

The Role of Institutional Investors in Sweden

Adam Lindholm (26155) and Tom Treutiger (26110)

Abstract

This study examines the role of institutional investors in the Swedish equity market. Using a comprehensive dataset spanning the years 2015 to 2024, we examine how different groups of institutional investors are associated with the firm value, operating performance, and investment discipline of Sweden-domiciled firms listed on the Swedish main market. Our results suggest that independent investors are positively associated with firm value (Tobin's Q), return on assets, net profit margin, and investment discipline. Simultaneously, we find that pressure-sensitive firms are negatively associated with firm value, return on assets and net profit margin. These results are likely due to effective monitoring by independent institutions. Furthermore, we investigate which firm-level characteristics are associated with institutional ownership and how these characteristics differ across institutional investor groups. We find that all institutional investor groups strongly favour large firms and avoid firms with poor governance, as measured by ownership concentration, results that are supported by previous research and theory.

Keywords: Institutional Ownership, Ownership Determinants, Operating Performance, Capital Expenditures, Monitoring Hypothesis

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1. Introduction

1.1. Background

Institutional investors have become the dominant owners of listed companies in today's advanced economies. In Sweden, they hold 38% of the equity market, making them the largest single investor category (OECD, 2025). Over the past decade, the rapid growth of pension funds, insurance companies, mutual funds, and especially exchange-traded funds (ETFs) has reshaped global equity markets. As institutional ownership has expanded substantially over the decade, institutional investors have emerged as central actors in the monitoring, pricing, and governance of public firms (OECD, 2025; Edmans and Holderness, 2017). While these developments are global, their implications depend critically on national corporate governance regimes. Sweden represents a particularly informative case, combining high transparency with a concentrated ownership structure and extensive use of multiple-class shares (OECD, 2025).

A large body of research shows that institutional investors do not allocate capital randomly. Instead, they favour firms with stronger disclosure, lower information barriers, and higher governance quality (Aggarwal, Klapper and Wysocki, 2005; Leuz, Lins and Warnock, 2008). Foreign investors depend on transparent reporting environments to overcome informational disadvantages relative to domestic owners (Bae, Stulz and Tan, 2008). At the same time, their ability to influence firms may be severely constrained in countries where controlling shareholders retain substantial voting power (Doidge, Karolyi and Stulz, 2001), raising the question of whether institutional ownership continues to play a monitoring role in such environments. These dynamics shape how institutional investors select firms and how their ownership may be associated with firm outcomes.

Macroeconomic and regulatory developments over the past two decades have further transformed the behaviour of institutional investors. The global financial crisis triggered a sharp decline in corporate investment and heightened firms' sensitivity to uncertainty across Europe (Archibugi, Filippetti and Frenz, 2013), a pattern later confirmed in euro area data, which showed that uncertainty shocks significantly depress investment rates (Meinen and Roehle, 2017). Regulatory reforms such as the mandatory IFRS implementation in the EU improved the comparability and quality of financial reporting (Barth, Landsman and Lang, 2007), increasing the importance of corporate disclosure for investors' investment decisions (Fang et al., 2020).

Despite Sweden's distinctive ownership structure and importance as a transparent, internationally exposed equity market (Cronqvist and Nilsson, 2003; OECD, 2025), empirical evidence on institutional ownership remains outdated and incomplete. Existing Swedish research, such as Dahlquist and Robertsson (2001), examines a pre-IFRS environment with different reporting standards, ownership structures, and investment behaviour. International studies, including Ferreira and Matos (2008), rely on cross-country data predating the rise of passive investing, the global financial crisis, and modern regulatory frameworks such as IFRS and MiFID II. As a result, we lack updated evidence on which Swedish firms attract different types of institutional investors today, and whether such ownership is associated with firm value, operating performance, or investment behaviour in a post-IFRS, post-crisis setting.

Simultaneously, prior theory provides conflicting predictions for how institutional ownership should operate in Sweden's governance environment. Ferreira and Matos (2008) document that foreign and independent institutions are associated with higher firm value and profitability, largely attributed to efficient monitoring. However, these mechanisms presuppose dispersed ownership structures. In contrast, Sweden's block holder-dominated system, characterised by multiple class shares and concentrated control, may limit institutional investors' ability to influence firms or alter managerial incentives (Cronqvist and Nilsson, 2003). This tension creates an unresolved theoretical question: Do the monitoring channels identified in international studies apply in a market where ownership concentration and governance structures differ fundamentally? Moreover, because existing Swedish evidence predates IFRS, modern stewardship practices, and the rise of passive investing, it remains unclear whether earlier allocation patterns documented by Dahlquist and Robertsson (2001) persist in today's institutional setting. Together, these uncertainties establish a clear research gap regarding contemporary institutional ownership and its firm-level implications in the modern Swedish market.

1.2. Purpose and Research Question

This thesis examines how different types of institutional investors select Swedish listed firms and whether their ownership is associated with firm value, operating performance, and investment behaviour. We analyse which firm characteristics attract different institutional investor groups and assess whether ownership by these groups is associated with firm-level outcomes in the Swedish main market. Our research questions thus follow:

RQ1: *What firm-level characteristics attract different types of institutional investors in Sweden?*

RQ2: *Is ownership by institutional investors associated with firm-level outcomes in Sweden?*

1.3. Contribution

This thesis contributes to the corporate governance and institutional ownership literature by reassessing the Ferreira and Matos (2008) framework within Sweden's distinct ownership environment. Sweden combines high transparency and sophisticated institutions with entrenched block holders and multiple class structures, creating a setting that differs materially from the dispersed-ownership markets on which most institutional ownership theories are built. These features make Sweden an ideal context for evaluating whether visibility-based sorting and monitoring-related performance associations generalise to a concentrated governance regime.

First, the thesis provides updated evidence on the firm-level determinants of institutional ownership in the modern Swedish market. Earlier studies, such as Ferreira and Matos (2008) internationally and Dahlquist and Robertsson (2001) in Sweden, identify size, liquidity, and information frictions as central drivers of institutional allocation. Yet these studies predate major regulatory and market shifts, including IFRS adoption, the post-crisis landscape, MiFID-driven transparency reforms, and the rise of passive institutions. Whether these determinants remain relevant has, to our knowledge, not been examined. By analysing all main-market firms from 2015 to 2024, this thesis offers the first post-IFRS, post-crisis evidence on contemporary institutional sorting in Sweden, addressing an incompleteness in the literature and clarifying which visibility and governance signals still matter in today's environment.

Second, our thesis evaluates how different institutional investor types relate to Swedish firms' value, operating performance, and investment behaviour. Ferreira and Matos (2008) document strong monitoring-related associations for foreign and independent institutions. Still, it is unclear whether these mechanisms operate in a regime characterised by dominant block holders, nomination committees, and decoupled cash-flow and control rights. By examining valuation, profitability, and investment intensity, this thesis provides a Sweden-specific test of monitoring predictions and identifies where established associations hold, weaken, or reverse.

Finally, our thesis offers practical relevance for investors and policymakers. Identifying which firm attributes attract foreign and independent institutions clarifies the informational and

governance signals embedded in Swedish ownership structures. Institutional presence can serve as an indicator of monitoring intensity, information quality, and expected operational performance. These insights support more informed portfolio screening and enhance understanding of how Sweden's ownership model shapes institutional participation.

1.4. Delimitations

This study only considers Swedish-domiciled companies listed on the Nasdaq Stockholm main market (Large, Mid, and Small Cap) between 2015 and 2024. Companies and securities listed on First North, Nordic Growth Market, and Spotlight Stock Market are excluded. These alternative marketplaces are not regulated under EU directives and apply lighter disclosure and governance requirements. This delimitation ensures data quality and comparability at the expense of smaller growth firms.

Our timeframe captures a relevant interval in institutional ownership research during which institutional ownership patterns have been influenced by regulatory and disclosure changes. Financial and ownership data are obtained from FactSet, with complementary information from Capital IQ Pro. Lastly, although the literature suggests controlling for idiosyncratic risk, data limitations prevent us from including this variable, which should be considered when interpreting the results.

1.5. Summary of Results

The main findings show that firm size and governance structure are the key determinants of foreign and independent institutional ownership in Sweden. Independent institutional ownership is consistently associated with higher firm value, stronger operating performance. In contrast, grey institutional ownership is linked to lower valuations and weaker profitability. Foreign institutions show no systematic association with firm value or performance, indicating that positive institutional effects are driven primarily by independent institutions.

1.6. Disposition

Section 2 reviews the literature on institutional ownership and presents the theoretical framework motivating our hypotheses. Section 3 describes the method and sample. Section 4 presents the results on the determinants and firm-level implications of institutional ownership. Section 5 discusses these findings in relation to prior research and theory. Section 6 concludes and outlines the implications, limitations, and directions for future work.

2. Literature Review and Theoretical Framework

2.1. Literature Review

In the first section, we present the findings of previous research on institutional ownership, focusing on its role in capital allocation, corporate governance and firm-level outcomes. The purpose is to outline established empirical findings and identify gaps that motivate further investigation. This section highlights where existing evidence is inconclusive or context-dependent, motivating an empirical reassessment in the Swedish context. The relevant prior literature can be divided into three categories: i) Literature concerning firm characteristics commonly associated with institutional ownership, ii) Literature concerning institutional ownership and corporate governance and decision-making, and iii) Literature concerning the association between institutional ownership and firm-level outcomes. As this thesis examines foreign, domestic, independent, and grey institutional investors separately, we review evidence relevant to ownership differences based on both geography and institutional investor type.

2.1.1. Institutional Ownership and Firm Characteristics

A substantial body of research has examined why institutional investors hold certain firms rather than others, thereby deviating from holding the market portfolio as suggested by Modern Portfolio Theory. Much of the early evidence concerns foreign institutional investors, who face information disadvantages relative to domestic institutions. Kang and Stulz (1997) show that foreign investors overweight large, liquid, and low-risk firms in Japan. Similar patterns are documented in the Finnish market by Keloharju and Lehtinen (2015), who find that foreign investors overweight stocks on the main list with higher market capitalisations and stock turnover. Domestic institutions tend to display less pronounced preferences for these attributes.

The most comprehensive Swedish evidence, provided by Dahlquist and Robertsson (2001), demonstrates that foreign and domestic institutional investors in Sweden share similar preferences for large firms with dispersed ownership and high liquidity. Size, liquidity, analyst coverage, and foreign sales increase firm visibility, thus reducing information costs for both foreign and domestic institutions. These firm characteristics are consistent with theories and evidence highlighting the role of visibility and recognition (Merton, 1987; Huberman, 2001).

In addition to geographic distinctions, institutional investors differ by type. Independent institutions, such as mutual funds and investment advisers, strive to maximise returns and invest based on information quality, liquidity, and transparency. Grey institutions, such as banks, insurance companies, and pension funds, may hold firms with which they may maintain

business relationships and thus face potential conflicts of interest, compelling them to be more loyal to management (Brickley, Lease and Smith, 1988). These differences imply that independent and grey institutions may respond differently to the same firm-level characteristics. Ferreira and Matos (2008) find that independent institutions behave more similarly to foreign investors through their emphasis on visibility, transparency, and governance quality.

2.1.2. Institutional Ownership, Corporate Governance, and Decision-Making

In Sweden, concentrated ownership and multiple-class share structures shape the ability of institutions to exercise monitoring (Cronqvist and Nilsson, 2003). Controlling shareholders often retain substantial voting power relative to their equity claims. Nevertheless, Sweden's nomination committee system provides an important mechanism for institutional influence, as large shareholders may participate directly in board composition. Family-controlled firms add another dimension. They tend to prioritise stability, conservative financing, and long-term control (Sekerci, 2020), which may limit the influence of external owners, particularly grey institutions whose monitoring incentives are typically weaker.

