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Greenwashing the family name

Moderating effects of ownership on the relationship between ESG
performance and firm performance

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Abstract

Title: Greenwashing the family name - Moderating effects of ownership on the relationship between ESG performance and firm performance

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Keywords: ESG, Family ownership, Concentrated ownership, Firm performance, Swedish ownership

Purpose: The purpose is to investigate the relationship between ESG performance and firm performance. And further to explore if and how ownership structure moderates this relationship.

Methodology: In the multivariate analysis, we deploy pooled OLS and random effects models and control for industry and year effects with robust standard errors clustered by firm. Further, we explore the individual ESG pillars, E, S and G. We take an instrumental variable approach using the yearly industry average of ESG. Finally, we validate the robustness of our results with a propensity score matched subsample.

Theoretical perspective: The theoretical base used to develop our research questions are agency theory, stakeholder theory, resource-based view, organizational identity and socioemotional wealth theory.

Empirical foundation: The sample consists of 1046 firm years from 328 Swedish firms, listed on The Stockholm Stock Exchange and First North Sweden for the period 2016-2022.

Conclusions: First, we find a positive relationship between family ownership and firm performance. Second, family ownership and the social pillar negatively moderates the relationship between ESG performance and firm performance. Despite indications of a negative relationship, we cannot confidently establish a relationship between ESG performance and firm performance.

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1. Introduction

1.1 Background

Since 2019, Google searches for ESG have increased by 500%, and according to a survey by Deloitte, 75% of youths want to work at a sustainable company (Dhanani, 2022; Deloitte, 2023). In Q1 2022, \$87 billion were raised by sustainable funds, contributing to the total of \$2.5 trillion held in sustainable assets globally (Pérez et al., 2022). Although corporate social responsibility (CSR) previously has been used, the inclusion of environmental, social and governance (ESG) scores in UN's Principles for Responsible Investment has established the focus on ESG and material environmental and social risk (United Nations, 2006). Corporations have gone from merely mentioning CSR to voluntary disclosure on the compliance of a myriad of different sustainability accounting standards (O'Dwyer & Unerman, 2021). Sweden was a leader in the introduction of integrated reporting and has developed a leading standard since (Eccles & Serafeim, 2011). However, as stated by Arvidsson and Dumay (2022), Swedish reporting quality has steadily improved since 2008, while actual ESG performance has leveled out since 2015. In contrast to Swedish ESG performance, demands for ESG do not level out. The Paris agreement which Sweden is a party to, came into effect in 2016, and attempts to limit global warming to 1.5 degrees celsius by the end of the century (EU, 2023). Birgitte Bonnesen, former CEO of Swedbank, faced charges relating to knowing of and covering up money laundering activities within operations in the Baltics, the charges were dropped but the reputation of the bank was tarnished. (Hultman & Sahlin Ekberg, 2023). Currently, the Swedish telecom giant Ericsson, faces a class action lawsuit by terrorism victims for supplying high technological equipment to al-Qaeda (Mothander, 2023). To motivate active work toward goals such as the Paris agreement, and prevent future scandals related to social and governance aspects which have grown in importance, firms might need another reason besides the goodness in their hearts. The million dollar question which has been raised relating to ESG within corporate finance is then if there is a business case for it, namely if it increases shareholder wealth (Gillan, Koch, & Starks, 2021).

Sweden is characterized by concentrated ownership, where power is delegated to large owners. Concentrated ownership is prevalent when one or a few actors own a large part of the firm, and is associated with governance issues due to the unequal power structure it creates (LaPorta et

al., 1997). Within the Swedish setting, the party that actually has authority to make decisions regarding ESG is therefore the owners. Further, while these types of owners often are experts and have a proven record of running firms, they are less diversified which might lead to conflicts of interest (Agnblad et al., 2001).

It has been argued that Sweden's strong separation of ownership and control opens the door for extraction of private benefits. These private benefits however have not been documented to be at the expense of minority shareholders. Instead private benefits have been extracted regarding increased social standing and reputation from successful ownership of firms. The reputation of large owners has in this manner acted as an informal measure of protection for minority shareholders (Agnblad et al., 2001). Viewed through the lens of stakeholder theory and socioemotional wealth theory, ESG is something which can increase reputation and improve relationships with a multitude of different stakeholders by creating a responsible image (Roberts, 1992; Gomez-Mejia, 2007). In the CEO letter of 2021's annual report, Larry Fink, CEO of the world's largest private equity fund Blackstone, suggested that companies to a higher degree need to adopt a stakeholder approach. What he meant was that sustainability is a priority of the whole society and that ESG constitutes the avenue through which companies can contribute. The statement received backlash as investors perceived it to stand at odds with maximizing shareholder profits, resulting in Fink not mentioning ESG in 2022 years CEO letter (FT, 2023). It is not improbable that the relationship between ESG and firm performance will be up for debate in the near future and owners of companies will have to address the question.

1.2 Problem discussion

The relationship between firm performance and ESG performance is a well studied body of research. A recent meta study by Friede, Busch, and Bassen (2015) surveying over 2000 studies found an overall neutral or positive relationship. The reasoning behind a business case for ESG can be broadly categorized into two arguments, namely (i) increased shareholder wealth, and (ii) increased noneconomic shareholder wealth. The non-economic benefits can be categorized as ESG inclined investors valuing goods and services from ESG responsible firms more highly. Also, ESG performance can impact the firm's relations with stakeholders, where good performance generates relational capital that can act as insurance in the event of controversies (Godfrey et al., 2009). However, ESG investing is costly and can impact operational performance negatively while the benefits are hard to measure, where investments into ESG

can act as a reallocation of funds from shareholders to stakeholders (Barnett, 2007; Gillan, Koch, & Starks, 2021). However, within corporate finance empirical results have been mixed when looking at measures of operating performance, stock returns and market valuations (Gillan, Koch, & Starks, 2021). Increases in CSR policy have been found to negatively affect long term profitability for American firms (Di Giuli & Kostovetsky, 2014). The negative relationships have been tied to agency problems concerning deciding bodies (Benabou & Tirole, 2010), thereby suggesting moderating effects from ownership structures.

The average Swedish firm has a clearly defined largest owner, and the two largest owners if combined often have absolute control of the firm through pyramidal ownership and dual-class shares (Agnblad, 2001). These large shareholders are expected to be involved in the governance of the firm as well as adopt a long term view of the firm's performance and activities (Lekvall, 2009). Therefore, firms with concentrated ownership could be expected to prioritize ESG as predicted by stakeholder theory (Godfrey et al., 2009). The usage of dual-class shares has been associated with lower firm valuations and lower profitability, suggesting that large owners use their power for non-shareholder maximizing activities (Cronqvist & Nilsson, 2003). However, a low amount of support has been found for expropriation of minority shareholders on the Swedish markets (Rydqvist, 1992; Holmen & Knopf, 2004).

Family ownership has a rich history in Sweden, and it is not uncommon that families have owned the same companies' for decades (Frank & Hamberg, 2016). Family owners have been shown to be able to mitigate the agency problem between owner and managers as they are less diversified and more tied to the performance of the firm, incentivizing monitoring. Families also take a longer perspective to their ownership which allows know-how to accrue over time, this know-how can in turn lead to more efficient insights and monitoring as it develops over time (Anderson & Reeb, 2003). Families' longer perspective also has another dimension, namely that they are interested in passing the firm on to the next generation, motivating long term lucrative investments (James, 1999). On the other hand, family ownership has also been shown to lead to increased agency problems in relation to other shareholders as they can steer the firm towards directions which increase the families personal utility (Anderson & Reeb, 2003). Also, even though an investment would be economically valuable in the long term, short-term operational deficiencies might leave a bad taste in the mouth of minority shareholders. Additionally, families can be subject to non-economic considerations in line with socioemotional wealth theory, valuing reputation and control of the firm higher than financial

performance, which can produce a divide between other shareholders regarding incentives (Gomez-Mejia, 2007). These considerations also have implications for how family firms position themselves toward ESG. East-Asian family firms have been shown to perform worse in relation to CSR, and instead utilize their control to steer the firm in directions which are more aligned with their personal utility (El Ghouli et al., 2016). On the other hand, US family firms have been found to be more aligned with shareholders as it relates to environmental matters (Abeysekera & Fernando, 2020). Sweden therefore provides a unique setting to investigate ownership structure related to the link between ESG and firm performance.

1.3 Purpose and Research question

The purpose of this study is to investigate the relationship between ESG performance and firm performance. The purpose is also to explore if and how ownership structure moderates this relationship. We therefore ask the following research questions:

Does ESG score have a relationship with firm performance?

Does ownership structure moderate the relationship between ESG and firm performance?

1.4 What the authors do

We utilize a sample 1046 firm years from 328 Swedish firms from the Stockholm Stock Exchange and First North Sweden. With our unbalanced dataset we (i) investigate there is a relationship between ESG performance and firm performance and (ii) investigate the potential moderating effect of ownership structure on the relationship between ESG performance and firm performance. We use EIKON's ESG scores to proxy ESG performance. Our measure of firm performance is ROA. We define concentrated ownership as the largest owner having more than 10% of the voting rights and family ownership as the largest owner being a family with more than 10% voting rights. In the multivariate analysis, we deploy pooled OLS and random effects models and control for industry and year effects with robust standard errors clustered by firm. Further, we explore the individual ESG pillars, E, S and G. To mitigate endogeneity concerns in ESG, we take an instrumental variable approach using the yearly industry average of ESG. Finally, we validate the robustness of our results with a propensity score matched subsample.

