Hypothesis

Although we did not find results fully in line with our second hypothesis¹⁴, we did find evidence of the first part of the hypothesis, the relationship between foreign institutional ownership and firm performance. These results support the findings of Ferreira and Matos (2008) along with the indirect implications of the results by Tsang et al. (2019) in combination with the agency theory. The results could therefore be seen as evidence of the ability of foreign institutional investors to improve monitoring, in line with the active monitoring view. As explained by Ferreira and Matos (2008), characteristics inherent to foreign institutional investors, such as fewer business ties with investee firms, could lead to them being able to more effectively monitor said firms without feeling pressured by the management to act in their best interest instead of the shareholders'. The increased firm performance could also be explained by the fact that foreign institutional investors tend to pressure firms to reduce information asymmetry, which leads to improved monitoring, as the research by Tsang et al. (2019) suggests. A further argument for why these results were present in our sample is that Sweden has a different legal system than the US and UK¹⁵, two of the countries where large amounts of institutional ownership originate from¹⁶, which according to Tsang et al. (2019) amplifies the effect they found in their paper.

Our results were on the other hand somewhat contrary to the results of Bjuggren et al. (2016), who found a similarly significant relationship between foreign and domestic institutional ownership and investment performance. Since their study was conducted on a similar sample of Swedish firms, our results provide a notable contrast to their findings. However, the comparison of our results is limited by their choice of using marginal Q, as a proxy for investment performance, as the dependent variable rather than ROA or Tobin's Q.

5.1.3 Blockholding Hypothesis

Since previous literature and theory were inconclusive concerning the impact of blockholding and non-blockholding institutional ownership on firm performance, our mixed results provide an interesting contribution to previous work. With our results on blockholding institutional

¹⁴ Since no significant results were found for the relationship between domestic institutional ownership, we are unable to draw a conclusion regarding the comparison between the effects of foreign and domestic institutional ownership.

¹⁵ Sweden has a civil law legal system whilst the US and UK have a common law legal system.

¹⁶ For example, in our sample 42% of the average FIO variable comes from US institutional investors.

ownership showing an insignificant relationship with ROA and a significant and negative relationship with Tobin's Q, our findings are somewhat in line with those of Bhojraj and Sengupta (2003) and the private benefits hypothesis. Since Tobin's Q measures market value, a possible conclusion could be that blockholding institutional ownership can be perceived by other investors to be ineffective monitors and therefore decrease performance. Since the results for ROA were insignificant, there is no evidence that increases in the level of institutional blockholdings have any impact on the operating performance, and thus the long-term profitability of the firm. Further, our results provide contrast to the findings of Shleifer and Vishny (1986), Huddart et al. (1993), and Elyasiani and Jia (2010) all suggest that large shareholding should improve firm performance by their higher willingness to incur monitoring costs to improve shareholder value.

Worth noting is that neither of these studies conducted research in the same manner as us. Shleifer and Vishny (1986) and Huddart et al. (1993) both constructed models to study the impact of one large investor, while (Elyasiani & Jia, 2010) looked at the impact of investor stability on firm performance with a division in their sample based on the 5% cutoff point. A possible explanation for our results contrasting the findings of Shleifer and Vishny (1986) and Huddart et al. (1993) could be that our research includes multiple large shareholders instead of one large shareholder. It may be the case that the many blockholding shareholders each rely on the others to incur the monitoring costs, and thus none of them end up effectively monitoring the investee firm. Since our empirical results differ from those of Elyasiani and Jia (2010), conducting a similar study on Swedish firms would be an interesting topic for future research to shed more light on the impact that the stability of institutional ownership can have on the ability and willingness of blockholders to effectively monitor.

In support of the findings of Bhojraj and Sengupta (2003) our sample of Swedish large- and mid-cap companies provides evidence of a positive relationship between non-blockholding institutional ownership and firm performance. These results are in line with the active monitoring view. Our results on both blockholding and non-blockholding institutional ownership are to some extent also consistent with the implications of Bjuggren et al. (2016) who found a marginally diminishing positive relationship between institutional ownership and the investment performance of firms. Further, the results show some contrast to the models developed by Shleifer and Vishny (1986) and Huddart et al. (1993) as well as the shared

benefits view presented by Bhojraj and Sengupta (2003) since our results would indicate that it is not only large shareholders that can improve shareholder value.