Institutional investors can influence firms through voting, active engagement, and monitoring. Aggarwal et al. (2011) show that institutional investors, especially foreign and independent institutions, are associated with stronger governance practices, including appointing more independent boards and dismissing underperforming CEOs. Their findings suggest that informed institutional investors may improve firm governance through effective monitoring.

The rise of passive investing has further reshaped governance dynamics. Although passive investors follow index-based strategies, they are not passive owners. Appel, Gormley and Keim (2016) find that passive ownership strengthens board structures and managerial accountability through coordinated voting and participation in nomination processes.

Overall, these institutional features suggest that the effectiveness of institutional monitoring may differ substantially across governance regimes, raising uncertainty about whether international results apply in the Swedish context.

2.1.3. Institutional Ownership and Firm-Level Outcomes

A broad literature examines the relationship between institutional ownership and firm-level outcomes. Ferreira and Matos (2008) find that both foreign and independent institutional investors are associated with higher firm value (Tobin's Q), stronger operating performance (ROA) and (NPM), and more efficient investment behaviour ($CAPEX$). They argue that these

effects are a result of enhanced monitoring and reduced managerial entrenchment. Further evidence supports the link between institutional monitoring and investment efficiency. Gaspar, Massa, and Matos (2005) find that firms held by long-term institutional investors invest more efficiently, while firms dominated by short-term or weak-monitoring institutions tend to overinvest. Their results suggest that monitoring strength varies systematically across institutional investor types. Similarly, Chen, Harford, and Li (2007) show that independent institutional investors reduce managerial overinvestment and improve investment efficiency, while grey institutions exert weaker monitoring pressure.

Research on firm performance further supports these findings. Bena et al. (2017) show that increases in foreign institutional ownership lead to improved productivity, innovation, and long-term profitability. Related evidence by Meinen and Roehle (2017) further shows that firms subject to constraints on managerial discretion exhibit increased investment efficiency and reduce overinvestment, reinforcing the view that disciplining mechanisms can shape capital expenditure decisions.

2.2. Theoretical Framework

The theoretical framework integrates theories and models from previous research and literature to explain how institutional ownership may influence managerial behaviour and firm-level outcomes. The theoretical framework laid out in this paper will aid in formulating theoretically grounded hypotheses and provide a conceptual foundation for interpreting the empirical results.

2.2.1. Asymmetric Information Theory

Asymmetric information theory (Akerlof, 1970) provides a foundation for understanding why institutional investors select certain firms based on transparency, size, and disclosure quality (Spence, 1973; Stiglitz and Weiss, 1981). In capital markets, such information frictions may reduce investors' willingness to hold firms with little transparency and that are costly to evaluate. Institutional investors therefore tend to overweight larger, more liquid, and more transparent firms (Covrig, Lau, and Ng, 2006; Dahlquist et al., 2003). Foreign investors are more sensitive to information barriers because they incur higher information costs than domestic investors (Bae, Stulz and Tan, 2008).

The mandatory IFRS adoption in the EU improved the comparability and quality of financial reporting among listed firms (Barth, Landsman, and Lang, 2007). Firms with better disclosure practices attract higher institutional ownership (Bushee and Noe, 2000), as increased transparency reduces trading friction and the price impact of trades (Gompers, Ishii and

Metrick, 2001; Healy and Palepu, 2001). Swedish evidence confirms that IFRS adoption increased foreign institutional ownership (Hamberg, Mavruk, and Sjögren, 2013). These visibility and disclosure-related mechanisms should primarily apply to foreign and independent institutions with greater information requirements.

In sum, the evidence suggests that institutional investors, particularly foreign and independent institutions, systematically favour firms with greater visibility, share turnover, and transparency. However, much of this evidence is based on markets with relatively dispersed ownership structures, leaving unanswered whether these patterns persist in governance systems characterised by controlling shareholders.

2.2.2. Investor Recognition Theory

According to Merton's (1987) investor recognition hypothesis, investors hold only the securities they are familiar with due to information costs. Firms with greater visibility, captured by size, share turnover, analyst coverage, and foreign exposure, attract a broader investor base and experience lower costs of capital.

Swedish evidence is consistent with the investor-recognition theory. Firm size, liquidity, foreign sales, and ownership dispersion are positively associated with foreign institutional ownership (Dahlquist and Robertsson, 2001). Independent institutions, like foreign institutions, also favour firms with higher visibility and transparency, while grey institutions may be less sensitive to these characteristics due to business ties or reduced monitoring incentives (Ferreira and Matos, 2008).

2.2.3. Home Bias Hypothesis

Home bias exists when investors overweight domestic firms relative to the predictions of Modern Portfolio Theory (French and Poterba, 1991; Tesar and Werner, 1995). Researchers attribute this bias to informational frictions, familiarity, and market imperfections (Obstfeld and Rogoff, 2000). Accounting transparency and strong legal protection reduces the home bias by lowering foreign investors' information costs (Chan, Covrig and Ng, 2005).

Sweden ranks highly in transparency and investor protection (Porta et al., 1998) and experienced improvements in liquidity and valuation following IFRS adoption (Daske et al., 2008). These features reduce, but do not eliminate, the home bias, suggesting that firm visibility plays a larger role for foreign investors than for domestic ones. Even in a highly transparent

market like Sweden, residual home bias may persist due to institutional mandates and familiarity, reinforcing the role of firm-level visibility in attracting foreign ownership.

2.2.4. Principal-Agent Theory

The principal-agent model describes conflicts between principals (shareholders) and agents (managers) when their incentives are not aligned (Jensen and Meckling, 1976). Monitoring mechanisms help reduce agency costs by aligning managerial behaviour with shareholder interests and thus prevent managers from pursuing private benefits. One important implication is that managers may pursue empire-building or overinvest in low-return projects when monitoring is weak, making investment policy an important control variable in empirical tests (Ferreira and Matos, 2008). This framework suggests that ownership by large, informed institutional investors may affect firm outcomes by influencing managerial investment decisions and operating efficiency.

2.2.5. Monitoring Hypothesis

The monitoring hypothesis builds on the principal-agent framework by emphasising the role of large and informed investors/shareholders in mitigating agency problems. Shleifer and Vishny (1986) argue that concentrated ownership gives shareholders both the incentive and ability to monitor corporate management and thereby reduce agency costs and improve firm efficiency. Institutional investors are particularly well-equipped to pursue monitoring efforts due to their size, expertise, and access to information (Bushee, 1998).

Empirical research supports this mechanism. Ferreira and Matos (2008) show that foreign and independent institutional ownership is associated with higher firm value and better operating performance. They also find that these groups are linked to lower capital expenditures, consistent with monitoring reducing overinvestment. Additional evidence confirms this investment-discipline channel. Gaspar, Massa, and Matos (2005) document that long-term institutional investors decrease overinvestment. Chen, Harford, and Li (2007) show that independent institutions reduce inefficient capital expenditures while grey institutions do not. Jiang, Lee, and Zhang (2004) demonstrate that effective institutional monitoring improves investment efficiency and lowers overinvestment. Together, these findings suggest that foreign and independent institutions possess stronger monitoring incentives than domestic and grey institutions, with clear implications for firm value, profitability, and investment behaviour. However, the effectiveness of such monitoring depends on the ability of institutional investors

to influence managerial decisions, which may be weaker in environments with controlling shareholders.

2.3. Hypotheses

The first hypothesis concerns the relationship between firm visibility and corporate governance, and foreign and independent institutional ownership, while the second and third hypotheses concern the relationship between these investor types and firm value, operating performance, and capital expenditures.

The investor-recognition and home bias theories suggest that investors disproportionately allocate capital to firms with which they are familiar and informed. Firm characteristics related to visibility and corporate governance quality are expected to increase the ownership by foreign and institutional investors. Based on the theoretical mechanisms and empirical evidence discussed above, we formulate the following hypothesis:

H1: Firm characteristics related to firm visibility and governance are positively associated with foreign and independent institutional ownership

According to principal-agent theory, the separation of ownership and control can lead to agency problems as managers pursue objectives that diverge from shareholders' interests. The monitoring hypothesis suggests that large and informed shareholders might help to mitigate these inefficiencies through monitoring in different capacities. Empirical evidence supports these theories. Our hypotheses thus follow:

H2: Foreign and independent institutional ownership is positively associated with higher firm value

H3: Foreign and independent institutional ownership is positively associated with better firm operating performance and disciplined investment behaviour

3. Methodology

3.1. Research Design

This section presents our approaches for testing each hypothesis. Our empirical design is observational, meaning the estimated relationships should be interpreted as associations rather than causal effects. Potential endogeneity concerns include reverse causality, whereby institutional investors select firms with strong expected performance, and omitted variables related to governance quality. While our empirical design mitigates these concerns through extensive controls, fixed effects, and robustness checks, the analysis does not allow for causal interpretation.

3.1.1. Baseline Regression

To test our three hypotheses, we estimate annual, pooled, ordinary least squares (OLS) regressions with year fixed effects following Petersen (2006), and industry fixed effects following the industry classification proposed by Fama and French (1997), and we compute standard errors clustered at the firm level. This approach follows standard panel-data practices and allows for consistent statistical inference under clustered dependence. We will refer to this as the baseline regression. The baseline regression is shown in equation (1) below:

$$\text{Equation (1): } Y_{i,t} = \alpha + \beta' X_{i,t} + \text{YearFE} + \text{IndustryFE} + \varepsilon_{i,t}$$

$Y_{i,t}$ denotes the dependent variable, $X_{i,t}$ is the vector of firm-level controls, and $\varepsilon_{i,t}$ is the error term. The fixed effects are self-explanatory. This specification exploits both cross-sectional and time-series variation in firm characteristics while controlling for unobserved time-invariant industry characteristics and common macroeconomic shocks through industry and year fixed effects, respectively.

3.1.2. Hypothesis-Specific Implementations

To test Hypothesis 1, we estimate the baseline regression model by testing each institutional investor type one by one as the dependent variable, while controlling for a set of firm-level controls. The purpose of this regression is to compare how the same set of firm characteristics relates to alternative institutional ownership outcomes. We exemplify below how the baseline regression, i.e. equation (1), looks:

$$\begin{aligned}
Y_{i,t} = & \alpha + \beta_1 \log(MCAP)_{i,t} + \beta_2 \log(BTM)_{i,t} + \beta_3 INVOP_{i,t} + \beta_4 RETURN_{i,t} \\
& + \beta_5 TURNOVER_{i,t} + \beta_6 DY_{i,t} + \beta_7 ROE_{i,t} + \beta_8 MSCI_{i,t} + \beta_9 LEV_{i,t} \\
& + \beta_{10} CASH_{i,t} + \beta_{11} CLOSE_{i,t} + \beta_{12} ADR_{i,t} + YearFE + IndustryFE + \varepsilon_{i,t}
\end{aligned}$$

This specification allows us to assess whether firms that are more visible, liquid or transparent systematically attract higher institutional ownership, consistent with information-based theories.