1.5 Main findings

We find indications that ESG has a negative impact on firm performance, but we cannot confidently reject the null-hypothesis following the use of an instrumental variable. Family ownership is shown to have a positive relationship with firm performance while concentrated ownership fails to show a significant relationship. We also find a negatively moderating effect of family ownership on the relationship between ESG and firm performance. The social pillar also is found to have a negatively moderating effect on the relationship. Finally, the effects of family ownership on firm performance as well as its negatively moderating effect are robust to a propensity score matched sample.

1.6 Contribution

This paper contributes to the intersection of the literature on family ownership and ESG related to firm performance in a unique setting characterized by highly concentrated ownership and powerful families. While the study does not allow the settling of the business case for ESG, it provides valuable insights related to family ownerships previously neglected moderating role. We contribute with important evidence that in the Swedish corporate climate, shareholder wealth maximization and the green transition might not be aligned since the most prevalent ownership structure experiences lower profitability tied to ESG performance. Instead, we find support for type II agency problems as family owners seem to invest in ESG for the sake of how it reflects on their family name. The findings are relevant for ESG inclined investors as well as regulatory bodies seeking to align corporate sustainability focus with maintaining the competitiveness of Swedish companies.

1.7 Outline of the paper

The rest of the paper will adhere to the following structure. Chapter 2 describes the Swedish context as it relates to ownership and the presence of family firms. Chapter 3 follows by presenting theory while previous empirical literature is presented in chapter 4. In chapter 5 hypotheses are formulated, this is followed by a walkthrough of the methodology of the paper in chapter 6. How the sample was gathered as well as definitions for the variables of the study, summary statistics and univariate analysis is presented in chapter 7. Chapter 8 presents the results of the regressions. Chapter 9 contains analysis of the obtained results while chapter 10 ultimately concludes the paper by displaying the conclusions.

2. The Swedish context

2.1 Board structure and legal context

In the international context, two models of corporate governance are often discussed. The one-tier structure, where Sweden is placed, is characterized by a single board that is in charge of the company. In the two-tier structure, a supervisory board oversees the management board which in turn is the one that supervises the management and its day-to-day operations in the company (La Porta et al., 1997). Sweden's system however differs from both models; the shareholders meeting is superior to the board and CEO, the (single) board primarily consists of members not employed in the company and the board is generally more powerful in relation to the CEO than in other countries (Swedish Corporate Governance Board, 2018). Additionally, companies in Sweden operate in a legal system classified as civil law, where lawmakers create texts of law intended to capture all possible eventualities, and leave higher courts to make special cases where interpretation is provided. This can be contrasted with the anglo-american legal tradition which to a larger degree is reliant on caselaw, involving the judges in the development of the law. Swedish listed firms are further subject to the Companies Act complemented by a code for corporate governance. The code operates on a comply or explain basis, where firms have to publicly explain why, if deviations from the code are made (Jakobsson & Wiberg, 2014).

2.2 The limited power of the CEO

Regarding independence, Swedish boards are required to have over 50% independent directors, a minimum of two independent from the company and its management, which is relatively high compared to the rest of the world where it is generally lower or only recommended (OECD, 2021). Further, the CEO can be a part of the board, but not its chairman (Swedish Corporate Governance Board, 2020). Only a third of Swedish public companies have an executive on the board, and when they do, it is almost always the CEO (OECD, 2021). Also, the CEO is obliged under the Companies Act both to briefing and informing the board about issues that are not related to the day-to-day operations and to follow instructions provided by the board (Companies Act, 2005). As a consequence, the CEO has relatively limited power in Sweden. Finally, the election of the board is different. Instead of using a board nomination committee, Sweden utilizes a preparatory body to nominate board members which shareholders can approve at the annual shareholders meeting (Swedish Corporate Governance Board, 2018). The preparatory body in turn is appointed at the annual shareholders meeting. In conclusion, the

Swedish board system is characterized by low CEO power while great attention is put to the general shareholder's meeting. In this way, and due to the fact that directors of the board only need to be independent from the management, owners exercise substantial power throughout the company. Due to this power, large shareholders can plan for long term goals and steer the firm in their desired direction. (Swedish Corporate Governance Board, 2018).

2.3 Swedish owners

The Swedish board structure and the relatively weak role of the CEO has had implications for Swedish firms. Ownership is highly concentrated which in combination with the large presence of dual-class, pyramidal structures and cross holdings produce a strong separation between ownership and control (Agnblad et al., 2001). Such ownership structures make minority shareholders potentially vulnerable to expropriation, this however is largely undocumented on the Swedish markets (Rydqvist, 1992; Holmen & Knopf, 2004). A potential explanation for this can be found in the strong reputational benefits that large shareholders will enjoy if firms are managed wisely and respectfully. Reputation can act as an informal defense which in combination with discounts on minority positions appropriately compensate for the risk a minority investor is exposed to (Agnblad et al., 2001). Why this reputational safeguard appears effective ties into the prevalence of ownership spheres and families on the Swedish markets. Where the market in its current form has been dominated by investment funds such as Investor and Industrivärden since the 1930s when the possibility for banks to own shares was limited, but possible by extension through investment funds. (Jakobsson & Wiberg, 2014). For such owners, the prestige that comes with controlling large firms can be as large as financial gains. A socially responsible image can be created by contributing to social endeavors and engaging in philanthropy, while violation of minority shareholders can tarnish this reputation as well as lead to economic costs relating to e.g difficulties raising capital and reduced sales (Agnblad et al., 2001). International studies such as La Porta et al. (1997) suggest that minority protection is weaker in Sweden stemming from the relative absence of formal legal protection for minority shareholders. There are however legally enshrined rights for minority shareholders, such as a general clause in the Companies Act stating that decisions made by the board or taken at the shareholders meeting can not benefit specific shareholders at the expense of other shareholders (Lekvall, 2009). In an international context, this might seem like insufficient protection for minority shareholders (La Porta et al., 1997). It can however also be argued that the previously mentioned informal mechanisms of protection such as reputational considerations combined

with Sweden's more effective legal enforcement system, guarantee that minority shareholders rights are protected (Agnblad et al., 2001).

3.Theory

3.1 Stakeholder theory

One central theory linking ESG and firm performance is the stakeholder approach developed by Freeman (1984). Stakeholder theory suggests that the firm should go beyond creating shareholder value, and also focus on creating value for the various stakeholders that are involved in its business, and that this is fundamental in order to perform well financially. In line with this framework, CSR is beneficial in the work of creating and maintaining good relationships and gaining trust with various stakeholders, e.g. creditors, investors and political organizations, which can reduce transaction costs and improve efficiency. For a company to perform in a socially responsible manner can therefore be part of a strategic design to improve its reputation, which in turn will lead to more favorable relationships with stakeholders (Roberts 1992).

Ullman (1985) develops a conceptual framework for understanding the relationship between firm social disclosure, firm social performance and economic performance. This framework has 3 main dimensions. (i) Stakeholder power relates to the tendency to adapt the information communicated depending on which party is the intended receiver. Demands that are set out by a stakeholder with control over critical aspects of the firm's operations therefore have a higher probability of being met. (ii) Strategic Posture can be categorized in two distinct manners. If a firm employs an active strategic posture it takes a proactive stance and attempts to improve its relationships with important stakeholders to ensure favorable relationships. A passive strategic posture conversely implies a firm which does not proactively work with e.g. dedicated social responsibility programs and further does not seek an optimal strategy in managing relationships with stakeholders. (iii) Past and present firm performance also has a direct effect on firm disclosure and social performance. Ullman posits that in situations of distress or low profitability, financial performance will take precedence over social performance. It is further argued by Ullmann that underlying financial performance will influence the firm's capabilities to take on social efforts (Ullman, 1985). In the context of today's corporate climate, what Ullman mentions as social has, as previously mentioned, developed into ESG or CSR.

3.2 Resource-based view

A resource-based view can be taken to analyze a firm's competitive advantage. Such a view acknowledges that there might be large variations within industries and that these variations might be hard to transfer between firms. From this perspective, resources under the control of the firm that are valuable, unique, inimitable and non-substitutable can be a source of long term competitive advantages (Barney, 1991). Resources include both tangible assets and intangible assets such as knowledge and social reputation. Within the context of stakeholder relations, simple compliance e.g. the reduction of CO₂-emissions will likely not result in a sustainable competitive advantage. If a firm however goes beyond simple compliance and utilizes its resources to create a new innovative solution to combat emissions, this can be a source of sustainable competitive advantage (Ruf et.al, 2001). Continuing on this, CSR and ESG can be seen as a form of competitive advantage. both stemming from the benefits which accrue to the company if executed in a proper manner as well as the potential competitive disadvantages affecting the firm if a CSR project is handled in a less than ideal manner (Aguilera et al., 2006).

3.3 Agency theory

Jensen and Meckling (1976) define an agency relationship as a relationship governed by contract where a portion of the principal's power is delegated to the agent in order to make decisions on the principal's behalf. Utility maximizing behavior can lead the agent to stray from the principal's desired path of action. To prevent such an occurrence, monitoring and creation of incentives can be employed by the principal. A firm viewed through this perspective is a collection of contractual relationships. Where the path undertaken by the firm is a result of the collective equilibrium of these relationships (Jensen & Meckling, 1976).