5.2 Evaluation of Method

5.2.1 Sample Bias

In this section, we discuss potential biases in our sample, which could give some insight into why the significance of our results would differ from previous literature.

As can be shown in our description of statistics, there are some omitted observations in all our variables, with the corporate governance control variables having the most omitted variables. These omitted observations are a result of missing data from our different data sources and they are inflicting a bias in our sample. A bias that this leads to is the survivorship bias, where we are only able to study observations from firms and years where the data was able to be collected, which leads to possible non-representativeness of our sample of the population. Further, since we cannot control for all possible relevant variables, omitted variable bias is a possibility that could compromise the accuracy of our results.

For the data collection of our firm performance variables, firm-level variables, and corporate governance variables, the process was straightforward since the definition of these variables is close to universal. However, when collecting our data on institutional ownership there were some inconsistencies among previous literature regarding which investors were considered institutional. Further, our collection of data on institutional ownership is dependent on the categorizations of the Holdings database. Differences in the choice of categorizations between different databases could have the consequence of making our sample biased, which could be a reason why our results had less significance than previous literature. To provide more nuanced research on the topic, future research could gather ownership data from a different database that categorizes institutional investors differently.

5.2.2 Endogeneity Problem

In our study, we look at the institutional ownership level of firms in an attempt to explain their performance. However, (Ferreira & Matos, 2008) show that recent positive stock returns were associated with an increase in foreign institutional ownership and a decrease in domestic

institutional ownership. These results highlight the possibility of a reverse causality of the relationship between foreign institutional ownership and firm value. This can also be shown in our model based on our results of the Hausman Specification test described in section 4.2, which shows the occurrence of endogeneity in our model. A remedy for this would be to use 2-stage or 3-stage least-squares to estimate a simultaneous equation system. This is something we considered, however, given the difficulty of finding instrumental variables that accurately simulate institutional ownership and firm performance, and the time constraint innate to a bachelor thesis, we chose to refrain from doing so. Furthermore, when controlling for endogeneity Ferreira and Matos (2008) had similar results both before and after controlling for it, suggesting that even though endogeneity might be inherent to our research topic it might not have a significant effect on our results.

6. Conclusion

As institutional investors become larger and more influential, understanding how their ownership might impact the firm performance of the firms they invest in is a relevant and timely subject to study. Through the use of empirical research we investigated the impact of institutional ownership on ROA and Tobin's Q. Since previous literature was either conducted on Anglo-Saxon countries or conducted on groups of countries, we saw a gap in the literature on other country-specific results. We addressed this by using a sample of large- and mid-cap listed companies from Sweden.

To broaden our research we included three hypotheses to include research on total institutional ownership, institutional ownership based on the domicile of investors, and blockholding institutional ownership. Our results found, in contrast to previous literature, no evidence of a relationship between total institutional ownership and firm performance. However, in support of previous literature, the agency theory, and the active monitoring view we found a positive relationship between foreign institutional ownership and both measures of firm performance and no relationship between domestic institutional ownership and firm performance. Our findings on blockholding institutional ownership were mixed with no evidence found for a relationship with ROA and a negative relationship found with Tobin's Q. The results for non-blockholding institutional ownership were consistent with previous literature and the private benefits view, showing a positive relationship with both measures of firm performance.

In sum, the evidence provided by our research shows that foreign and non-blockholding institutional ownership impacts firm performance positively in both the short- and long-term, whilst blockholding institutional ownership impacts firm performance negatively in the short term. Since our research had mixed results in comparison to previous literature, further research on individual countries outside of the US is suggested. Our research also included two limitations; a restricted definition of institutional ownership and a lack of categorization of the pressure sensitivity of investors. Future research is suggested to include a different construction of the institutional ownership variables along with the inclusion of variables for the pressure-sensitivity of investors, to improve the nuance of the literature within this research topic.