In Hypothesis 2, the dependent variable is Tobin's Q , and the different institutional ownership measures serve as key independent variables, which we include one by one along with a set of control variables and year and industry fixed effects. By conditioning on standard valuation determinants, this approach isolates the association between ownership structure and firm value, abstracting from size, leverage, and growth opportunities. The regression model follows:

$$\begin{aligned}
Y_{i,t} = & \alpha + \beta_1 IO_{i,t} + \beta_2 \log(MCAP)_{i,t} + \beta_3 INVOP_{i,t} + \beta_4 LEV_{i,t} + \beta_5 CASH_{i,t} + \beta_6 ADR_{i,t} \\
& + YearFE + IndustryFE + \varepsilon_{i,t}
\end{aligned}$$

For hypothesis 3, we test three dependent variables separately, which are return on assets (ROA), net profit margin (NPM), and capital expenditures ($CAPEX$) and their association with each of the key independent variables of interest, i.e. different institutional investor types, along with a set of control variables, as well as year and industry fixed effects. This design is particularly relevant for testing monitoring-based predictions, as operating performance and investment policy are key channels through which institutional investors may influence managerial behaviour. The regression formula follows below:

$$\begin{aligned}
Y_{i,t} = & \alpha + \beta_1 IO_{i,t} + \beta_2 \log(MCAP)_{i,t} + \beta_3 \log(BTM)_{i,t} + \beta_4 INVOP_{i,t} + \beta_5 LEV_{i,t} \\
& + \beta_6 CASH_{i,t} + \beta_7 ADR_{i,t} + YearFE + IndustryFE + \varepsilon_{i,t}
\end{aligned}$$

3.1.3. Robustness Checks and Diagnostic Tests

The robustness checks are not designed to establish causality, but to assess whether the baseline results are sensitive to alternative specifications, estimators and functional forms. To ensure that the results from the baseline regression in each hypothesis are not driven by modelling choices, a series of robustness checks are conducted following Ferreira and Matos (2008).

For Hypothesis 1, the baseline regression is re-estimated using standardised regressors, which scale regressors to unit variance and emphasise relative effect sizes. The inclusion of fixed effects absorbs time-invariant firm characteristics. In Panel B of Table 3, we re-estimate using

Fama-MacBeth cross-sectional regressions, which estimate yearly cross-sectional models and obtain inference from the time-series of coefficients, thereby relaxing assumptions about serial correlation and the pooled error structure. Furthermore, we assess potential multicollinearity among regressors by using a variance inflation factor (VIF) test (Appendix A5) and a Pearson correlation matrix (Appendix A7). In the untabulated robustness checks, we include additional firm-level control variables as an extended specification.

For Hypothesis 2, the baseline regressions are re-estimated using $\log(Q)$ and $-1/Q$ to mitigate the influence of skewness and outliers in the dependent variable. A Fama-MacBeth estimator is also included, providing inference based on annual cross-sections rather than the pooled time-series variation. Furthermore, median regressions of Q are estimated with the baseline model to test whether the results hold at the centre of the distribution rather than being driven by extreme valuations.

For Hypothesis 3, the baseline regression is re-estimated in the untabulated results using the same procedure as for Panels A and B in the tabulated robustness check for Hypothesis 1, i.e., the re-estimation employs standardised regressors and the Fama-MacBeth procedure.

Lastly, a diagnostic for potential multicollinearity is provided by constructing a Pearson correlation matrix for all variables included in the study, presented in the untabulated results. The correlation matrix included in Appendix A7 only shows the results most relevant to our research.

3.1.4. Main Variables of Interest

To begin with, institutions are defined in this paper as professional money managers with discretionary control over assets (such as mutual funds, pension funds, bank trusts, and insurance companies) following Ferreira and Matos (2008). These definitions are adjusted to the Swedish context using detailed ownership records from FactSet. Our different institutional investor categories are defined as the sum of holdings of that institutional investor group in a firm as a percentage of shares outstanding at the end of each calendar year. We distinguish institutional ownership by the institution's geographic origin. Domestic institutions are those domiciled in Sweden, while foreign institutions are those domiciled outside Sweden. These variables allow testing whether domestic and foreign institutions behave differently. Furthermore, we consider the characteristics of institutional ownership by institution type. Following Chen, Harford, and Li (2007), we classify institutions according to the potential for business ties to a corporation as independent or grey institutions. Independent institutions

include institutional investors such as mutual funds and investment advisers. This group is more likely to collect information and face fewer regulatory restrictions or fewer potential business relationships with the corporations they invest in; hence, we expect that independent institutions are generally considered more inclined to engage in monitoring activities. Grey institutions are institutional investors such as insurance companies, pension funds, and other institutions. The current or prospective business relationships of these types of corporations tend to make this group more “pressure sensitive” with respect to corporate management. We expect this group to be more loyal to corporate management and to hold shares without reacting to management actions that are not in shareholders' interests. Brickley, Lease, and Smith (1988) refer to these institutions as “pressure-sensitive” and Almazan, Hartzell, and Starks (2005) call them “passive”. While this classification follows the literature, some institutions classified as grey, particularly pension funds, may nonetheless engage actively in ownership practices in Sweden. Such misclassification would bias estimated differences between institutional types toward zero.

Before examining the accounting-based measures of firm performance, we employ a market-based proxy for firm value, Tobin's Q , following Ferreira and Matos (2008) in Hypothesis 2. Following Lewellen and Badrinath (1997), we define Tobin's Q as the market value of equity to the replacement value of assets. We assume the replacement value of assets equals their book value. A higher Tobin's Q indicates that investors perceive stronger growth opportunities, valuable intangible assets, or superior expected profitability, while a lower Tobin's Q reflects weaker market expectations. Because Tobin's Q summarises market perceptions rather than internal operating outcomes, it is examined separately from accounting-based proxies. This market valuation serves as the dependent variable in Table 4, which assesses how different forms of institutional ownership relate to firm value. Ferreira and Matos (2008) documented that foreign and independent institutions are positively associated with firm value. Furthermore, according to the monitoring hypothesis, foreign and independent institutions should have stronger monitoring incentives than domestic and grey ones. Hence, we expect a positive association between firm value and foreign and independent ownership.

To evaluate how institutional ownership relates to a company's performance, we employ three complementary performance proxies, following Ferreira and Matos (2008). These variables capture different measures of profitability, efficiency and investment behaviour, providing a multidimensional view of firm performance beyond market-based metrics. The first variable is return on assets (ROA), which serves as a proxy for operational performance, reflecting how

efficiently the firm converts its asset base into earnings. Higher *ROA* indicates stronger operating performance and resource utilisation. The second dependent variable is net profit margin (*NPM*). This metric captures profitability relative to sales and reflects the firm's ability to manage costs from its core operations. Unlike *ROA*, which scales profits by assets, net profit margin isolates the margin independent of balance sheet size. The third dependent variable is capital expenditures as a ratio of total assets. This variable serves as a proxy for investment discipline (*CAPEX*). A higher *CAPEX* ratio indicates greater reinvestment in fixed assets relative to firm size. However, lower capital expenditures need not always reflect improved investment efficiency and may also capture underinvestment, particularly in high-growth firms. Accordingly, we treat *CAPEX* as an indicator of investment discipline rather than a direct measure of investment optimality. We expect to find a positive association between independent and foreign institutions and *ROA* and *NPM*, and a negative association with *CAPEX*. For exact variable definitions, see Appendix A1.

3.1.5. Control Variables and Fixed Effects

We include an extensive set of control variables following Ferreira and Matos (2008). For H1, examining whether visibility- and governance-related characteristics are associated with foreign and independent institutional ownership, the model controls for factors known to influence investor attention and trading behaviour. Log market capitalisation (*log_MCAP*) is defined as the log of annual market capitalisation in SEK and accounts for firm size, which we expected to be positively associated with independent and foreign institutional ownership, as larger firms are, by nature, more visible in the market, consistent with investor recognition theory (Merton, 1987). Book-to-market (*log_BTM*) is the log of the book-to-market equity ratio and captures valuation. We expect it to be negatively associated with foreign and independent institutional ownership, reflecting a preference for growth and transparency. Investment opportunities (*INVOP*), measured as the two-year geometric average of the annual growth rate in net sales, serve as a proxy for growth prospects, reflecting preference for growth and transparency and are expected to be positively associated with the dependent variables. The annual stock return (*RETURN*) is the end-of-year rate of return and is expected to be positively associated with institutional ownership, consistent with performance-based capital allocation. Turnover (*TURNOVER*), defined as annual share volume divided by adjusted shares outstanding, serves as a liquidity proxy, reducing friction and information costs, and is expected to be positively associated with institutional ownership. Dividend yield (*DY*), measured as dividend yield, captures payout policy, and its expected sign is ambiguous, reflecting

heterogeneous clienteles and payout preferences. Return on equity (*ROE*), defined as return on average total equity, is expected to be positively associated with institutional ownership as it's an operating efficiency measure. MSCI membership (*MSCI*) is a dummy equal to one if a firm is a member of the BlackRock iShares MSCI All-Country World Index and captures global benchmark visibility, increasing recognisability among global investors, and is expected to be positively associated with foreign and independent institutional ownership. Leverage (*LEV*), defined as the ratio of total debt to total assets, controls for financial risk, heightening downside risk and agency concerns, and is expected to be negatively related to institutional ownership. Cash holdings (*CASH*), measured as the ratio of cash and short-term investments to total assets, reflect liquidity and indicate financial flexibility. We expect the sign to be positive for the dependent variables. Not all stocks issued by firms can be held by institutions, as a significant part is closely held by large shareholders in some countries (Dahlquist et al., 2003). To address this concern, we include the variable (*CLOSE*), defined as the share of shares outstanding held by insiders. This control serves as a proxy for corporate governance, limiting external monitoring capacity, and we expected a negative association, consistent with the findings of Ferreira and Matos (2008). Table A4 in the Appendix shows that the total institutional stock ownership accounts for 57,7% of market float, demonstrating the importance of controlling for this. U.S. cross-listing (*ADR*) is a dummy equal to one if a firm is listed on a U.S. exchange and serves as a proxy for international visibility. Improved disclosure and comparability are expected to be positively associated with independent institutional ownership and foreign ownership. In addition, two additional visibility variables are included in the untabulated robustness check. The first is the number of analysts (*NR_ANALYSTS*), which is defined as the number of analysts covering a firm and captures the extent of external information production that mitigates asymmetric information, for which we expect a positive association with foreign and independent institutional ownership. The second one is foreign sales (*F_SALES*), which is measured as international annual net sales as a proportion of total net sales. This captures a firm's international orientation and global visibility, reinforcing investor recognition among foreign institutions and is expected to be positively associated with foreign and independent institutional ownership. Together, these variables capture the broad visibility, corporate governance, liquidity, performance, and informational environment of firms, reducing the risk that the estimated visibility relation reflects other firm attributes.

For H2, which evaluates whether foreign and independent institutional ownership is associated with higher firm value, the model includes controls directly linked to valuation. *Log_MCAP*

addresses size-related valuation differences by reflecting scale and market recognition and is expected to have a positive association with firm value. *INVOP* captures growth potential, consistent with higher expected future cash flows, and is expected to be positively related to valuation. *LEV* controls for financial risk and liquidity, increasing agency risk, and is expected to be negatively associated with firm value. In contrast, *CASH* is expected to have an ambiguous sign as it can reflect either financial flexibility or agency problems. *ADR* captures enhanced disclosure and visibility, lowering information risk and cost of capital, and is expected to be positively associated with firm value. These controls ensure that valuation differences are not incorrectly attributed to ownership structure.

For Hypothesis 3, assessing whether foreign and independent institutional ownership relates to operating performance and investment policy, the analysis controls for size, maturity, growth prospects, and financial flexibility. *Log_MCAP* captures scale and valuation characteristics and is expected to be positively associated with firm-level outcomes and investment discipline, while *log_BTM* is expected to be negatively associated, reflecting lower growth efficiency. *INVOP* reflects growth opportunities, enabling profitable capital allocation, and is expected to be positively associated with both performance and investment. *LEV* and *CASH* capture financing constraints, restricting inefficient overinvestment and liquidity where *LEV* is expected to be negative, while *CASH* is expected to be positive or ambiguous, conditional on monitoring effectiveness, depending on whether liquidity outweighs potential agency concerns. *ADR* proxies for governance and international visibility, strengthening external monitoring incentives, and is expected to be positively associated with operating performance and investment outcomes. These controls ensure that the estimated associations between ownership and firm outcomes are not driven by underlying firm characteristics. Together, these controls aim to reduce omitted-variable bias by accounting for firm size, risk, growth opportunities, visibility and ownership structure.