3.3.1 Type 1 agency conflicts

In line with the Swedish context of high ownership concentration two types of agency problems are central to this paper. Firstly, the relationship between shareholders and management is considered, managers can e.g. entrench themselves, undertake investments that predominantly benefit them privately and engage in empire building. To attempt to mitigate such outcomes, performance sensitive programs can be employed to align incentives, and additionally engage in monitoring. As it relates to concentrated ownership, the monitoring hypothesis postulates that only sufficiently large shareholders are incentivized to bear the costs associated with monitoring as they have a large enough stake in the performance of the firm. Concentrated

ownership can in this manner mitigate the free rider problem where smaller shareholders are not sufficiently incentivized to monitor the firm (Shleifer & Vishny, 1986). The aspect of size of the holding is also relevant from the perspective of liquidity where a small enough stake will give the holder the ability to quickly sell off a smaller holding. A larger position might be harder to liquidate, potentially incentivizing monitoring (Maug, 1998). A sufficiently large holding also enables owners to put direct pressure on management and influence its decisions. In this way, concentrated ownership can provide a means of alignment between a sufficiently large stake in a firm to incentivize performance, while also providing adequate control to influence the firm in the desired direction (Shleifer & Vishny, 1997).

Families have been documented to remain in the companies for a long period of time, indicating that they can have longer investment horizons, which enables investments into projects over the long term. This can be contrasted with managers who tend to look at projects and investments through a shorter lens (Anderson & Reeb, 2003). This longer investment horizon is also complimented by the notion that family owners might want to pass on the firm to following generations of family owners, which can motivate more efficient investments (James, 1999).

3.3.2 Type 2 agency conflicts

The relationship between controlling shareholders and minority shareholders is considered where increased ownership concentration can exacerbate the risk of type 2 agency problems. Larger owners are also inherently less diversified as they have more at stake in the firm (Demsetz & Lehn, 1985). A divergence in interests between majority and minority shareholders can lead to expropriation of the latter as large shareholders can use their power and wealth to pursue private goals which benefit them, potentially at the detriment of minority holders (Jensen & Meckling, 1976). Fama and Jensen (1985) provide for how a lack of diversification can motivate different decisions regarding investments in comparison to more dispersed owners. A diversified owner can be expected to be shareholder maximizing. Larger undiversified owners, can instead gain more from different goals e.g. maximizing growth and survival of the firm. Family ownership in the Swedish context also adds a dimension to this agency problem, since Swedish owners generally are more diversified with large holdings in several companies through the use of pyramidal structures and dual-class shares (Jakobsson & Wiberg, 2014). On the basis of this discussion, this indicates that type II agency problems could be less present in Sweden.

3.4 Organizational identity & Socioemotional wealth theory

A dimension that introduces further complexity is family owned firms incentives to care about reputation and identity. Such a statement finds its base in organizational identity theory, developed by Whetten & Albert (1985). Here the term of CED is introduced where an organizational identity is something that is (i) central, (ii) enduring, and (iii) distinguishing. Concentrated owners can have different goals, which can lead to different preferences regarding e.g. risk appetite and investment decisions (Douma et al., 2006; Gedajlovic et al., 2005). Family owners' names are closely tied to the owned firms, and reputational effects stemming from actions carried out by the firm and its employees directly reflect on said name. These reputational effects can thus motivate firms to invest in ESG projects, improving their ESG performance in order to maintain an organizational identity.

Closely linked is the socioemotional wealth theory (SEW) developed by Gomez-Mejia et al. (2007). This view incorporates a different performance measure aside from financial returns, family firms are also interested in SEW. SEW signifies aspects of a firm which are not tied to financials while still fulfilling the family's demands and wants. These aspects can be identity, power, and the maintaining and legacy of the family and its name. In turn, this leads family owners to both being risk avert, as well as risk loving. They must ensure the success of the firm which might lead to taking less risks, while they also are unlikely to want to relinquish control, even if it might infer increased operational risks (Gomez-Mejia et al, 2007). By extension, Swedish family firms might seek other goals with ESG performance than merely financial performance improvement in order to maintain their strong social standing.

4. Empirical literature review

4.1 ESG and firm performance

ESG and its relationship with firm performance is a well-studied body of research which has produced effects that go in both directions as well as finding no significant relationship at all. A recent meta study by Friede, Busch and Bassen (2015) analyzed 2200 empirical papers and concluded that most found a positive impact from ESG on financial performance, while 33.7% showed a neutral or negative relationship and 18% of all studies produced mixed results. Cochran and Wood (1984) measure CSR using a firm reputation index and investigate the relationship against firm performance during two periods. Firstly 1970-1974 is investigated looking at 425 firms, secondly 1975-1979 is considered using a sample of 402 firms. Following this methodology, they find a weakly significant positive correlation between CSR and firm performance. In addition, the authors find that the age of assets can be used as a proxy for CSR performance.

Orlitzki, Schmidt and Rynes (2003) in a meta study investigate the relationship between corporate social/environmental performance and corporate financial performance. The authors find that social performance is more strongly linked with financial performance than the relationship between environmental performance and financial performance but that the latter relationship is more stable over multiple industries. The authors findings are in line with the stakeholder view, where financial performance increases as a result of ESG performance despite the costs the latter infer.

In contrast to the findings of Orlitzki, Schmidt and Rynes (2003), other authors find evidence that industry plays a role in the link between CSR performance and firm performance. Baird, Geylani and Roberts (2012) find an overall negative relationship between financial performance and CSR-performance. However, some industries display a reverse relationship which the authors explain by firms having different motives behind meeting stakeholder demands. They suggest that investments in CSR can be beneficial for the firm in industries where stakeholders are aware of such investments. Conversely, in industries where motives are insufficient, financial performance can be damaged by CSR investing (Baird, Geylani & Roberts, 2012). Moreover, in a study of Taiwanese firms between 1996 and 2006, Peng and Yang (2014) find that firms with divergence between control and cash flow rights show a negative relationship

between environmental performance and firm performance. The authors therefore suggest that ownership concentration has an important monitoring role that can explain the link between CSR/ESG-performance and firm performance.

Additionally Di Giuli and Kostovetsky (2014) study the 3000 largest traded US firms between 2003-2009 regarding the relationship between ESG and financial performance. They find that democratic firms are more socially responsible than their republican counterparts. Further they also document an overall negative relationship between ESG and both firm value and firm performance measured as ROA. The authors therefore argue that benefits accruing to stakeholders therefore come at the expense of firm value.

4.2 Ownership structure & its effect on the firm

4.2.1 Ownership concentration and firm performance:

Taking a meta-analytic approach, Sánchez-Ballesta and García-Meca (2007) analyze 33 studies regarding the relationship toward firm performance for ownership concentration and insider ownership. In continental Europe where shareholder rights are weaker and ownership is concentrated to a higher degree they find strong support for the monitoring hypothesis and a positive relationship between ownership concentration and firm performance (Sánchez-Ballesta & García-Meca, 2007).

Gompers, Ishii and Metrick (2003) investigate the relationship between shareholder rights and firm performance by looking at 1500 firms during the 1990s. To classify shareholder rights as strong or weak, an index is created based on the number of governance provisions that affect the firm, shifting power in favor of management. Using the governance index the authors present two significant findings. First, better governance is related to better performance. Second, firms with stronger shareholder rights have better governance, and therefore outperform firms with weaker shareholder rights.

Erik Lehmann and Jurgen Weigand (2000) study the relationship between ownership concentration and firm performance for German listed and unlisted firms between 1991-1996. They show a significant negative relationship with firm performance measured as ROA. This negative relationship is however diminished when other aspects such as location of control

rights are controlled for, suggesting that ownership structure is a determinant of the relationship. Thomsen, Pedersen and Kvist (2006) analyze blockholders in both the European and US markets. They find a negative relationship between blockholdings and firm performance in continental Europe while they fail to show a significant relationship in the US market. The authors argue that this is consistent with the view that blockholders can use their control to exploit minority shareholders for private interests.

Alimehmeti and Paletta (2012) take a closer look at the Italian market between 2006-2009 regarding the relationship between ownership concentration and firm performance. When assuming a linear relationship they find a positive relationship between ownership concentration and ROA for 2006, 2007 and 2009, which they interpret as concentrated ownership aligning the interests of shareholders and managers. For 2008 they contrastingly find a negative non-linear relationship which they theorize might depend on expropriation of minority shareholders at the outset of the financial crisis. Wang and Shailer (2015) take a meta analytic approach to the relationship between ownership concentration and firm performance investigating 419 correlations. They study emerging markets and find a consistent negative correlation between ownership concentration and firm performance.

4.2.2 Ownership concentration and ESG

Younas, Klein and Zwergel (2017) investigate the relationship between owner concentration and sustainability for the US, UK and Germany. They find a significant positive relationship for the US and UK, while however in Germany, a negative significant relationship is found. It is argued that firms in Germany that have a higher concentration of ownership are more oriented toward short term gains for shareholders, and could thus spend less efforts on longer time horizon sustainability projects (Younas, Klein, & Zwergel, 2017).

Barnea and Rubin (2010) study 3000 American large listed firms and find evidence supporting the notion that firms overinvest in CSR while this also further aligns social goals between managers and shareholders. This is explained as insiders in a firm potentially being incentivized to propose increased investments into ESG initiatives, past the point of value maximization for the firm. The motivation for these insiders lies in potential private benefits that can be extracted from the firm's enhanced corporate reputation which extends to its employees, managers and large shareholders (Barnea & Rubin, 2010).