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Appendix

Table 3
VIF multicollinearity test

Variables	Institutional ownership variables				
	TIO	DIO	FIO	Over5%	Under5%
TIO	1.33				
DIO		1.16			
FIO			1.42		
Over5%				1.26	
Under5%					1.98
RevG	1.29	1.28	1.29	1.28	1.29
Lev	1.76	1.76	1.76	1.76	1.76
BM	1.77	1.71	1.85	1.76	2.03
Fsize	2.60	2.40	2.79	2.60	3.57
Bsize	2.47	2.47	2.47	2.47	2.47
IndBM	1.36	1.30	1.35	1.29	1.38
AvgBT	1.24	1.22	1.23	1.22	1.25
CEOCD	1.12	1.12	1.12	1.12	1.12
Industry					
Discretionaries	1.29	1.32	1.27	1.28	1.28
Health care	1.50	1.51	1.47	1.53	1.47
Information technology	1.26	1.27	1.25	1.26	1.2
Materials	1.17	1.16	1.17	1.17	1.16
Real Estate	1.92	1.89	1.88	1.90	1.87
Services	1.23	1.22	1.26	1.22	1.24
Telcom & Media	1.20	1.20	1.20	1.21	1.22
Trading & Goods	1.28	1.34	1.28	1.31	1.27
Raw Materials	1.13	1.18	1.14	1.14	1.13
Year					
2017	1.90	1.90	1.90	1.90	1.90
2018	2.51	2.51	2.52	2.51	2.51
2019	2.89	2.89	2.89	2.89	2.89
2020	3.41	3.41	3.40	3.40	3.42
2021	3.46	3.47	3.46	3.46	3.48

Note: This table shows the results of Variance Inflation Factor (VIF) tests on our OLS regressions of ROA and Tobin's Q on all institutional ownership variables along with control, industry & time dummy variables. The sample consists of 653 observations over the period 2016-2021. Section 3.2 provides definition of variables.

Table 4
Pearson correlation matrix

	ROA	Tobin's Q	TIO	DIO	FIO	Over 5%	Under 5%	RevG	Lev	BM	Fsize	Bsize	IndBM	AvgBT	CEO CD
ROA	1.0000														
Tobin's Q	0.27	1.0000													
TIO	0.10	-0.05	1.0000												
DIO	0.01	-0.06	0.73	1.0000											
FIO	0.13	-0.01	0.75	0.09	1.0000										
Over5%	-0.04	-0.02	0.58	0.68	0.19	1.0000									
Under5%	0.15	-0.04	0.75	0.34	0.76	-0.10	1.0000								
RevG	0.10	0.19	-0.19	-0.11	-0.16	-0.05	-0.19	1.0000							
Lev	-0.10	-0.52	-0.05	-0.01	-0.06	-0.04	-0.03	0.01	1.0000						
BM	-0.24	-0.68	-0.09	0.02	-0.12	-0.01	-0.10	-0.11	0.56	1.0000					
Fsize	0.02	-0.52	0.36	0.15	0.39	-0.16	0.58	-0.24	0.32	0.42	1.0000				
Bsize	-0.03	-0.26	0.19	0.08	0.18	-0.14	0.34	-0.28	-0.14	0.16	0.52	1.0000			
IndBM	-0.04	0.12	0.09	0.02	0.10	0.09	0.03	0.13	-0.06	-0.07	-0.21	-0.42	1.0000		
AvgBT	0.11	0.02	-0.07	-0.07	-0.03	-0.13	0.03	-0.13	0.02	-0.05	0.16	0.02	-0.09	1.0000	
CEOCD	0.04	0.14	-0.02	-0.07	0.04	-0.03	0.01	0.01	-0.07	-0.12	-0.06	-0.08	0.04	0.15	1.0000

Note: This table shows the correlation coefficients for all the variables included in our multiple OLS regressions of ROA and Tobin's Q on our diverse institutional ownership variables: total institutional ownership (TIO), domestic institutional ownership (DIO), foreign institutional ownership (FIO), total ownership of institutional investors with over 5% ownership (Over5%) and total ownership of institutional investors with under 5% ownership (Under5%). Section 3.2 provides definition of variables. The coefficients are in boldface when $p < 0.05$.