In addition to the firm-level controls, all regressions (except the Fama-Macbeth regressions) include year fixed effects (referred to as year dummies in the table) to capture macroeconomic conditions and market-wide developments that are assumed to affect all firms in our sample simultaneously. Within our timeframe, events such as the Covid-19 pandemic, the inflationary pressures, and the interest rate hike in 2022-2023. Furthermore, we include industry fixed effects to control for unobserved, time-invariant heterogeneity across industries following the industry definition proposed by Fama and French (1997). By including industry dummies, the model ensures that results are not driven by industry differences but by within-industry

variation in the explanatory variable. To avoid perfect multicollinearity, a one-year dummy (the first year in the sample) is omitted when including year and industry fixed effects.

3.2. Sample Selection

The stock holdings data are drawn from the FactSet database, a leading source of global institutional ownership and financial information. We use the historical filings of the FactSet database from the end of each calendar year. This is to address differences in reporting frequencies across institutions by obtaining the latest holdings update at each year-end. From FactSet, we also retrieve all firm-specific data for our sample (year-end), except for the MSCI All-Country World Index (Capital IQ Pro). In Appendix A1, we specify exactly where all data is retrieved from. We begin with a sample of firms containing all Sweden-domiciled firms listed in Sweden at some point during 2015-2024. To address survivorship bias, we include firms that were not listed during our entire timeframe, as our sample would otherwise include only firms that survive after some form of selection. We use ISIN codes as identifiers to match each company to its corresponding firm-specific data, and we construct the FF12 industry fixed effects using each firm's SIC codes. Following Ferreira and Matos (2008), we exclude financial firms using their SIC code (6000-6999), removing 83 firms from the sample. Furthermore, following Dahlquist and Robertsson (2001), we exclude depositary receipts and foreign-incorporated firms.

3.2.1. Measurement Issues and Domestic Bias

A potential problem with our measure of foreign institutional ownership is that no information is available on foreigners' use of foreign investment vehicles among Swedes. Since we only have access to data on direct ownership in firms, we cannot, for instance, discriminate between a domestic and a foreign investor investing in a Swedish mutual fund. If foreigners invest in Swedish mutual funds, we underestimate the true foreign ownership. However, the foreign ownership we cannot observe only affects the results if it is tilted towards investment in specific firms. For the same reason, we can overestimate foreign ownership if Swedes invest domestically through firms located outside of Sweden. To mitigate the risk of this skewing our results, depositary receipts and foreign-incorporated firms have been excluded from the sample, following Dahlquist and Robertsson (2001), as these positions do not reveal the true nationality or identity of the ultimate owner. By restricting our sample to Swedish-domiciled firms, we obtain a cleaner, more consistent measure of institutional holdings that aligns with the true

economic exposure of domestic and foreign investors. Any remaining mismeasurement is therefore likely to attenuate estimated coefficients, biasing results toward zero.

For firms in the sample that have several share classes listed in the market, that differ in the number of shares outstanding and in the proportion of ownership held by different institutional investor groups, ownership across share classes is weighted by the number of shares in each class to obtain a consistent measure of total ownership at the firm level. If we did not aggregate total ownership at the firm level, this would distort our results, as our firm-specific data is indeed presented at the firm level. This procedure ensures the variables reflect the actual economic significance of each class rather than giving equal weight to share classes of different sizes.

Although this study focuses exclusively on the Swedish main market, the concept of domestic bias remains relevant. In our sample, domestic institutional investors collectively hold approximately SEK 2,03 trillion in Swedish equities, while foreign institutional investors hold approximately SEK 1,97 trillion, measured at the end of 2024. This near parity between domestic and foreign institutional ownership suggests that the Swedish equity market is relatively open to international investors. However, the substantial domestic institutional presence, despite Sweden's modest share of global market capitalisation, also reflects a degree of home bias. This may stem from informational advantages, regulatory familiarity, or the prevalence of domestic pension funds and mutual institutions with mandates to invest locally, consistent with patterns documented in the international ownership literature (Chan, Covrig and Ng, 2005). Overall, these ownership patterns imply that while Sweden's equity market is accessible to global capital, domestic institutional investors may still play a disproportionately influential role in shaping corporate governance and firm outcomes.

3.2.2. Data Treatment and Limitations

The continuous variables (except for *NPM*) in our sample are winsorised at the 1st and 99th percentiles by year to mitigate distortions in our sample caused by extreme outliers. This is not done to our dummy variables (*MSCI* and *ADR*). For *NPM*, we have cut the variable below -1 and above 1 due to extreme outliers in the data that would otherwise distort our results and were not sufficiently mitigated by standard winsorisation procedures, dropping 53 observations (see Appendix A2).

The final sample includes 339 firms from the Swedish main market. We drop #N/A values in the panel data, and we also apply a global filter where we match each variable with *log_MCAP*,

dropping observations when *log_MCAP* is #N/A. This is done to ensure that all firms included have valid size information. Because our sample includes firms that were not listed for the entire period, the number of observations in the outputs is lower than the number of firms multiplied by the number of years.

Despite the comprehensive set of controls and robustness checks, the empirical design does not establish a causal relationship. Institutional investors may select firms with strong performance rather than induce it, and unobserved time-varying factors may affect both ownership and firm outcomes. These limitations are common in observational studies of ownership and should be considered when interpreting the results.

4. Results and Analysis

4.1. Descriptive statistics

Table 1 presents summary statistics for the variables included in our analysis. On average, Swedish companies exhibit total institutional ownership of 32,1%, of which 11,6% is held by foreign institutions and 20,6% by domestic institutions. As visible in Panel A, the sum of foreign and domestic institutional ownership equals total institutional ownership, where the minor difference (0,1%) is merely a rounding error.

Independent institutional ownership has a mean of 26,0%, whereas grey institutional ownership has a mean of 4,8%. These institutional categories do not sum to total institutional ownership, as they represent subcategories based on institution type, leaving some institutional investor types unaccounted for. Consequently, total institutional ownership also includes institutions that cannot be classified as either independent or grey. Definitions and data sources for all variables are provided in Table A1 in the Appendix.

Table 1

	Mean	Std Dev	Min	Q1	Q2	Q3	Max	N
Panel A: Institutional ownership variables								
<i>IO_TOTAL</i>	0,321	0,212	0,001	0,131	0,314	0,472	0,857	2598
<i>IO_FOREIGN</i>	0,116	0,114	0,000	0,015	0,092	0,177	0,552	2598
<i>IO_DOMESTIC</i>	0,206	0,151	0,000	0,080	0,189	0,310	0,619	2586
<i>IO_INDEP</i>	0,260	0,186	0,000	0,097	0,246	0,392	0,767	2597
<i>IO_GREY</i>	0,048	0,053	0,000	0,000	0,033	0,080	0,232	2598
Panel B: Valuation, operating performance, and investment variables								
<i>Q</i>	2,641	2,778	0,622	1,218	1,695	2,183	27,111	2733
<i>ROA</i>	−0,008	0,218	−1,226	−0,005	0,043	0,086	0,463	2734
<i>NPM</i>	−0,044	0,331	−1,000	0,004	0,046	0,089	1,000	2648
<i>CAPEX</i>	0,039	0,044	0,000	0,011	0,025	0,050	0,307	2743
Panel C: Firm-level control variables								
<i>log_MCAP</i>	8,076	1,944	3,082	6,632	7,980	9,357	12,726	2761
<i>log_BTM</i>	−0,982	0,925	−5,460	−1,502	−0,951	−0,367	1,243	2713
<i>INVOP</i>	0,160	0,549	−0,973	0,009	0,091	0,210	10,831	2357
<i>RETURN</i>	0,140	0,583	−0,898	−0,202	0,049	0,358	5,032	2636
<i>TURNOVER</i>	0,534	0,562	0,021	0,207	0,371	0,647	5,190	2273
<i>DY</i>	0,060	0,173	0,000	0,000	0,014	0,033	0,997	2708
<i>ROE</i>	0,015	0,412	−4,011	−0,009	0,106	0,195	1,278	2697
<i>MSCI</i>	0,078	0,269	0,000	0,000	0,000	0,000	1,000	2761
<i>LEVERAGE</i>	0,209	0,166	0,000	0,068	0,194	0,313	0,918	2743
<i>CASH</i>	0,176	0,216	0,001	0,046	0,092	0,202	0,983	2744
<i>CLOSE</i>	0,379	0,231	0,004	0,201	0,352	0,534	0,981	2468
<i>ADR</i>	0,181	0,385	0,000	0,000	0,000	0,000	1,000	2761
<i>NR_ANALYSTS</i>	3,777	5,540	0,000	1,000	2,000	4,000	37,000	2761
<i>F_SALES</i>	0,626	0,332	0,000	0,384	0,709	0,935	1,000	2596

Table 1 (Summary statistics): This table reports the mean, standard deviation, minimum value, Q1, Q2, Q3, maximum value, and number of observations (N) for all variables in our sample. All variables are as defined in Table A1 in the Appendix. The sample period is 2015-2024. Financial firms are omitted (SIC 6000-6999).

4.2. Hypothesis Testing

The following subsections present the results of our hypothesis tests and combine baseline results with robustness checks to identify statistically meaningful patterns. In this section, we will begin by presenting the results from our first hypothesis, followed by Hypotheses 2 and 3. We consider the regression estimates, robustness checks, and hypothesis implications.

4.2.1. Hypothesis 1

In this section, we investigate the determinants of institutional ownership in the Swedish main market. We examine the preferences of the different institutional investor groups for several different firm-level characteristics. Lastly, we conduct several robustness checks and address our hypotheses.

Table 2

	Panel A			Panel B	
	Total Inst.	For. Inst.	Dom. Inst.	Indep. Inst.	Grey Inst.
log_MCAP	0,059 (7,242)	0,028 (6,980)	0,032 (5,240)	0,058 (9,658)	0,016 (7,821)
log_BTM	-0,027 (-2,120)	0,003 (0,513)	-0,028 (-2,742)	-0,024 (-2,726)	0,007 (2,072)
INVOP	0,007 (0,823)	0,006 (1,142)	0,001 (0,185)	-0,013 (-2,128)	-0,004 (-2,337)
RETURN	-0,015 (-1,451)	0,004 (0,774)	-0,019 (-2,491)	-0,023 (-3,103)	-0,007 (-2,854)
TURNOVER	-0,001 (-0,076)	-0,003 (-0,383)	-0,001 (-0,108)	-0,003 (-0,255)	-0,004 (-0,846)
DY	0,021 (0,572)	0,005 (0,339)	0,021 (0,694)	-0,020 (-0,927)	0,007 (0,731)
ROE	0,004 (0,162)	0,003 (0,352)	-0,001 (-0,036)	0,047 (2,969)	-0,010 (-1,446)
MSCI	-0,152 (-4,195)	-0,039 (-1,658)	-0,115 (-4,181)	-0,137 (-4,721)	-0,029 (-2,986)
LEV	0,060 (0,943)	-0,018 (-0,562)	0,077 (1,494)	0,048 (1,152)	0,025 (1,350)
CASH	0,022 (0,386)	0,060 (2,247)	-0,040 (-0,852)	-0,098 (-2,618)	0,006 (0,403)
CLOSE	-0,213 (-4,435)	-0,111 (-4,523)	-0,101 (-2,802)	-0,347 (11,015)	-0,047 (-4,225)
ADR	-0,013 (-0,479)	0,026 (1,497)	-0,042 (-2,123)	-0,028 (-1,420)	-0,002 (-0,211)
CONST	-0,198 (-2,233)	-0,090 (-1,880)	-0,110 (-1,887)	-0,025 (-0,466)	-0,062 (-3,568)
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
R ²	0,312	0,311	0,213	0,563	0,271
Number of firms	286	286	285	286	286
Observations	1609	1609	1601	1609	1609

Table 2 (Determinants of institutional ownership): This table reports estimates of coefficients of the annual pooled OLS regression of total institutional ownership, foreign institutional ownership, domestic institutional ownership, independent institutional ownership, and grey institutional ownership as a percentage of shares outstanding for firms in our sample. The firm-level regressors include log market capitalisation (log_MCAP), log book-to-market equity ratio (log_BTM), investment opportunities (INVOP), stock return (RETURN), turnover (TURNOVER), dividend yield (DY), return on equity (ROE), MSCI index membership dummy (MSCI), leverage (LEV), cash holdings (CASH), closely held shares (CLOSE), and U.S. cross-listing dummy (ADR). Refer to Table A1 in the Appendix for variable definitions. The sample period is 2015-2024. Financial firms are omitted (SIC 6000-6999). The robust t-statistic is adjusted for clustering at the firm-level. Coefficients significant at 5% in boldface.