Dam and Scholtens (2013) investigate the relationship between ownership concentration and CSR performance for a cross section of 691 European multinational firms. They are able to show a significant negative relationship for blockholder ownership levels of 10% and 20%. They argue that if a tradeoff is assumed between financial performance and sustainability performance, then the latter will be relatively more expensive for a large shareholder. Sustainability oriented performance might be optimal from a societal perspective but as there are other stakeholders that might benefit from these initiatives the relative cost to the shareholder might be large.

4.2.3 Family ownership and firm performance

Anderson and Reeb (2003) study family firms, and find that these firms are more effective than non-family owned. The authors suggest that families are more tied to the performance of the firm, creating a natural alignment of incentives that reduces type I agency problems. Family ownership has also been shown to impact firm performance. Maury (2006) investigated 1672 European firms regarding if family ownership impacts financial performance. The author finds that firms which are actively controlled by families exhibit higher profitability in relation to firms which are not controlled by families. The results are explained by a reduction in the agency conflicts between managers and owners but Maury argues minority shareholders yet run the risk of expropriation.

Further, Maury (2006) finds the results to be strongest in firms where the family has less control and argues that higher control diminishes the mentioned positive effects on profitability due to type 2 agency problems. Similarly, studying dividend policy in family firms, Faccio, Lang, and Young (2001) suggests that family owners with less cash-flow rights than voting rights have less incentives for shareholder wealth maximization. Additionally, Thomsen and Pedersen (2000) analyze 435 large European firms between 1990-1995 in relation to ownership structure and financial performance. They find that family ownership is associated with lower valuations in comparison to institutional investors and that firms controlled by families have a greater focus on fulfilling long term goals.

Cronqvist and Nilsson (2003) further discuss the use of dual-class shares by family owned firms, analyzing 309 public Swedish firms for the period 1991-1997. Their findings say that controlling minority shareholders is associated with a significant decrease in market value and that this effect is strongest for family owned firms. They also find that these controlling

minority shareholders are less prone to be taken over, and therefore stay with the firm for too long as well as engage in suboptimal investment decisions, shown by a lower ROA.

4.2.4 Family ownership and ESG

Rees and Rodionova (2015) look at an international sample of 23 902 firm years between 2002-2012 investigating the relationship of CSR and closely held equity as well as family ownership. They find a negative relationship between closely held equity and CSR performance and a stronger negative relationship for family ownership that is also significant. As a matter of robustness, governance is also included as a control which removes much of the effect of closely held equity, the effect of family ownership however remains and is robust. Additionally, they find stark differences between different countries. Where Sweden accompanied by France and Germany are the only countries with a positive relationship between family ownership and environmental performance.

Different types of owners can also influence ESG performance where differing conclusions have been reached. El Ghouli et. al (2016) observing 335 east Asian firms for the period 2002-2011 find that family controlled firms exhibit lower ESG performance, explained by family owners using their ownership stake to steer the firm in directions that favor their private interests. Evidence of a different relationship however can also be supported as Abeysekera and Fernando (2020) studying 232 US firms between 2001-2009 find that when interests between shareholders and society coincide, family firms are more aligned with shareholder interests than firms which are not controlled by families.

4.2.5 Moderating effects on the relationship between ESG and firm performance

Javeed and Lefen (2019) analyze 99 manufacturing firms on the Pakistani stock market between 2008-2017 in relation to whether CEO power, insider ownership and ownership structure has a moderating effect on the relationship between CSR and firm performance. They initially find a positive correlation between CSR and firm performance. The interaction effects for all three variables are all significant and positive. The positive moderating effect of CEO power is explained by the authors to be resulting from the CEOs elevated status in Pakistan and the decision-making authority that comes with the position. Also, ownership concentration and its positive interaction with CSR performance is motivated similarly with reputational gains in emerging markets as well as alignment of interests (Javeed & Lefen, 2019).

Velte (2020) with a sample of 775 firm years of listed corporations between 2010-2018 analyses the moderating effect of CEO power on the relation between ESG and firm performance in the German two-tier board system. Similarly to Javeed & Lefen (2019) Velte finds a positive effect when interacting CEO power with ESG performance, argued by the increased ability of a powerful CEO to influence non-financial reporting. Formulating a similar research question, but analyzing the British market and looking at ESG disclosure, Li, Gong, Zhang, and Koh (2018) analyze a sample of 350 firms between 2004-2013. Similarly they find a positive relationship between ESG and firm performance, as well as a positive moderating effect of CEO power on this relationship. This is explained from a stakeholder perspective, where disclosure from firms with powerful CEOs imply a stronger commitment, and thus are valued higher.

5. Hypothesis development

As shown in the theory and empirical literature, both positive and negative relationships have been observed between environmental performance and financial performance. The resource-based view posits that firms that go over and beyond in the creation of strategic resources, e.g. ESG performance, will be rewarded with a sustainable competitive advantage. Additionally, according to stakeholder theory, a positive relationship can be predicted, where performance in relationships with stakeholders opens the door for business opportunities and sustainability focused investors. As Sweden has been a leader in sustainability over the last decades, we theorize that there are several stakeholders who could interpret ESG performance positively. On the contrary, ESG investing can be expensive and stakeholder pressure might lead to investments that override the benefits accruing to the company by reallocating these resources to stakeholders. This would also be in line with the conventional view that there is a trade-off between environmental and operational performance. We therefore formulate our first hypothesis as follows:

H1: ESG performance has a relationship with firm performance

Further, ownership concentration has been argued to have a positive relationship with firm performance. Such a relationship has its roots in agency theory where a large shareholder has sufficient stake in the firm to motivate monitoring, combined with sufficient control to influence the decisions of the firm. A negative relationship can also be motivated from the increased power large owners are awarded. Where the less diversified nature of large owners can provide them with different incentives from wealth maximizing smaller shareholders, and the control can be used to extract private benefits.

H2: Concentrated ownership has a relationship with firm performance.

Furthermore, large owners which are inherently less diversified and more illiquid, can by extension of the reduction in type I agency problem argument have more at stake in potential ESG activities, motivating monitoring and correct implementation. Large shareholders can further be seen as an authority, thereby strengthening the signaling capability of their actions. If the company's ESG-performance is motivated and valued by the firm's stakeholders, this

might enable firms with concentrated ownership to extract greater financial benefits from obtaining high ESG-scores. On the other hand, concentrated owners have the ability to manipulate information in their favor, reducing monitoring and governance. A negative moderating effect of concentrated ownership on the relationship between firm and ESG performance can therefore also be predicted, stemming from the potential of type II agency issues arising between controlling owners and other shareholders.

H3: Concentrated ownership has a moderating effect on the relationship between ESG score and firm performance

Family ownership has also been theorized to enjoy less type I agency problems, due to closer ties between owners and managers, as well as a higher stake in the performance of the firm. Family owners might also intend to pass on the firm to coming generations of family owners, further motivating monitoring. However, family owners could also have other motives and long-term goals, such as reputational or socioemotional considerations. These can exacerbate type II agency problems as there is a divergence regarding the importance that is attached to these socioemotional factors, where families are more tied to and dependent on these aspects. Thus, we formulate hypotheses regarding family controls impact on firm performance.

H4: Family ownership has a relationship with firm performance.

As the reduction in type I agency problems also has been shown to extend to social causes this leads to a prediction of a stronger positive moderating effect. The importance of reputation for family firms together with separation of ownership and control could also motivate controlling families to steer the firm toward ESG activities solely for the sake of how it reflects on their name, leading to overinvestment with non-economic benefits accruing to the family. This leads us to formulate the following hypotheses regarding family controlled firms moderating impact on the relationship between ESG performance and firm performance:

H5: Family ownership has a moderating effect on the relationship between ESG score and firm performance

6. Methodology

6.1 Regression approach

This study includes an unbalanced panel set where we seek to explain the relationship between ESG and ROA, but more specifically, how two ownership structures moderate this relationship. Initially, we utilize a univariate analysis by observing differences in means between family controlled and non-family firms. We test our first, second and fourth hypotheses with relevant explanatory variables, described in detail in chapter 7. For the third and fifth hypotheses, we use interaction terms in order to explore potential moderating effects. As a panel dataset is employed in this study, pooled ordinary least squares (POLS) is our starting point of the multivariate analysis. In order to address unobserved heterogeneity and possible endogeneity, we additionally use a random effects model to see if results are consistent. In the same manner, we investigate potential drivers of the relationship between ESG and firm performance by regressing individual pillar scores. Based on the aforementioned endogeneity concern, we substitute ESG with an instrumental variable. Finally, we utilize a propensity score matched sample as a robustness check. In this chapter, we aim to discuss and motivate all models, decisions and potential issues.

6.1.1 Pooled OLS

POLS disregards the panel structure of the data, instead observations are pooled in two dimensions, time and cross-sectional units. As a means to mitigate this, dummy variables can be created which control for year and industry effects. Further, controlling for these effects allows the intercept to vary over time which mitigates that different periods have different distributions. In the face of these mitigating mechanics the model can still yield biased outcomes if unobserved heterogeneity is present, which can skew the dependent variable (Wooldridge, 2016). The model employed for POLS is displayed below in equation 1, using all control variables and dummy variables for industry and year. For variable definitions and motivations, see chapter 7.2.