Table 5**Institutional ownership and firm performance without industry fixed effects: Total institutional ownership**

	ROA	Tobin's Q
TIO	0.024 (0.020)	0.679 (0.569)
RevG	0.024 (0.022)	1.285*** (0.332)
Lev	0.006 (0.039)	-2.956*** (0.992)
BM	-0.023*** (0.005)	
Fsize	0.005 (0.007)	-1.024*** (0.233)
Bsize	-0.001 (0.002)	-0.015 (0.053)
IndBM	-0.0003 (0.0002)	-0.003 (0.005)
AvgBT	0.002 (0.001)	0.059* (0.034)
CEOCD	0.001 (0.013)	0.361 (0.250)
Observations	653	653
R-square	0.138	0.407
Industry fixed effect	No	No
Time fixed effect	Yes	Yes

Note: This table presents the results of the OLS regression of ROA and Tobin's Q on the explanatory variable total institutional ownership (TIO). Time fixed effects are used in the regression model. Clustered standard errors at the firm level are presented in parentheses. Firm-level control variables include revenue growth (RevG), leverage (Lev), book-to-market (BM) and firm size (Fsize). Governance control variables include board size (Bsize), independent board members (IndBM), average board tenure (AvgBT) and CEO-chair duality (CEOCD). Section 3.2 refers to variable definitions. The sample consists of Swedish large and mid cap companies, between 2016 and 2021. Financial firms are omitted from the sample. Significance levels are presented in the following way: ***p<0.01, **p<0.05, *p<0.1

Table 6**Institutional ownership and firm performance without industry fixed effects: Nationality and Blockholding**

	ROA				Tobin's Q			
DIO	-0.030 (0.025)				-1.057 (0.911)			
FIO		0.080** (0.033)				2.369** (0.977)		
Over5%			-0.026 (0.027)				-2.061*** (0.759)	
Under5%				0.077*** (0.030)				3.181*** (0.777)
RevG	0.019 (0.022)	0.026 (0.021)	0.019 (0.022)	0.027 (0.022)	1.155*** (0.314)	1.322*** (0.317)	1.092*** (0.326)	1.350*** (0.331)
Lev	0.006 (0.038)	0.006 (0.035)	0.007 (0.039)	0.008 (0.038)	-3.033*** (0.938)	-2.796*** (0.928)	-2.869*** (0.956)	-2.454** (0.969)
BM	-0.024*** (0.005)	-0.021*** (0.004)	-0.024*** (0.005)	-0.019*** (0.005)				
Fsize	0.007 (0.008)	0.0003 (0.008)	0.005 (0.008)	-0.004 (0.009)	-0.981*** (0.214)	-1.141*** (0.239)	-1.104*** (0.228)	-1.383*** (0.260)
Bsize	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.002 (0.002)	-0.008 (0.053)	-0.015 (0.048)	-0.008 (0.052)	-0.021 (0.049)
IndBM	-0.0002 (0.0002)	-0.0003* (0.0002)	-0.0002 (0.0002)	-0.0004* (0.0002)	-0.001 (0.005)	-0.005 (0.005)	-0.001 (0.005)	-0.006 (0.004)
AvgBT	0.001 (0.001)	0.002* (0.001)	0.002 (0.001)	0.002* (0.001)	0.052 (0.033)	0.064** (0.032)	0.047 (0.033)	0.065** (0.030)
CEOCD	0.0002 (0.007)	-0.001 (0.013)	0.0004 (0.013)	-0.0003 (0.013)	0.352 (0.247)	0.307 (0.242)	0.340 (0.253)	0.294 (0.259)
Observations	653	653	653	653	653	653	653	653
R2	0.138	0.156	0.137	0.154	0.409	0.433	0.427	0.462
Industry fixed effect	No	No	No	No	No	No	No	No
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: This table presents the results of the OLS regression of ROA and Tobin's Q on either the explanatory variables domestic institutional ownership (DIO), foreign institutional ownership (FIO), total ownership of institutional investors with over 5% ownership (Over5%) or total ownership of institutional investors with under 5% ownership (Under5%). Time fixed effects are used in the regression model. Clustered standard errors at the firm level are presented in parentheses. Firm-level control variables include revenue growth (RevG), leverage (Lev), book-to-market (BM) and firm size (Fsize). Governance control variables include board size (Bsize), independent board members (IndBM), average board tenure (AvgBT) and CEO-chair duality (CEOCD). Section 3.2 refers to variable definitions. The sample consists of Swedish large and mid cap companies, between 2016 and 2021. Financial firms are omitted from the sample. Significance levels are presented in the following way: ***p<0.01, **p<0.05, *p<0.1.