Consistent with H1, the results provide evidence that firm visibility is a key determinant of foreign and independent institutional ownership. Firm size, as measured by the logarithm of the market capitalisation, is positively and significantly associated with both foreign and independent institutional ownership. The positive coefficients indicate that larger firms attract higher ownership stakes from these investor groups, suggesting that firm visibility, recognition, and lower information asymmetry play an important role in institutional investment decisions. These findings support the view that foreign and independent institutions prefer firms that are more visible and easier to monitor.

Governance-related characteristics also appear to be important. The proportion of closely held shares is negatively and significantly associated with both foreign and independent institutional ownership, indicating that institutions are less likely to invest in firms with concentrated insider ownership. This result aligns closely with Hypothesis 1 and suggests that foreign and independent institutional investors favour firms with more dispersed ownership structures and greater free float, which are typically associated with stronger governance and lower entrenchment risk. In addition, firms with higher cash holdings exhibit significantly higher foreign institutional ownership and significantly lower independent institutional ownership, highlighting that balance sheet characteristics may affect institutional investor types differently.

MSCI index membership is negatively and significantly associated with independent institutional ownership, a result that contrasts with the expectation that index inclusion proxies for greater firm visibility. This finding suggests that, conditional on the set of firm characteristics included in the model, index membership does not translate into higher ownership by these investor groups.

Finally, other firm characteristics, including book-to-market ratio, investment opportunities, profitability, past stock returns, dividend yield, share turnover, and leverage, do not consistently explain foreign or independent institutional ownership. Overall, the results suggest that visibility and governance-related firm characteristics, proxied by firm size and ownership dispersion, dominate over short-term performance measures or index inclusion in explaining ownership patterns for foreign and independent institutional investors.

Table 3

Panel A: Standardised Regressions					
	Total Inst.	For. Inst.	Dom. Inst.	Indep. Inst.	Grey Inst.
<i>log_MCAP</i>	0,0889	0,0627	0,0259	0,1098	0,0059
<i>log_BTM</i>	0,0153	0,0153	-0,0002	-0,0002	0,0082
<i>INVOP</i>	-0,0055	-0,0014	-0,0041	-0,0023	-0,0017
<i>RETURN</i>	-0,0058	-0,0001	-0,0057	-0,0109	-0,0003
<i>TURNOVER</i>	-0,0032	-0,0018	-0,0015	-0,0032	0,0006
<i>DY</i>	0,0008	0,0022	-0,0012	-0,0005	0,0010
<i>ROE</i>	-0,0032	-0,0023	-0,0013	-0,0013	-0,0003
<i>MSCI</i>	-0,0074	-0,0039	-0,0043	-0,0084	0,0005
<i>LEV</i>	0,0045	-0,0006	0,0034	0,0019	0,0010
<i>CASH</i>	-0,0083	-0,0046	-0,0046	-0,0074	-0,0028
<i>CLOSE</i>	-0,0307	-0,0166	-0,0163	-0,0415	-0,0028
<i>ADR</i>	0,0049	-0,0023	0,0078	0,0006	0,0021
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
R ²	0,156	0,209	0,066	0,287	0,056
Number of firms	286	286	285	286	286
Observations	1609	1609	1601	1609	1609

Panel B: Fama-MacBeth					
	Total Inst.	For. Inst.	Dom. Inst.	Indep. Inst.	Grey Inst.
<i>log_MCAP</i>	0,1035	0,0490	0,0557	0,1014	0,0282
<i>log_BTM</i>	-0,0237	0,0074	-0,0290	-0,0189	0,0032
<i>INVOP</i>	-0,0008	-0,0008	-0,0007	-0,0210	-0,0050
<i>RETURN</i>	-0,0141	0,0007	-0,0149	-0,0116	-0,0030
<i>TURNOVER</i>	0,0016	-0,0013	0,0013	-0,0024	-0,0013
<i>DY</i>	-0,0005	-0,0005	0,0014	-0,0070	0,0008
<i>ROE</i>	0,0032	0,0050	-0,0023	0,0223	-0,0056
<i>MSCI</i>	-0,0353	-0,0043	-0,0316	-0,0396	-0,0078
<i>LEV</i>	0,0102	-0,0010	0,0112	0,0103	0,0030
<i>CASH</i>	0,0061	0,0110	-0,0047	-0,0279	0,0029
<i>CLOSE</i>	-0,0496	-0,0249	-0,0243	-0,0762	-0,0103
<i>ADR</i>	-0,0119	0,0068	-0,0198	-0,0119	-0,0001
Year dummies	No	No	No	No	No
Industry dummies	No	No	No	No	No
R ²	0,324	0,279	0,216	0,562	0,270
Number of firms	286	286	285	286	286
Observations	1609	1609	1601	1609	1609

Table 3 (Determinants of institutional ownership): robustness checks and additional tests): This table reports the coefficients from the annual pooled OLS regression of total institutional ownership, foreign institutional ownership, domestic institutional ownership, ownership by independent institutions, and ownership by grey institutions, expressed as a percentage of shares outstanding, for firms in our sample. Panel A reports estimates from the standardised regressions. Panel B reports estimates from the Fama-MacBeth estimation procedure. The firm-level regressors include log market capitalisation (*log_MCAP*), log book-to-market equity ratio (*log_BTM*), investment opportunities (*INVOP*), stock return (*RETURN*), turnover (*TURNOVER*), dividend yield (*DY*), return on equity (*ROE*), MSCI index membership dummy (*MSCI*), leverage (*LEV*), cash holdings (*CASH*), closely held shares (*CLOSE_OS*), and U.S. cross-listing dummy (*ADR*). Refer to Table A1 in the appendix for variable definitions. The sample period is 2015-2024. Financial firms are omitted (6000-6999). Coefficients significant at the 5% level are in boldface.

Across both panels, firm size remains a positive determinant of foreign and independent institutional ownership. The standardised coefficients indicate that size is among the most important explanatory variables, particularly for independent institutions, reinforcing the interpretations that more visible firms attract higher institutional ownership.

Governance-related characteristics also remain robust. The proportion of closely held shares is negatively associated with foreign and independent institutional ownership in both specifications, confirming that institutions prefer firms with more dispersed ownership structures and greater free float.

Other firm characteristics display limited and inconsistent explanatory power once standardised or estimated using the Fama-MacBeth approach, and the economic magnitude remains small relative to size and ownership concentration. Notably, MSCI index membership remains significantly negative across specifications for independent institutional investors, contrary to our expectation that this visibility proxy would be positively associated. Given the strong correlation between MSCI membership and firm size (see Appendix A7), supported by a VIF of 12,89 for log market capitalisation (see Appendix A5), we further assess whether this result is driven by multicollinearity. Re-estimating the baseline regression with log market capitalisation eliminates the negative association between MSCI membership and independent institutional ownership (Appendix A6), indicating that the earlier MSCI result was largely driven by overlap with firm size rather than reflecting an independent visibility proxy.

Finally, untabulated extensions of Table 3 include analyst coverage and foreign sales as alternative proxies for firm visibility. The inclusion of these variables does not alter the main results: firm size remains positively associated with foreign and independent institutional ownership, while closely held shares continue to exhibit a strong negative association. Overall, the findings confirm that the baseline results are robust to alternative specifications and diagnostics and are primarily driven by firm size and governance characteristics.

Overall, the results support H1 by showing that firm visibility and governance characteristics, particularly larger firm size and more dispersed ownership, are positively associated with foreign and independent institutional ownership, while other firm characteristics play a limited role once these factors are accounted for.

4.2.2. Hypothesis 2

Table 4 presents the baseline regressions testing whether foreign and independent institutional ownership is associated with higher firm value. Across all specifications, the valuation proxies behave as expected: larger firms and more liquid firms are associated with higher firm values, while financially leveraged firms trade at lower valuations. These patterns confirm that the model captures the standard determinants of market value, allowing the effects of ownership structure to be interpreted in a focused way. The R^2 of around 0,30 indicates that our specifications perform well in accounting for cross-sectional variation in Tobin's Q .

Table 4

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>IO_TOTAL</i>	0,1135 (2,25)						
<i>IO_FOREIGN</i>		0,1741 (1,60)		0,1406 (1,27)			
<i>IO_DOMESTIC</i>			0,1138 (1,79)	0,0887 (1,38)			
<i>IO_INDEP</i>					0,0835 (1,57)		0,1273 (2,33)
<i>IO_GREY</i>						-0,4056 (-2,21)	-0,5189 (-2,80)
<i>log_MCAP</i>	0,0375 (5,71)	0,0393 (6,07)	0,0399 (6,10)	0,0376 (5,69)	0,0384 (5,52)	0,0475 (7,00)	0,0417 (5,83)
<i>INVOP</i>	0,0182 (1,46)	0,0186 (1,46)	0,0190 (1,54)	0,0182 (1,45)	0,0207 (1,65)	0,0178 (1,45)	0,0186 (1,52)
<i>LEV</i>	-0,1401 (-2,73)	-0,1370 (-2,72)	-0,1376 (-2,64)	-0,1397 (-2,73)	-0,1376 (-2,67)	-0,1231 (-2,38)	-0,1272 (-2,47)
<i>CASH</i>	0,4905 (7,14)	0,4905 (7,20)	0,4946 (7,07)	0,4902 (7,22)	0,4989 (7,04)	0,5018 (7,17)	0,5070 (7,21)
<i>ADR</i>	-0,5721 (-2,00)	-0,6559 (-2,34)	-0,5193 (-1,79)	-0,5950 (-2,11)	-0,5589 (-1,93)	-0,5766 (-2,00)	-0,5466 (-1,90)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0,306	0,303	0,303	0,305	0,302	0,304	0,309
Number of firms	332	332	332	332	332	332	333
Observations	2733	2733	2733	2733	2733	2733	2733
F-statistic				0,138			9,996
p-value				0,7107			0,0017

Table 4 (Institutional ownership and firm value): This table reports the coefficients from annual time-series cross-sectional OLS regressions of Tobin's Q for firms in our sample. Institutional ownership variables include institutional ownership (*IO_TOTAL*), foreign institutional ownership (*IO_FOREIGN*), domestic institutional ownership (*IO_DOMESTIC*), ownership by independent institutions (*IO_INDEP*), and ownership by grey institutions (*IO_GREY*), expressed as a percentage of shares outstanding. Firm-level control variables include log market capitalisation (*log_MCAP*), investment opportunities (*INVOP*), leverage (*LEV*), cash holdings (*CASH*), and a U.S. cross-listing dummy (*ADR*). Refer to Table A1 for variable definitions. The sample period is 2015-2024. Financial firms are omitted (SIC 6000-6999). T-statistics are in parentheses. Coefficients significant at the 5% level are in boldface. The F-test is presented at the bottom of the table.

Considering the institutional ownership variables, our baseline results provide limited evidence that foreign institutional ownership is associated with higher firm value. The regression estimates for foreign ownership enter with an expected positive direction but lack statistical significance across all specifications. Furthermore, the magnitude of the estimates remains small relative to other institutional investor groups. Domestic institutions, by contrast, display a somewhat stronger association with firm value when examined in isolation, although this association is weakened when introduced alongside foreign ownership. These estimates suggest that the positive and significant association between total institutional ownership and firm value is not predominantly driven by foreign institutional investors.