Equation 1: POLS (Hypotheses 1, 2 and 4)

$$ROA_i = \beta_0 + \beta_1 ESG_i + \beta_2 Ownership\ structure_i + \beta_3 Firm\ performance\ controls_i + \beta_4 Governance\ controls_i + \beta_5 Exchange\ control_i + \lambda Year_t + \lambda Industry_i + \varepsilon_{i,t}$$

Equation 2: POLS including interaction term (Hypotheses 3 and 5)

$$ROA_i = \beta_0 + \beta_1 ESG_i + \beta_2 Ownership\ structure_i + \beta_3 ESG \times Ownership\ structure_i + \beta_4 Firm\ performance\ controls_i + \beta_5 Governance\ controls_i + \beta_6 Exchange\ control_i + \lambda Year_t + \lambda Industry_i + \varepsilon_{i,t}$$

6.2.2 Fixed and random effects

As we suspect the common problem of unobserved heterogeneity, not addressed by POLS, we would like to improve our model by using fixed or random effects. When choosing between fixed effects and random effects, a common method is to perform a Hausman test (Wooldridge, 2016). Our Hausman test is significant at the 1% level, rejecting the null-hypothesis of non-systematic differences in coefficients, thereby suggesting a fixed effects model (see Appendix 1). However, since fixed effects seek to account for unobserved effects by demeaning time invariant variables, these are ultimately dropped. A key determinant is therefore that there has to be sufficient variation in the variables going into the model to employ the fixed effects approach. Insofar as the variables vary over time, the model can yield unbiased results (Wooldridge, 2016). In this study however, several variables change marginally over time, e.g family ownership, ownership concentration and ESG, meaning that fixed effects could produce biased results. Rees and Rodionova (2015) report that they lose significance in their results when a fixed effects model is used when studying family ownership and CSR. They find that the variation between firms to a higher degree explains their relationship than the variation within the firms. This is in turn explained by slowly changing ESG scores and ownership positions. Therefore, we find reason to believe that our data behaves in a similar way. On the basis of this discussion, we use a random effects model. Random effects account for factors affecting some variables randomly vary across firm years or firms and assume that the unobserved effect is uncorrelated to the explanatory variables (Wooldridge, 2016). The random effects model is specified as follows:

Equation 3: RE (Hypotheses 1, 2 and 4)

$$ROA_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 Ownership\ structure_{i,t} + \beta_3 Firm\ performance\ controls_{i,t} + \beta_4 Governance\ controls_{i,t} + \beta_5 Exchange\ control_{i,t} + \lambda Year_t + \lambda Industry_{i,t} + \varepsilon_{i,t}$$

Equation 4: RE including interaction term (Hypotheses 3 and 5)

$$\begin{aligned}
ROA_{i,t} = & \beta_0 + \beta_1 ESG_{i,t} + \beta_2 Ownership\ structure_{i,t} \\
& + \beta_3 ESG \times Ownership\ structure_{i,t} + \beta_4 Firm\ performance\ controls_{i,t} \\
& + \beta_5 Governance\ controls_{i,t} + \beta_6 Exchange\ control_{i,t} \lambda Year_t \\
& + \lambda Industry_{i,t} + \varepsilon_{i,t}
\end{aligned}$$

6.2 Heteroskedasticity

The issue of heteroskedasticity is often prevalent when studying financial data (Birau, 2013). If the variance of the error term is correlated with the independent variables, it is possible that OLS is no longer the most efficient estimator and the data suffers from heteroskedasticity. (Wooldridge, 2016). We test for heteroskedasticity in the POLS using White's test, and conclude that the data is characterized by heteroskedasticity (see Appendix 1). In essence, this means that the standard errors estimated by the model are unreliable. To mitigate this, we use robust standard errors that are clustered by firm. Clustering by firm helps mitigate the inherent correlation between a specific firm's observations. While clustered standard errors often are higher than normal, their conservative approach yields valid inference in the presence of heteroscedasticity (Wooldridge, 2016).

6.3 Endogeneity

A source of endogeneity in econometric research can be categorized as omitted variable bias. Which occurs when important explanatory variables are left out of the model, making the estimators biased (Wooldridge, 2016). The bias is mitigated through the use of well specified and sufficient control variables. Firm performance is largely explained by firm specific variables which are controlled for in this study.

Two major sources of endogeneity in this paper stem from simultaneity and reverse causality. There is a potential reverse causal relationship between financial performance and ESG performance (Hang, Geyer-Klingberg, & Rathgeber, 2019). All models, except for in the instrumental variable approach, are specified as interpreting ESG as being something that in turn affects financial performance, where stakeholder theory predicts that strong relationships with stakeholders in turn positively affects financial performance. Stakeholder theory also points out that past financial performance might act as a precondition for firms to have sufficient funds available for ESG initiatives (Ullman, 1985). In this sense the relationship can work both ways at the same time which makes us cautious of claiming a causal effect.

Finally, an endogeneity concern is that owners choose firms with specific ROA or ESG, presenting a problem regarding self-selection. Nevertheless, owners remain with companies over time and effects on the development of the firm should therefore be affected by them. In addition, Gugler and Weigand (2003) argue that in markets where large shareholders are pervasive, owners have an exogenous impact on firm performance. While these claims are for firm performance, the same could apply to ESG. In any case, we make an attempt to address these concerns with an instrumental variable for ESG, discussed in the following section.

6.3.1 Instrumental variable approach

The instrument used in the regression needs to fulfill two criteria in order to be considered as strong and valid. The first is that the instrument needs to be exogenous, meaning that it cannot be correlated with the error term, $Cov(z,u) = 0$. The second criterion is that the instrument has to be relevant by being correlated to the endogenous variable it instruments for X , so that $Cov(z,x) \neq 0$ holds. The instrument is applied through two stage least squares (2SLS), where in the first stage Z is regressed against X , yielding a fitted value \hat{X} . The second stage then incorporates this fitted \hat{X} and regresses it against the dependent variable. To assess the relevance of the chosen instrument, a F-test is carried out where a reported value below 10 indicates a weak instrument only slightly correlated with the endogenous explanatory variable (Wooldridge, 2016).

Different instruments have been used for ESG performance, e.g. the political view of the state which firms operate in, or lagged ESG (Nguyen, Hoang, & Tran, 2022; Azmi, 2021). In this paper, the approach of El Ghouli et al. (2011) and Kim (2014) is utilized where the industry year average of ESG performance is utilized as an instrument for ESG performance. This instrument can further be argued to be seen as valid, as firms within the same industry share relevant characteristics such as regulations and unions and therefore have the same effort of obtaining a higher ESG score. It is also unlikely that the yearly industry average ESG score is correlated to a specific firm's ROA, the instrument can therefore be seen as exogenous. The models are presented below in equations 5-8:

Equation 5: First-stage least square with random effects (Hypothesis 1)

$$ESG_{i,t} = \alpha_0 + \alpha_1 \text{Yearly industry average}_{i,t} + \alpha_2 \text{Firm performance controls}_{i,t} \\ + \alpha_3 \text{Governance controls}_{i,t} + \alpha_4 \text{Exchange control}_{i,t} + \lambda \text{Year}_t \\ + \lambda \text{Industry}_i + \varepsilon_{i,t}$$

Equation 6: 2SLS estimation with random effects (Hypothesis 1)

$$ROA_i = \alpha_0 + \alpha_1 \widehat{ESG}_i + \alpha_2 \text{Firm performance controls}_i + \alpha_3 \text{Governance controls}_i \\ + \alpha_4 \text{Exchange control}_i + \lambda \text{Year}_t + \lambda \text{Industry}_i + \varepsilon_{i,t}$$

Equation 7: First stage least square with random effects including interaction term (Hypotheses 3 and 5)

$$ESG_{i,t} = \alpha_0 + \alpha_1 \text{Yearly industry average}_{i,t} + \alpha_2 \text{Ownership structure}_{i,t} \\ + \alpha_3 \text{Yearly industry average} \times \text{Ownership structure}_{i,t} \\ + \alpha_4 \text{Firm performance controls}_{i,t} + \alpha_5 \text{Governance controls}_{i,t} \\ + \alpha_6 \text{Exchange control}_{i,t} + \lambda \text{Year}_t + \lambda \text{Industry}_i + \varepsilon_{i,t}$$

Equation 8: 2SLS estimation with random effects including interaction term (Hypotheses 3 and 5)

$$ROA_{i,t} = \alpha_0 + \alpha_1 \widehat{ESG}_{i,t} + \alpha_2 \text{Ownership structure}_{i,t} \\ + \alpha_3 \widehat{ESG} \times \text{Ownership structure}_{i,t} + \alpha_4 \text{Firm performance controls}_{i,t} \\ + \alpha_5 \text{Governance controls}_{i,t} + \alpha_6 \text{Exchange control}_{i,t} + \lambda \text{Year}_t \\ + \lambda \text{Industry}_{i,t} + \varepsilon_{i,t}$$

6.3.2 Propensity score matching

As argued by Demsetz (1983) and Demsetz and Villalonga (2001) ownership structure can suffer from self-selection. What we want to explore is what the presence of a family with concentrated ownership actually does. We test the inference by observing how similar firms with or without family owners differ in order to explore the “treatment” effect of family ownership. In line with Rees and Rodionova (2015) a propensity score matched (PSM) sample is thus used as a final robustness check of our results. Compared to regular OLS methods, PSM allows for interpreting the effect of family ownership intervention (Titus, 2007). The method matches a treatment group, in this case family ownership, and a control group of non-family ownership observations that are similar relating to observable characteristics (Dehejia & Wahba, 2002). In this study, observations are matched on the characteristics *size*, *MTB* and *industry*, allowing us to match closely to identical firms. The matching is done using a logit regression model, with replacement, i.e. each control unit can be matched with several treatment units or vice versa. One important aspect to consider when matching with replacement is that

there should be balance between the controlled and treated group to avoid biased effects (Wooldridge, 2016).

7. Data description

7.1 Sample universe

The sample of this study consists of firms listed on Stockholm Stock Exchange (SSE) and First North. Firms listed on First North are generally smaller and less profitable and do not follow the same regulation (Baker McKenzie, 2022). However, since ESG reporting still is not mandatory, it was deemed beneficial to include these firms, enabling us to explore the consequences of CSR-performance for a greater variation of Swedish firms. Because the concept of sustainability reporting changed after the global financial crisis and that we want an up to date sample, the time period of 2016-2022 is used. The time window is primarily motivated by data availability, as data are more plentiful for more recent periods; ESG-scores were not as available before 2020. Accounting data and ESG-scores were collected from Refinitiv Eikon, which is one of the databases with the most comprehensive ESG data (ESG Analytics, 2023). In the literature, which is characterized by differing measures of ESG (Velte, 2020), Eikon's ESG rating is widely used, increasing the comparability to previous literature and reliability of this study. Further, the data for ownership was collected from Modular Finance Holdings database, which is the main database for Swedish ownership data. The initial sample was 5818 firm years. In line with previous research we excluded financial firms like banks and insurance companies since the balance sheet of these firms can skew the statistics (Li et al., 2018). Financial services firms however remained. After removing duplicates, dual listings, foreign listings, traded funds, certificates, SPACs and other listings not included under the Swedish corporate governance code, 5062 firm years remained. The largest sample drop occurred after the removal of firm years where ESG data is missing, although we use the most comprehensive source for ESG scores. This could however be expected since First North has considerably less analyst coverage than SSE. Consequently, the final sample of Swedish firms with ESG scores was 1046 firm years of 328 individual firms. Finally, all firms were grouped by industry using ICB-codes. The industry distribution of the sample can be seen below in table 1.

Table 1 Distribution of observations by year and industry

Industry	Year							Total
	2016	2017	2018	2019	2020	2021	2022	
Technology	2	2	2	5	12	39	39	101
Telecommunications	3	3	3	3	5	12	12	41
Health care	4	4	5	15	28	56	60	172
Financial services	1	1	1	1	1	2	4	11
Real estate	6	6	6	11	20	26	26	101
Consumer discretionary	10	11	17	28	34	50	50	200
Consumer staples	1	1	3	5	6	8	8	32
Industrials	18	20	24	36	47	72	76	293
Basic materials	7	7	7	8	15	20	20	84
Energy	0	0	0	0	2	10	10	22
Utilities	1	1	1	1	1	2	2	9
Total	53	56	69	113	171	297	307	1066

Note: Table 1 displays the distribution of observations by industry and year.

7.2 Variable description

7.2.1 Dependent variable

The dependent variable is firm performance, proxied by return on assets (ROA). Measuring how profitable the company is relative to its assets, ROA is an accounting-based proxy for firm performance, calculated as:

Equation 9: Calculation of ROA

$$ROA = \frac{\text{Net income}}{\text{Total assets}}$$

ROA as a proxy for financial performance is established in the CSR and ESG-literature (Di Giuli & Kostovetsky, 2014; Javeed & Lefen, 2019; Velte, 2020). Measuring short-term past performance, it is also accepted as the most widely used measure of firm performance (Gentry & Sheng, 2010). Moreover, ROA is an accounting-based performance measure, reflecting the company's performance based on balance sheet metrics. Unfortunately, this means that the measure is prone to income smoothing or other manipulations. However, if the firm has done something that affects performance, this should therefore be captured by ROA over time. Because our sample allows for observing companies over several years, we utilize ROA as our proxy for firm performance.

7.2.2 Explanatory variables

ESG

The main explanatory variable hypothesized to impact firm performance is ESG and the pillars environmental, social, and governance respectively. ESG score is a proxy for the performance in the mentioned areas. By aggregating performance in a range of criteria, e.g. health of employees, environmental impact of business and social contribution, a weighted sum of the relative performance in each pillar generates a score between 0 and 100 (Whelan et al., 2021). We include the separate scores on environmental, social and governance respectively as we are interested if there is a particular pillar explaining financial performance better than the others. Eikon's social and environmental pillar scores are benchmarked against the industry the firm operates in, while governance score is benchmarked against the country of incorporation. Further, the pillar scores for social and environmental are weighted differently depending on industry. While governance holds the same weighting across industries, in this sense the measure is relative (Refinitiv, 2022). Additionally, the social pillar is also not as variable in Sweden due to the previously mentioned historically high labor law standards.

Concentrated ownership

Ownership concentration is measured as the fraction of voting rights belonging to the largest owner per year. We define concentrated ownership as the largest owner having more than 10% of the voting rights (La Porta et al., 1999), which can be used as a cutoff-point that motivates monitoring. The dummy takes on a 1 if the largest owner has more than 10% voting rights and a 0 otherwise.

Family ownership

We define a family owner as an owner that is part of a family sphere, or an owner who acts on behalf of a family or in the family's name. Also, an owner needs sufficient voting rights in order to influence the company decisions. In line with Rees and Rodionova (2015) We therefore create a dummy that is equal to 1 if the largest owner is a family holding more than 10% of the voting rights and a 0 otherwise.

Firm controls

As previously mentioned the sample both consists of firms listed on NASDAQ Stockholm and First North. Firms on these exchanges generally differ in size and age. Laws and regulations governing these exchanges differ in a significant manner. Investors in firms listed on more heavily regulated markets such as NASDAQ Stockholm are obliged to report changes in their holdings when surpassing certain thresholds such as 5, 10 & 15%. Such an obligation is intended to produce more transparency regarding holdings (Finansinspektionen, 2022). The regulation is not present for First North (Nasdaq, 2021). These differences can be expected to impact the characteristics of firms on the exchanges. Consequently, we utilize a dummy that is equal to one if the firm is traded on NASDAQ Stockholm and zero if it is traded on First North.

Further, we control for a number of firm characteristics based on previous literature. First, we follow El Ghouli (2016) and control for age, size, leverage and market-to-book. Age and size are included as older and larger firms in general are more profitable. MTB tells us about the market's interpretation of the firm, hence we expect a positive relationship to ROA. The risk of the firm also impacts firm value. We control for idiosyncratic risk in line with El Ghouli (2016) by measuring leverage proxied by the debt-to-equity ratio. We also control for R&D since it signals technological capabilities, which we expect to have a positive relationship with firm performance. (Kogut & Zander, 1992). R&D is defined as the company's R&D expenditures. However, it should be noted that some companies capitalize these costs on the balance sheet, potentially making the variable biased. Finally, we construct a CAPEX-ratio in line with Velte (2020) as it indicates newer assets. Since newer assets are likely to be more sustainable than old assets, the ratio has been shown to have a positive relationship with CSR and firm performance (Cochran & Wood, 1984). ROA and leverage are winsorized to the 1st and 99th percentile to mitigate the impact of outliers while MTB and size are logarithmized to increase normality.

Governance controls

Since we are interested in the relationship between ownership and ESG and how this affects ROA, we include control variables for governance. First, we control for board size as previous studies have concluded a negative relationship with firm performance, explained by less efficiency in larger boards (Coles et al., 2008). We also control for the prevalence of dual class shares by using a dummy variable that is equal to one if the firm utilizes dual class shares and

zero if it is not (Bjuggren, Eklund, & Wiberg, 2007). Finally, as we use 10% as the threshold for an ownership stake to be considered concentrated, we want to control for other owners' possibility to outweigh the largest owner as argued by Bennesen and Wolfenzon (2000). The dummy variable *power owner* is therefore equal to 1 if the largest owner has voting rights that are larger than the second and third largest owners combined and 0 otherwise.