We identify a clearer pattern when distinguishing between independent and grey institutional ownership. Independent ownership is consistently positively associated with firm value and becomes statistically meaningful when estimated jointly with grey ownership. The magnitude of this association (0,1273) implies that firms with higher independent ownership exhibit materially higher valuations. In contrast, grey institutional ownership is robustly negatively associated with firm value. The estimated association is considerable. Grey institutional ownership remains significantly negative across all specifications, and the joint inclusion of independent ownership has an F-statistic with a p -value below 0,01, indicating that investor heterogeneity is highly relevant when explaining firm value.

Our robustness tests, presented in Table 5, reinforce these conclusions. When Q is log-transformed to increase comparability, the valuation patterns become even more distinct. Both domestic and independent institutions become strongly significant, while grey institutions continue to be strongly negative. Foreign ownership again displays no meaningful association with Q ($t = 0,57$). The reciprocal transformation of Q ($-1/Q$) yields a similar ordering of estimated associations between institutional ownership and Q , with signs and relative magnitudes remaining stable.

Our Fama-MacBeth regressions underscore the consistency of our findings. Independent ownership has a positive and highly significant association with firm value in the model, while grey ownership remains significantly negative. Foreign institutional ownership remains statistically insignificant, mirroring our baseline results. Median regression confirms that the conclusions are not driven by firms in the upper tail of the valuation-driven distribution. Independent institutional ownership retains a positive association with median valuations, and

grey institutional ownership again displays a clear negative association, reinforcing that the baseline estimations are not influenced by extreme observations.

The correlation matrix (Appendix A7) shows that while institutional ownership measures are mechanically related, the correlations remain below thresholds typically associated with problematic multicollinearity. This allows independent and grey institutional ownership to be jointly included, ensuring the opposing effects are not driven by collinearity concerns.

Taking these results into consideration, we find partial support for Hypothesis 2. Independent institutional ownership exhibits a stable and statistically meaningful positive relationship with firm value across our baseline specification and all robustness specifications. Grey institutional ownership, conversely, is consistently associated with lower firm value. However, foreign institutional ownership does not display a systematic valuation effect in this setting, despite our theoretical prediction. The observed positive valuation premium for total institutional ownership, therefore, appears to be driven by independent (and to some degree domestic) institutional investors, rather than by foreign institutions. In summary, Hypothesis 2 is supported for independent institutional investors but not for foreign institutional investors.

Table 5

Regression type Dependent variable	Panel A			Panel B			Panel C		
	OLS log(Q)			OLS $-1/Q$			Fama-Macbeth OLS log(Q)		
<i>IO_TOTAL</i>	0,0324 (2,73)			0,0158 (2,88)			0,0363 (9,92)		
<i>IO_FOREIGN</i>		0,0138 (0,57)			-0,0002 (-0,02)			0,0027 (0,33)	
<i>IO_DOMESTIC</i>		0,0401 (2,58)			0,0237 (3,37)			0,0522 (7,11)	
<i>IO_INDEP</i>			0,0462 (3,40)			0,0258 (4,00)			0,0465 (6,29)
<i>IO_GREY</i>			-0,1311 (-3,00)			-0,0572 (-2,84)			-0,0759 (-2,93)
<i>log_MCAP</i>	0,0124 (7,80)	0,0126 (7,80)	0,0128 (7,70)	0,0067 (8,38)	0,0068 (8,37)	0,0066 (8,12)	0,0109 (11,06)	0,0112 (11,35)	0,0109 (10,08)
<i>INVOP</i>	0,0048 (1,44)	0,0049 (1,49)	0,0051 (1,62)	0,0020 (1,27)	0,0021 (1,35)	0,0022 (1,52)	0,0155 (3,54)	0,0154 (3,54)	0,0159 (3,58)
<i>LEV</i>	-0,0336 (-2,29)	-0,0335 (-2,26)	-0,0309 (-2,11)	-0,0089 (-1,25)	-0,0088 (-1,22)	-0,0079 (-1,11)	-0,0554 (-7,04)	-0,0547 (-7,07)	-0,0546 (-7,41)
<i>CASH</i>	0,1227 (8,59)	0,1233 (8,66)	0,1275 (8,85)	0,0502 (8,41)	0,0507 (8,45)	0,0525 (8,72)	0,1440 (17,57)	0,1450 (17,56)	0,1510 (18,16)
<i>ADR</i>	-0,1969 (-2,82)	-0,1840 (-2,69)	-0,1874 (-2,71)	-0,1092 (-3,38)	-0,0977 (-3,05)	-0,1038 (-3,27)	-0,1761 (-5,99)	-0,1554 (-5,12)	-0,1680 (-5,44)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
R ²	0,411	0,411	0,417	0,392	0,394	0,399	0,362	0,366	0,366
Number of firms	332	332	332	332	332	332	332	332	332
Observations	2733	2733	2733	2733	2733	2733	2733	2733	2733

Table 5 (continued)

Dependent variable	Median Q		
<i>IO_TOTAL</i>	0,0595 (6,74)		
<i>IO_FOREIGN</i>		-0,0129 (-0,73)	
<i>IO_DOMESTIC</i>		0,0995 (8,16)	
<i>IO_INDEP</i>			0,0643 (5,42)
<i>IO_GREY</i>			-0,1061 (-2,75)
<i>log_MCAP</i>	0,0178 (14,81)	0,0179 (15,00)	0,0189 (14,31)
<i>INVOP</i>	0,0112 (3,28)	0,0121 (3,58)	0,0100 (2,90)
<i>LEV</i>	-0,0485 (-4,00)	-0,0547 (-4,57)	-0,0445 (-3,62)
<i>CASH</i>	0,3457 (32,97)	0,3483 (33,68)	0,3661 (34,56)
<i>ADR</i>	-0,3067 (-5,75)	-0,2379 (-4,42)	-0,3023 (-5,61)
Year dummies	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes
R ²	0,162	0,164	0,162
Number of firms	332	332	332
Observations	2733	2733	2733

*Table 5 (Institutional ownership and firm value – Robustness checks): This table reports the coefficients from annual time-series cross-sectional OLS regressions of Tobin's Q for firms in our sample. Panel A reports estimates of OLS regressions of log Tobin's Q ($\log(Q)$). Panel B reports estimates of OLS regression minus the reciprocal of Tobin's Q ($-1/Q$). Panel C reports Fama-MacBeth regressions of log Tobin's Q ($\log(Q)$). Panel D reports median regressions of Tobin's Q (Q). Institutional ownership variables include total institutional ownership (*IO_TOTAL*), foreign institutional ownership (*IO_FOREIGN*), domestic institutional ownership (*IO_DOMESTIC*), ownership by independent institutions (*IO_INDEP*), and ownership by grey institutions (*IO_GREY*), expressed as a percentage of shares outstanding. Firm-level regressors include log market capitalisation (*log_MCAP*), investment opportunities (*INVOP*), leverage (*LEV*), cash holdings (*CASH*), and a US cross-listing dummy (*ADR*). Refer to Table A1 in the Appendix for variable definitions. The sample period is 2015-2024. Financial firms are omitted (SIC 6000-6999). T-statistics are in parentheses, with firm-level clustering for OLS regressions. Coefficients significant at the 5% level are in boldface.*

4.2.3. Hypothesis 3

In this section, we examine whether foreign and independent institutional ownership is associated with better operating performance and investment discipline. Table 6 reports the baseline estimates for return on assets (*ROA*), net profit margin (*NPM*), and capital expenditures (*CAPEX*). Across these specifications, the contrasts between institutional owner types are pronounced, and the pattern is mainly consistent with the idea that institutions differ in their monitoring abilities.

In our baseline estimation, foreign institutional ownership displays no meaningful association with operating profitability. The coefficients on *ROA* and *NPM* are small, insignificant, and close to zero when estimated in the joint specification. These estimates suggest that foreign institutional investors, who face higher information costs in block holder-dominated environments, do not appear to influence the short-run operating performance outcomes in a systematic way.

On the other hand, we find that independent institutional ownership has a positive and significant association with *ROA* (0,088). The *ROA* coefficients for independent ownership are consistently positive and significant at conventional levels (0,109 in the joint specification). Similar results are found in the baseline estimates for independent institutions and *NPM*, where the positive association between independent institutional ownership is also positive and strongly significant (0,145) in the joint specification. Our findings indicate that firms with larger independent ownership tend to exhibit stronger profitability, possibly due to monitoring actions.

Grey institutions exhibit the opposite pattern. The estimates on grey ownership are negative and strongly significant for both *ROA* (−0,304) and *NPM* (−0,474). The *ROA* estimate for grey institutions suggests that firms held by banks, insurance companies, and pension funds perform systematically worse on average. When independent and grey institutional investors are included in the joint specification, their coefficients diverge sharply and significantly, with the F-test rejecting equality at the 1% level. This reinforces the conclusions that independent and grey investors are fundamentally different in the context of influencing operating performance.

Table 6

	Panel A: Return on Assets (ROA)					Panel B: Net Profit Margin (NPM)				
<i>IO_TOTAL</i>	−0,026 (−0,678)					−0,029 (−0,491)				
<i>IO_FOREIGN</i>		−0,013 (−0,183)	0,001 (0,010)				0,027 (0,226)	0,049 (0,426)		
<i>IO_DOMESTIC</i>			−0,043 (−0,998)					−0,080 (−1,163)		
<i>IO_INDEP</i>				0,088 (2,531)	0,109 (3,054)				0,112 (1,754)	0,145 (2,213)
<i>IO_GREY</i>					−0,304 (−2,554)					−0,474 (−2,293)
<i>log_MCAP</i>	0,030 (4,338)	0,030 (4,149)	0,030 (4,091)	0,024 (3,956)	0,027 (4,285)	0,051 (5,140)	0,049 (4,802)	0,050 (4,856)	0,043 (4,734)	0,047 (5,012)
<i>log_BTM</i>	−0,021 (−2,399)	−0,020 (−2,242)	−0,022 (−2,421)	−0,018 (−1,940)	−0,017 (−1,807)	−0,021 (−1,469)	−0,019 (−1,380)	−0,022 (−1,567)	−0,017 (−1,157)	−0,015 (−1,016)
<i>INVOP</i>	0,004 (0,299)	0,003 (0,287)	0,002 (0,141)	0,005 (0,409)	0,004 (0,347)	0,020 (0,842)	0,020 (0,822)	0,018 (0,762)	0,022 (0,910)	0,021 (0,871)
<i>LEV</i>	−0,142 (−3,253)	−0,143 (−3,314)	−0,140 (−3,210)	−0,151 (−3,481)	−0,144 (−3,335)	−0,177 (−2,085)	−0,179 (−2,126)	−0,180 (−2,192)	−0,188 (−2,221)	−0,177 (−2,115)
<i>CASH</i>	−0,401 (−6,781)	−0,401 (−6,749)	−0,404 (−6,766)	−0,392 (−6,580)	−0,383 (−6,464)	−0,783 (−7,524)	−0,783 (−7,518)	−0,792 (7,615)	−0,771 (−7,287)	−0,758 (−7,178)
<i>ADR</i>	−0,027 (−1,410)	−0,026 (−1,436)	−0,028 (−1,551)	−0,023 (−1,224)	−0,023 (−1,229)	−0,034 (−1,006)	−0,035 (−1,044)	−0,040 (−1,198)	−0,030 (−0,877)	−0,029 (−0,864)
<i>CONST</i>	−0,093 (−1,903)	−0,092 (−1,800)	−0,085 (−1,671)	−0,073 (−1,573)	−0,086 (−1,852)	−0,219 (−2,779)	−0,213 (−2,649)	−0,203 (−2,508)	−0,194 (−2,590)	−0,215 (−2,844)
R ²	0,292	0,291	0,293	0,296	0,302	0,327	0,327	0,329	0,329	0,334
Number of firms	320	320	319	320	320	318	318	317	318	318
Observations	2199	2199	2191	2198	2198	2187	2187	2179	2186	2186
F-statistic			0,302		9,825			0,909		7,154
p-value			0,5833		0,0019			0,3411		0,0079