Table 2 Variable description

Variable	Definition	Source
ROA	Net income divided by total assets.	Refinitiv EIKON
ESG	Aggregated weighted score of environmental, social and governance pillar.	Refinitiv EIKON
E	The pillar regarding environmental.	Refinitiv EIKON
S	The pillar regarding social.	Refinitiv EIKON
G	The pillar regarding governance.	Refinitiv EIKON
\overline{ESG}	The yearly industry average of ESG, used as an instrumental variable to ESG.	Refinitiv EIKON
Concentrated ownership	A dummy variable that is equal to one if the firm has concentrated ownership, that is, the largest owner holds more than 10% of the voting rights.	Modular finance Holdings
Family ownership	A dummy variable that is equal to one if the firm has concentrated family ownership, that is, if the largest owner is a family that holds more than 10% of the voting rights.	Modular finance Holdings and the private dataset of Reda Moursli
MTB	Market-to-book ratio is the market value of assets divided by the book value of assets.	Refinitiv EIKON
Age	The natural logarithm of the number of years since the firm was founded.	Refinitiv EIKON
Capex-ratio	Capital expenditures in relation to sales. The variable is winsorized at the 1th and 99th percentile.	Refinitiv EIKON
Size	The natural logarithm of total assets.	Refinitiv EIKON
Leverage	The debt-to-equity ratio of the company, calculated as total debt divided by total equity. The variable is winsorized at the 1th and 99th percentile.	Refinitiv EIKON
R&D	Research and development expenditures. Note: Some firms capitalize their R&D, which make it into an asset instead of a cost.	Refinitiv EIKON
Board size	The number of directors on a company's board.	Modular finance Holdings
Exchange dummy	A dummy variable that is equal to one if the firm is listed on Stockholm Stock Exchange and zero if it is listed on First North Stockholm.	Refinitiv EIKON
Power owner	A dummy variable that is equal to one if the largest owner holds a stake that is larger than the one of the second and third combined.	Modular finance Holdings and the private dataset of Reda Moursli
Dual-class dummy	A dummy that is equal to one if the firm utilize dual-class shares.	Modular finance Holdings

Note: Table 2 displays the definition and source of all variables in the sample. **Modular Finance Holdings** is a database primarily providing Swedish board and ownership data. Refinitiv EIKON is a database providing a range of financial and non-financial data on companies in the whole world, including accounting data and ESG scores.

7.3 Descriptive statistics

7.3.1 Summary statistics

Table 3 presents summary statistics for the variables used. The table is divided between four panels, showing variables grouped in the order of firm performance, ESG performance, moderating variables and control variables. Starting with the dependent variable it can be seen that the average (median) observation in the sample is profitable and has a ROA of 2% (6.1%). The difference between mean and median indicates negative outliers, which is confirmed by the minimum ROA being -95.9% while the maximum is 29.8%. A reason could be the varying assets of different companies, explaining that a net income could be almost as large as the company's total assets. Size, proxied by total assets, despite logarithmized, has a standard deviation that is almost twice its mean of 6.576. ESG-score is on average 42.649 while the lowest ESG performance in the sample is 1.144 and the highest is 93.152. In the study carried out by Velte (2020) for German listed firms between 2010-2018, the average was higher, 54,3. This could be surprising since it is a sample from an earlier time-period which would be expected to be lower. However, Velte's sample consisted of DAX30, constituting the Frankfurt stock exchange 40 largest firms (Deutsche Börse, 2023). Since this sample covers different exchanges and therefore a larger variation of companies it could be expected that the ESG-scores will be lower. Regarding moderators, the largest voting rights position is on average 27.6%, where the maximum is 98,4%, and minimum 4.3%. The average voting rights of the largest owner documented by Agnblad et.al (2001) on the Swedish market was higher at 37.7%. This potentially indicates that levels of ownership concentration have decreased on the Swedish market. However, this could also be First North participating with firms that have more dispersed ownership since companies listed there were not included in Agnblad's study. Regarding family ownership it can be seen that 54.2% of the sample has an owner with more than 10% of voting rights that also can be classified as being a "family". This means that a majority of the firms in our sample have family ownership, which is reasonable considering the characteristics of the aforementioned Swedish Companies Act and corporate governance code. Finally, regarding control variables, the median number of members on the board is 7 while the

lowest and highest are 3 and 13, respectively. This indicates that the distribution will facilitate sufficient variation for our upcoming regression models. R&D's median of 0 tells us that the majority of the sample has no R&D expenditures. Market-to-book has a median of 1.093 while the mean doubles that, indicating that some firms are valued at almost thirty times their assets. Again, as it relates to size and size differs significantly, we could expect the presence of outliers in these variables.

Table 3 Summary statistics

<i>Panel A: Firm performance</i>	N	Mean	Median	SD	Max	Min
ROA	1046	.02	0.061	.186	.298	-.959
<i>Panel B: ESG performance</i>						
ESG	1046	43.049	43.775	24.236	93.152	1.154
E	1046	35.06	28.916	28.728	96.26	0
S	1046	45.72	47.786	27.28	95.564	0
G	1046	45.276	45.785	25.52	96.774	1.256
<i>Panel C: Moderating variables</i>						
Votingrights	1046	.276	.245	.174	.984	.043
Concentrated ownership	1046	.878	1.000	.328	1	0
Family ownership	1046	.542	1.000	.498	1	0
<i>Panel D: Control variables</i>						
MTB	1046	2.238	1.093	3.116	29.927	.056
Age	1046	3.683	3.714	.954	5.808	0
CAPEX-ratio	1046	.655	0.018	7.121	146.664	0
Size	1046	6.576	6.686	2.049	11.038	.505
Leverage	1046	.771	0.519	1.01	7.543	0
R&D	1046	59.547	0.000	382.417	4784.413	0
Board size	1046	6.91	7.000	1.969	13	3
Exchange dummy	1046	.863	1.000	.344	1	0
Power owner	1046	.654	1.000	.476	1	0
Dual-class dummy	1046	.457	0.000	.498	1	0

Note: Table 3 presents the summary statistics for all variables used in the study. Definition of the variables: **ROA** is measured as net income divided by total assets. **ESG** is a score on how well companies perform in environmental, social and governance pillars. **E** is the environmental pillar. **S** is the social pillar. **G** is the governance pillar. **Votingrights** is the fraction of voting rights held by the largest owner. **Concentrated ownership** is a dummy variable equal to 1 if the largest owner holds more than 10% of the firms voting rights and 0 otherwise. **Family ownership** is a dummy variable equal to 1 if the largest owner is a family and holds more than 10% of the voting rights and 0 otherwise. **MTB** is the market value of assets divided by the book value of assets. **Age** is the natural logarithm of the number of years since the company was founded. **CAPEX-ratio** is measured as capital expenditures divided by total revenue, winsorized 1st and 99th percentile. **Size** is the natural logarithm of total assets in million USD. **Leverage** is measured as total debt divided by total equity, winsorized to the 1st and 99th percentile. **R&D** is the company's R&D expenditures. **Board size** is the number of directors on the company's board. **Exchange dummy** is a dummy equal to 1 if the firm is listed on the Stockholm Stock Exchange and 0 if the firm is listed on First North Sweden. **Power owner** is a dummy equal to 1 if the largest owner holds a stake that is larger than the second and third combined. **Dual-class dummy** is a dummy equal to 1 if the firm utilize dual-class shares and 0 otherwise. The time period of the sample is 2016-2022.

7.3.2 Correlation matrix analysis

In table 4 a correlation matrix is presented which displays the correlation for all variables that go into the study. The main dependent variable, *ROA* is significantly and positively correlated with *ESG*, as well as the pillars environmental and social while not with governance. However, the other three governance controls, *board size*, *dual-class dummy* and *power owner*, are significantly positively correlated to *ROA*. Additionally, *ROA* is correlated to both measures used to assess ownership structure, namely *concentrated ownership* and *family ownership*, the correlation is significant and positive. These correlations indicate a positive relationship between *ROA* and *ESG* as well as ownership structure which lays a foundation for observing different effects, this will be investigated in the regression models. The highest correlation of 0.704 is found between firm size and board size which is also significant, 0.7 is sometimes used as an arbitrary cutoff point for assuming problematic levels of multicollinearity, which would put this relationship dangerously close. However, first of all, Stata automatically drops variables that are perfectly collinear. Second, the relationship is reasonable as larger firms generally need to have larger boards. Third, as one variable is included for governance and the other for, we include them to control for different things although highly correlated. On the basis of this, both variables remain for the regressions. Moreover, as we are interested in investigating how *ESG* interacts with *family ownership* and *ownership concentration*, these correlations are also discussed. *ESG* and *family ownership* are positively correlated, but the relationship is not significant, there is however a significant positive correlation between *ESG* and *ownership concentration*, indicating that firms with concentrated ownership have higher ESG scores. Finally, the correlation between our instrumental variable industry year average and ESG is 0.293 and strongly significant. The instrumental variables strength and validity will be discussed more throughout the results and analysis. As of other control variables, no problematic correlation was found. Hence, we decide not to drop any variables after correlation analysis.

Table 4 Correlation Matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
(1) ROA	1.000																		
(2) ESG	0.081***	1.000																	
(3) E	0.084***	0.626***	1.000																
(4) S	0.115***	0.647***	0.610***	1.000															
(5) G	0.012	0.475***	0.334***	0.329***	1.000														
(6) \widehat{ESG}	0.189***	0.293***	0.221***	0.184***	0.143***	1.000													
(7) Concentrated ownership	0.080***	0.011	0.032	0.043	-0.098***	0.023	1.000												
(8) Family ownership	0.184***	0.024	0.034	0.056*	-0.080***	0.042	0.406***	1.000											
(9) MTB	0.046	-0.128***	-0.127***	-0.100***	-0.118***	-0.144***	-0.028	0.072**	1.000										
(10) AGE	0.307***	0.200***	0.289***	0.240***	0.039	0.138***	0.173***	0.126***	-0.132***	1.000									
(11) CAPEX-ratio	-0.178***	-0.083***	-0.092***	-0.086***	-0.064**	-0.089***	-0.002	-0.002	0.024	-0.087***	1.000								
(12) Size	0.447***	0.345***	0.370***	0.358***	0.182***	0.340***	0.109***	0.087***	-0.348***	0.432***	-0.079**	1.000							
(13) Leverage	-0.029	0.005	-0.003	-0.010	0.049	0.075**	0.032	0.002	-0.249***	-0.042	0.014	0.145***	1.000						
(14) R&D	0.028	0.200***	0.195***	0.190***	0.128***	0.187***	0.049	0.041	-0.056*	0.170***	-0.013	0.259***	-0.032	1.000					
(15) Board size	0.221***	0.311***	0.332***	0.313***	0.188***	0.238***	0.124***	0.019	-0.196***	0.396***	-0.044	0.704***	-0.012	0.316***	1.000				
(16) Exchange dummy	0.371***	0.174***	0.181***	0.178***	0.098***	0.145***	0.047	0.036	-0.139***	0.374***	-0.198***	0.478***	0.008	0.061*	0.287***	1.000			
(17) Power owner	0.070**	0.071**	0.100***	0.069**	-0.056*	0.061**	0.397***	0.203***	-0.103***	0.243***	-0.080***	0.228***	-0.022	0.039	0.235***	0.132***	1.000		
(18) Dual-class dummy	0.160***	0.083***	0.107***	0.144***	-0.022	0.104***	0.179***	0.285***	-0.082***	0.247***	-0.044	0.340***	-0.087***	0.127***	0.289***	0.259***	0.175***	1.000	