Table 6 (continued)

Panel C: Capital Expenditures (<i>CAPEX</i>)					
<i>IO_TOTAL</i>	−0,011 (−1,318)				
<i>IO_FOREIGN</i>		−0,010 (−0,673)	−0,008 (−0,479)		
<i>IO_DOMESTIC</i>			−0,012 (−0,813)		
<i>IO_INDEP</i>				−0,019 (−1,680)	−0,021 (−1,905)
<i>IO_GREY</i>					0,033 (0,776)
<i>log_MCAP</i>	−0,002 (−1,831)	−0,003 (−2,093)	−0,002 (−1,842)	−0,002 (−1,375)	−0,002 (−1,466)
<i>log_BTM</i>	−0,006 (−2,807)	−0,006 (−2,708)	−0,006 (−2,715)	−0,006 (−2,839)	−0,006 (−2,903)
<i>INVOP</i>	0,001 (0,583)	0,001 (0,564)	0,001 (0,642)	0,001 (0,341)	0,001 (0,392)
<i>LEV</i>	−0,016 (−1,414)	−0,017 (−1,463)	−0,016 (−1,365)	−0,016 (−1,406)	−0,017 (−1,508)
<i>CASH</i>	−0,019 (−1,862)	−0,019 (−1,849)	−0,019 (−1,811)	−0,021 (−2,031)	−0,022 (−2,114)
<i>ADR</i>	0,013 (3,002)	0,014 (3,168)	0,013 (2,861)	0,013 (2,922)	0,013 (2,925)
<i>CONST</i>	0,071 (6,724)	0,071 (6,742)	0,071 (6,656)	0,068 (6,558)	0,070 (6,454)
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
R ²	0,110	0,108	0,104	0,113	0,114
Number of firms	320	320	319	320	320
Observations	2198	2198	2190	2197	2197
F-statistic			0,020		1,428
p-value			0,8863		0,2330

Table 6 (Institutional ownership, operating performance, and capital expenditures): This table reports the estimated coefficients from an annual time-series cross-sectional OLS regression of return on assets (ROA), net profit margin (NPM), and capital expenditures (CAPEX) for firms in our sample. Institutional ownership variables include total institutional ownership (*IO_TOTAL*), foreign institutional ownership (*IO_FOREIGN*), domestic institutional ownership (*IO_DOMESTIC*), ownership by independent institutions (*IO_INDEP*), and ownership by grey institutions (*IO_GREY*), expressed as a percentage of share outstanding. Firm-level control variables include log market capitalisation (*log_MCAP*), investment opportunities (*INVOP*), leverage (*LEV*), cash holdings (*CASH*), U.S. cross-listing dummy (*ADR*), and log book-to-market equity ratio (*log_BTM*). Refer to Table A1 in the Appendix for variable definitions. The sample period is 2015-2024. Financial firms are omitted (SIC 6000-6999). T-statistics are in parentheses. Coefficients significant at the 5% level are in boldface.

In Panel C, we estimate the relationships between our different institutional ownership groups and *CAPEX* as a measure of investment discipline. All our ownership variables show small point estimates, but the directions and significance levels of our estimates provide valuable insights into the associations between ownership types and monitoring strength. Foreign and domestic institutional ownership exhibit modest and negative coefficients. These coefficients do, however, lack significance and are therefore not clear indicators of investment discipline improvements.

Grey institutions exhibit the opposite pattern. The estimates on grey ownership are negative and strongly significant for both *ROA* ($-0,304$) and *NPM* ($-0,474$). The *ROA* estimate for grey institutions suggests that firms held by banks, insurance companies, and pension funds perform systematically worse on average. When independent and grey institutional investors are included in the joint specification, their coefficients diverge sharply and significantly, with the F-test rejecting equality at the 1% level. This reinforces the conclusions that independent and grey investors are fundamentally different in the context of influencing operating performance.

In Panel C, we estimate the relationships between our different institutional ownership groups and *CAPEX* as a measure of investment discipline. All our ownership variables show small point estimates, but the directions and significance levels of our estimates provide valuable insights into the associations between ownership types and monitoring strength. Foreign and domestic institutional ownership exhibit modest and negative coefficients. These coefficients do, however, lack significance and are therefore not clear indicators of investment discipline improvements. We find that independent institutional ownership is more consistently aligned with reduced overinvestment. Our baseline specification yields a coefficient of $-0,021$, significant at the 10% level, indicating slightly reduced overinvestment among firms with higher independent ownership. Grey ownership has a weak and insignificant association with *CAPEX*, and the joint specification again displays estimates that differ in direction, although the gap is less pronounced when compared with operating performance.

Our untabulated robustness checks reinforce these conclusions. The correlation matrix (Appendix A7) is consistent with these findings, while also indicating clustering among institutional ownership measures, implying that ownership effects should be interpreted in joint specifications. When ownership variables are standardised, the positive association between independent ownership and profitability persists, while grey institutional ownership continues to exhibit negative and statistically significant associations with both *ROA* and *NPM*. The

CAPEX estimates remain small but directionally similar. Fama-MacBeth regressions display the same pattern. Across all robustness specifications, the differences between independent and grey institutional ownership remain statistically significant, confirming their distinct roles.

Our evidence provides partial support for Hypothesis 3. Independent institutional ownership is positively associated with operating performance and exhibits signs of promoting better investment discipline. Foreign ownership, however, shows no comparable relationship. Our results indicate that monitoring-oriented institutions are linked to better firm outcomes.

5. Discussion

This section interprets the empirical findings in relation to the theoretical framework and prior literature. Rather than restating results, the discussion focuses on how the findings inform institutional ownership theories and how Sweden's governance structure conditions their applicability. Taken together, the findings suggest that institutional ownership patterns in Sweden broadly resemble prior international evidence, although the strength of associations varies across ownership types and firm characteristics. This divergence across institutional categories highlights that the mechanisms identified in global studies do not translate uniformly into a concentrated ownership regime.

The findings suggest that institutional ownership in Sweden is primarily driven by firm size rather than a broad set of visibility proxies. This pattern aligns with arguments that firm size embeds many of the informational and liquidity attributes valued by institutional investors. Firm size emerges as the strongest predictor of institutional ownership, consistent with the investor-recognition hypothesis (Merton, 1987) and previous findings by Dahlquist and Robertsson (2001). Larger firms naturally attract analyst coverage and market attention, lowering information frictions and attracting institutions. The size association is robust across pooled, standardised, and cross-sectional estimations, confirming its central role in institutional capital allocation. Meanwhile, the consistently negative association between ownership concentration and institutional ownership indicates that entrenched block holders limit the scope for external monitoring. This pattern is especially pronounced among foreign and independent institutional investors, who benefit most from the ability to exert influence and monitor management (Chen, Harford, and Li, 2007; Ferreira and Matos, 2008). Together, firm size and ownership concentration illustrate how visibility and governance constraints operate

jointly. Size expands the information set while ownership concentration restricts the feasibility of influence.

The weak association between MSCI inclusion and stock returns is consistent with the argument that widely used international visibility proxies may be less informative in Sweden, where disclosure standards are high and firm-level transparency is relatively uniform. When size is excluded from the specification, profitability (*ROE*) and *ADR* emerge as significantly positive predictors. This suggests that institutions substitute for secondary visibility or performance signals once the dominant size characteristic is removed, an interpretation aligned with Merton (1987). Overall, the results provide only partial support for non-size determinants of visibility. Institutional sorting appears less multidimensional in Sweden than in more fragmented markets, reflecting the homogenising effects of high transparency combined with concentrated control.

The positive association between foreign and independent institutional ownership and firm value should be interpreted as a correlation rather than evidence of causal monitoring effects. Independent institutions are positively associated with firm value, as measured by Tobin's *Q*, a finding consistent with monitoring theory and with empirical findings by Brickley, Lease, and Smith (1988) and Ferreira and Matos (2008). This positive association strengthens once grey ownership is included, underscoring the importance of distinguishing between pressure-resistant and pressure-sensitive investors. By comparison, grey institutional ownership is consistently and significantly associated with lower firm value. This aligns with the argument that institutions that face potential conflicts of interest may be reluctant to challenge managerial decisions (Chen, Harford, and Li, 2007). These contrasting associations highlight that investor heterogeneity is central to understanding valuation outcomes, even in a governance regime where the scope for external influence is structurally constrained. Overall, valuation patterns suggest selection rather than influence, consistent with information- and recognition-based theories.

Our estimates on foreign institutional ownership and firm value do not reflect the positive association documented by Ferreira and Matos (2008). Our estimates are either insignificant or negatively associated with firm value. This divergence likely reflects the informational disadvantages faced by foreign investors (Bae, Stulz and Tan, 2008) and the difficulty of governance influence in the presence of entrenched block holders and dual class share structures. The Swedish market's high concentration of control rights may inhibit the monitoring channels of foreign institutions, consistent with the findings of Cronqvist and

Nilsson (2003). The negative median associations further indicate that foreign institutional investors may overweight holdings in mature companies or firms that are seeking external financing, consistent with the visibility and information-based explanations (Leuz, Lins, and Warnock, 2008). Our results reinforce the view that foreign investors' informational disadvantage is amplified in block holder-dominated environments, reducing their ability to translate ownership into governance impact.

Our regression tests on institutional investors and operating performance provide stronger support for the monitoring hypothesis, especially when controlling for independent institutional ownership. The positive and significant relationship between independent ownership and both *ROA* and *NPM* mirrors improvements in operating performance documented by Ferreira and Matos (2008) and reflects theoretical predictions that informed, pressure-resistant institutions efficiently monitor management and promote efficient resource use. At the same time, we find that independent ownership is negatively and significantly associated with capital expenditures (*CAPEX*), supporting the argument that effective monitoring might reduce managerial overinvestment. This aligns with previous empirical findings by Ferreira and Matos (2008) and Gaspar, Massa, and Matos (2005). These performance-based results suggest that independent institutions influence internal efficiency metrics more consistently than valuation metrics, possibly because operational decisions are less shielded by control-rights than strategic or ownership-related decisions.

The performance and investment results provide mixed evidence on monitoring-based predictions, indicating that ownership relations vary across outcome dimensions. Regarding operating performance, grey institutions exhibit patterns consistent with pressure sensitivity. Grey ownership is negatively associated with both *ROA* and *NPM*, while being unrelated to investment discipline. The performance estimates for foreign institutions are specification dependent. The estimates are insignificant in our pooled OLS regression but positive in our Fama-MacBeth regression. This suggests that foreign institutional investors select firms with better cross-sectional performance but do not consistently influence performance over time. This reflects the constraints imposed by information asymmetries and limited control rights in Sweden. Stronger associations with operating performance than with investment measures are consistent with monitoring-oriented investors being present in firms with stronger operational performance.

Collectively, our findings indicate that the theoretical mechanism described in previous literature manifests asymmetrically across institutional investor types. Monitoring appears to operate effectively in Sweden, but primarily through independent institutional investors rather than foreign ones, while grey institutions, by contrast, do not appear to exert any monitoring influence, consistent with the conflict-of-interest arguments by Brickley, Lease and Smith (1988). In this sense, Sweden's governance regime filters global monitoring predictions, amplifying some while dampening others. Sweden's ownership structure, characterised by dual class shares and dominant block holders, substantially constrains the influence of institutional investors. Even when institutions hold significant cash-flow rights, control is often decoupled from ownership, limiting their ability to affect strategic decisions. This helps explain why ownership is more strongly related to valuation and efficiency than to investment behaviour.

6. Conclusion

This thesis examines how different types of institutional investors are associated with firm characteristics, firm value, operating performance, and investment behaviour in the Swedish equity market. By distinguishing between foreign and domestic institutions, as well as independent and grey institutions, the study contributes to the literature by emphasising heterogeneity within institutional ownership in a post-IFRS, post-crisis environment characterised by concentrated control and multiple share classes.

The results show that firm size and ownership concentration are key determinants of institutional ownership, particularly for foreign and independent investors. Independent institutional ownership is positively associated with firm value and operating performance and negatively associated with capital expenditures, consistent with a monitoring and investment-discipline role. In contrast, grey institutional ownership is generally associated with lower firm value, weaker performance, and higher investment intensity. Foreign institutional ownership shows weaker and less robust associations with firm outcomes. By focusing on a concentrated ownership setting, this study extends prior evidence largely based on dispersed ownership markets and provides new insights into institutional behaviour in a Swedish context.

The study is observational in nature and does not permit causal interpretations. Reverse causality and omitted variable bias may remain concerns despite the inclusion of firm-level controls and fixed effects. Additionally, the classification of institutional investors may be subject to measurement error. The focus on Swedish firms may also limit generalisability.

Taken together, these limitations point to several interesting topics for further research. Future research could examine the specific mechanisms through which independent institutional investors engage in monitoring, such as engagement activities, proxy voting, board involvement, or participation in nomination committees. Such work would deepen our understanding of how monitoring operates in concentrated ownership environments. Future work could also explore the conditions under which foreign investors might overcome informational or control-right barriers. A comparative approach examining other block holder-dominated markets could clarify whether Sweden represents a unique case or part of a broader governance pattern. Finally, improved classifications of institutional investors, particularly distinctions between active and passive strategies, may further clarify how investor heterogeneity shapes governance outcomes.

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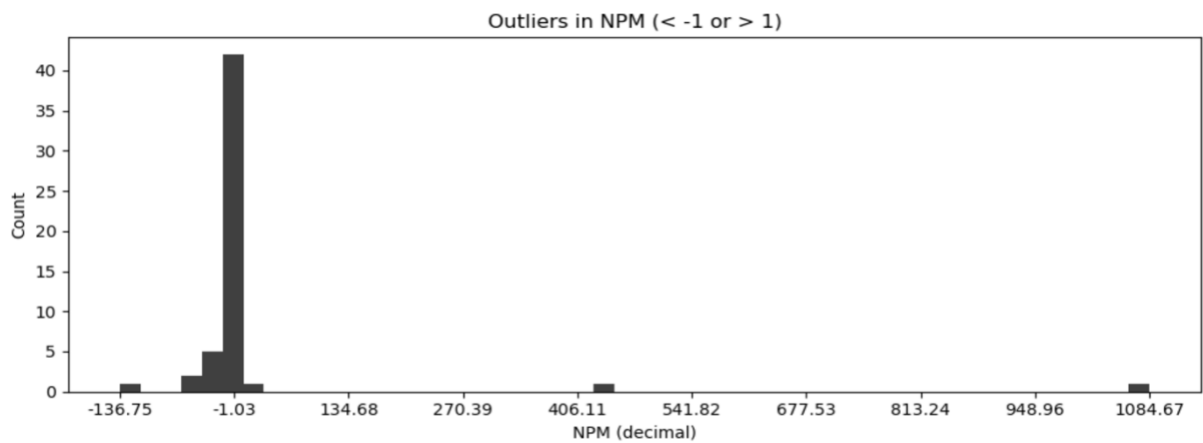
8. Appendix

Appendix 1. Variable definitions

Variable		Definition
<i>Panel A: Institutional ownership variables</i>		
Total institutions	<i>IO_TOTAL</i>	Institutional ownership by all institutions as a percentage of shares outstanding (FactSet)
Foreign institutions	<i>IO_FOREIGN</i>	Institutional ownership by foreign institutions as a percentage of shares outstanding (FactSet)
Domestic institutions	<i>IO_DOMESTIC</i>	Institutional ownership by domestic institutions as a percentage of shares outstanding (FactSet)
Independent institutions	<i>IO_INDEP</i>	Institutional ownership by independent institutions (mutual funds, investments advisers, hedge funds, funds of funds, funds of hedge funds) as a percentage of shares outstanding (FactSet)
Grey institutions	<i>IO_GREY</i>	Institutional ownership by grey institutions (banks, insurance companies, pension funds, foundations, endowments, sovereign wealth managers) as a percentage of shares outstanding (FactSet)
<i>Panel B: Valuation, operating performance and investment variables</i>		
Tobin's Q	<i>Q</i>	Sum of total assets (FactSet) plus market value of equity (FactSet) minus book value of equity (FactSet) divided by total assets
Return on assets	<i>ROA</i>	Net income (FactSet) divided by average total assets (FactSet)
Net profit margin	<i>NPM</i>	Net income (FactSet) divided by net sales (FactSet)
Capital expenditures	<i>CAPEX</i>	Total capital expenditures (FactSet) divided by total assets (FactSet)
<i>Panel C: Firm-level Control Variables</i>		
Market capitalisation (log)	<i>log_MCAP</i>	Log annual market capitalisation in SEK (FactSet)
Book-to-market (log)	<i>log_BTM</i>	Log of the book to market equity ratio (FactSet for market value and book value)
Investment opportunities	<i>INVOP</i>	Two-year geometric average of annual growth rate in net sales in SEK (FactSet)
Annual stock return	<i>RETURN</i>	Annual (end-of-year) geometric stock rate of return (FactSet)
Turnover	<i>TRNOVER</i>	Annual share volume divided by adjusted shares outstanding (FactSet)
Dividend yield	<i>DY</i>	Dividend yield (FactSet)
Return on equity	<i>ROE</i>	Return on average total equity (FactSet)

Variable		Definition
MSCI dummy	<i>MSCI</i>	MSCI member dummy, which equals one if a firm is a constituent of the iShares MSCI ACWI ETF (Capital
Leverage	<i>LEV</i>	Ratio of total debt (FactSet) to total assets (FactSet)
Cash	<i>CASH</i>	Ratio of cash and short-term investments (FactSet) to total assets (FactSet)
Closely held shares	<i>CLOSE</i>	Number of shares held by insiders as a proportion of the number of shares outstanding (FactSet)
U.S. cross-listing dummy	<i>ADR</i>	U.S. cross-listing dummy, which equals one if a firm is listed on a U.S. exchange (FactSet)
Number of analysts	<i>NR_ANALYSTS</i>	Number of analysts covering a firm (FactSet)
Foreign sales	<i>F_SALES</i>	International annual net sales (FactSet) as a proportion of net sales (FactSet)

Appendix 2. Extreme outliers in net profit margin (NPM)



Appendix 3. Equally and Value-Weighted Ownership Summary Statistics

Variable	<i>N</i>	Equally weighted mean	Value-weighted mean
IO_TOTAL	2686	0,318	0,371
IO_DOMESTIC	2670	0,205	0,204
IO_FOREIGN	2681	0,114	0,167
IO_INDEP	2771	0,259	0,300
IO_GREY	2771	0,048	0,066

Appendix 4. Adjusting for closely held shares

Institution Type	Value-weighted % of market float	Equally weighted % of market float
IO_TOTAL	64,37%	57,47%
IO_FOREIGN	30,79%	27,00%
IO_DOMESTIC	36,03%	39,22%
IO_INDEP	56,09%	49,93%
IO_GREY	12,18%	14,19%

Appendix 5. VIF Test for Multicollinearity

	VIF Test	
	Independent Inst.	
log_MCAP	VIF	12,89
log_BTM	VIF	3,59
INVOP	VIF	1,11
RETURN	VIF	1,28
TURNOVER	VIF	1,98
DY	VIF	1,23
ROE	VIF	1,32
MSCI	VIF	1,58
LEV	VIF	3,89
CASH	VIF	2,61
CLOSE_OS	VIF	3,34
US_CROSS_LIST	VIF	1,85

Appendix 6. Dropping log_MCAP

	Total inst.	Foreign inst.	Domestic inst.	Indep. inst.	Grey inst.
log_BTM	-0,054 (-3,922)	-0,010 (-1,576)	-0,043 (-3,979)	-0,051 (-5,342)	-0,000 (-0,116)
INVOP	0,012 (1,224)	0,008 (1,504)	0,004 (0,657)	-0,008 (-1,455)	-0,003 (-1,698)
RETURN	-0,000 (-0,037)	0,011 (2,156)	-0,011 (-1,294)	-0,009 (-0,994)	-0,003 (-1,133)
TURNOVER	0,008 (0,508)	0,002 (0,240)	0,004 (0,300)	0,007 (0,521)	-0,001 (-0,215)
DY	0,036 (0,970)	0,013 (0,789)	0,027 (0,898)	-0,004 (-0,183)	0,011 (1,143)
ROE	0,053 (2,083)	0,026 (2,719)	0,027 (1,283)	0,095 (5,139)	0,003 (0,505)
MSCI	-0,009 (-0,252)	0,028 (1,233)	-0,035 (-1,424)	0,004 (0,132)	0,009 (1,006)
LEV	0,101 (1,503)	0,001 (0,025)	0,106 (2,003)	0,088 (1,836)	0,036 (1,892)
CASH	-0,023 (-0,383)	0,039 (1,417)	-0,062 (-1,288)	-0,141 (-3,398)	-0,006 (-0,387)
CLOSE_OS	-0,244 (-4,883)	-0,126 (-5,015)	-0,121 (-3,260)	-0,378 (-10,325)	-0,055 (-4,469)
US_CROSS_LIST	0,058 (2,085)	0,060 (3,304)	-0,004 (-0,204)	0,042 (2,062)	0,017 (2,246)
CONST	0,192 (2,063)	0,076 (1,613)	0,116 (1,957)	0,401 (8,857)	0,046 (3,152)
Year dummies	Yes	Yes	Yes	Yes	Yes
Industry dummies	Yes	Yes	Yes	Yes	Yes
R ²	0,215	0,237	0,162	0,443	0,172
Number of firms	286	286	286	286	286
Observations	1609	1609	1609	1609	1609

This table reports the same regression as Table 2, with the adjustment that we have dropped the variable “log_MCAP”. Coefficients significant at 5% level in boldface.

Appendix 7. Pearson Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) IO_TOTAL	1,000								
(2) IO_DOMESTIC	0,859	1,000							
(3) IO_FOREIGN	0,725	0,281	1,000						
(4) IO_INDEP	0,671	0,556	0,509	1,000					
(5) IO_GREY	0,383	0,400	0,177	0,395	1,000				
(6) NR_ANALYSTS	0,292	0,125	0,379	0,342	0,291	1,000			
(7) ADR	0,195	0,025	0,328	0,223	0,193	0,611	1,000		
(8) MSCI	0,116	-0,024	0,245	0,131	0,147	0,730	0,463	1,000	
(9) log_MCAP	0,449	0,281	-0,142	0,601	0,412	0,727	0,521	0,550	1,000

Correlations significant at 5% level are reported in boldface.

Appendix 8. The Use of Generative AI

AI was used throughout this thesis (September 22nd – December 8th) as an auxiliary resource. Its primary use was to provide support during the coding process, particularly for formatting and troubleshooting technical issues. Any suggestions generated through AI tools were subjected to scrutiny and adjusted where necessary before being applied. In addition, ChatGPT 5/5.1 by OpenAI was utilised for linguistic assistance, including proofreading, synonym selection, and sentence structure refinement. All AI-assisted output was critically evaluated, and no content was adopted without modification or critical judgment.

Appendix 9. Access to the FactSet Database

We accessed the FactSet database through a third party. Permission to use FactSet data in our research was granted by a FactSet representative.