Note: Table 4 displays a matrix of Pearson's correlation between all variables in the study. Definition of the variables: **ROA** is measured as net income divided by total assets. **ESG** is a score on how well companies perform in environmental, social and governance pillars. **E** is the environmental pillar. **S** is the social pillar. **G** is the governance pillar. **Concentrated ownership** is a dummy variable equal to 1 if the largest owner holds more than 10% of the firms voting rights and 0 otherwise. **Family ownership** is a dummy variable equal to 1 if the largest owner is a family and holds more than 10% of the voting rights and 0 otherwise. **MTB** is the market value of assets divided by the book value of assets. **Age** is the natural logarithm of the number of years since the company was founded. **CAPEX-ratio** is measured as capital expenditures divided by total revenue, winsorized 1st and 99th percentile. **Size** is the natural logarithm of total assets in million USD. **Leverage** is measured as total debt divided by total equity, winsorized to the 1st and 99th percentile. **R&D** is the company's R&D expenditures. **Board size** is the number of directors on the company's board. **Exchange dummy** is a dummy equal to 1 if the firm is listed on the Stockholm Stock Exchange and 0 if the firm is listed on First North Sweden. **Power owner** is a dummy equal to 1 if the largest owner holds a stake that is larger than the second and third combined. **Dual-class dummy** is a dummy equal to 1 if the firm utilize dual-class shares and 0 otherwise. The time period of the sample is 2016-2022.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

7. 4 Univariate analysis

The sample is further divided into two subsamples based on family ownership where group 1 is defined as observations where the largest owner is a family and has less than 10% of voting rights and group 2 has more. The groups are analyzed regarding if there is a significant difference in means between the two groups with respect to our variables. A strongly significant difference in means is shown for *ROA*, where the family firms of the sample have 6.9 percentage units higher *ROA*. Also notably, the mean for non-family firms is negative while family firms *ROA* on average is positive. Further, *ESG* does not show a significant difference between the two groupings, since *ESG* scores only differ by roughly 1 point. Regarding the pillars, there is however a weakly significant difference in *S* and a significant difference in *G* between the two groups. Family firms have higher average scores on the social pillar while the governance pillar shows the opposite direction, where non-family firms have higher scores on governance than family firms. Lower governance is expected for family owned firms, and they seem to compensate this with a higher social score, explaining the similar *ESG* scores. For control variables, a strongly significant difference is found for *size* and *age*, where families tend to hold larger firms. *Dual-class dummy* and *power owner* also show a significant difference, telling us that family owners generally have good control of their firms. Observations from family firms as expected to a higher degree utilize dual class shares and are more likely to own a larger stake than the second and third largest owners. In addition, ownership is more often concentrated in family firms, significant at the 1% level. Family ownership further seems to be higher valued, as their *MTB* are significantly higher. To conclude, firms with family ownership seem to be older, larger and more profitable while showing indications of intent to maintain control of their firms. The market values them highly although they are governed worse, warranting continued analysis to better understand family ownership.

Table 5 T-tests for differences in means

	Panel A: Non-family firms		Panel B: Family controlled firms		p-value
	N	Mean	N	Mean	
ROA	479	-0.018	567	.052	0***
ESG	479	42.417	567	43.584	.438
E	479	33.991	567	35.964	.269
S	479	44.059	567	47.123	.071*
G	479	47.508	567	43.391	.009**
Concentrated ownership	479	0.733	567	1	0***
MTB	479	1.994	567	2.444	.02**
Age	479	3.553	567	3.793	0**
CAPEX-ratio	479	0.666	567	.644	.961
Size	479	6.381	567	6.74	.005***
Leverage	479	0.768	567	.773	.94
R&D	479	42.476	567	73.969	.184
Board size	479	6.869	567	6.946	.529
Exchange dummy	479	0.850	567	.875	.24
Power owner	479	0.549	567	.743	0***
Dual-class dummy	479	0.302	567	.588	0***

Note: Table 5 displays the univariate results for t-tests of differences in variable means between non-family firms (Panel A) and family-controlled firms (Panel B). **Family ownership** is a dummy variable equal to 1 if the largest owner is a family and holds more than 10% of the voting rights and 0 otherwise. **ROA** is measured as net income divided by total assets. **ESG** is a score on how well companies perform in environmental, social and governance pillars. **E** is the environmental pillar. **S** is the social pillar. **G** is the governance pillar. **Concentrated ownership** is a dummy variable equal to 1 if the largest owner holds more than 10% of the firms voting rights and 0 otherwise. **MTB** is the market value of assets divided by the book value of assets. **Age** is the natural logarithm of the number of years since the company was founded. **CAPEX-ratio** is measured as capital expenditures divided by total revenue, winsorized at the 1st and 99th percentile. **Size** is the natural logarithm of total assets in million USD. **Leverage** is measured as total debt divided by total equity, winsorized at the 1st and 99th percentile. **R&D** is the company's R&D expenditures. **Board size** is the number of directors on the company's board. **Exchange dummy** is a dummy equal to 1 if the firm is listed on the Stockholm Stock Exchange and 0 if the firm is listed on First North Sweden. **Power owner** is a dummy equal to 1 if the largest owner holds a stake that is larger than the second and third combined. **Dual-class dummy** is a dummy equal to 1 if the firm utilize dual-class shares and 0 otherwise. The time period of the sample is 2016-2022.

*** p<0.01, ** p<0.05, * p<0.1

8. Results

8.1 Pooled OLS

The regression results for POLS are displayed in table 6. The dependent variable is firm performance, measured as *ROA*. All models control for industry, year and exchange as well as use robust standard errors that are clustered by firm. In columns 1 and 2 *ESG* is the main explanatory variable. Column 1 shows a weakly significant negative relationship between *ESG* and *ROA*, where a 1 point higher *ESG* score, infers a reduction in *ROA* of 0.051 percentage units all else equal, which is a small effect. Introducing concentrated ownership as a second main explanatory variable yields no significant results, neither on its own in column 2 nor with the interaction term in column 3. Further, column 4 includes family ownership as an explanatory variable which is significant at the 1% level while *ESG* maintains its negative weakly significant relationship. The coefficient suggests that family firms on average have 5.3 percentage units higher *ROA* than non-family firms. In column 5, the main interaction term of *ESG x family ownership* is added. The interaction term is weakly significant while *ESG* loses its significance and family ownership remains its strong significance, which is reasonable due to the sign of the interaction term. The negative coefficient of -0.000934 means that, compared to non-family firms, family firms experience a 0.0934 larger percentage unit decrease in *ROA* for a one point increase in *ESG*.

Regarding control variables, *size* is strongly significant and positive in all specifications. Our measure of idiosyncratic risk, *leverage*, is weakly significant in all models except when *ESG* is the only main explanatory variable in column 1 but consistently shows a negative relationship with *ROA*. The weakly significant coefficient varies between -0.0152 and -0.0157, indicating that a one point increase in debt-to-equity ratio is equivalent to a decrease of 1,52-1,57 percentage points in *ROA*. *CAPEX-ratio* behaves in a similar manner, showing a negative relationship with *ROA*, however strongly significant throughout models 1-5. *Age* and *MTB* is further significant throughout all columns with positive and consistent coefficients. This means that older firms have higher *ROA*, and also that firms with higher valuations are characterized by higher profitability. *R&D* had a negligibly low negative coefficient that was significant in all columns, suggesting that technological focus has a negative impact on *ROA*. Finally, the exchange dummy's positive and strongly significant coefficient indicates that firms publicly traded on the Stockholm Stock Exchange on average have a *ROA* that is 8.13-8.72 percentage

units higher. The remaining *dual-class dummy*, and *power owner* showed negative coefficients throughout all columns but with no significance.

Table 6 Pooled OLS regressions

Dependent variable: ROA	(1) POLS	(2) POLS	(3) POLS	(4) POLS	(5) POLS
ESG	-0.000510* (0.000306)	-0.000501 (0.000307)	-0.000733 (0.000483)	-0.000531* (0.000299)	-8.23e-05 (0.000385)
Concentrated ownership		0.0371 (0.0225)	0.0259 (0.0331)		
ESG x Concentrated ownership			0.000272 (0.000536)		
Family ownership				0.0533*** (0.0154)	0.0928*** (0.0281)
ESG x Family ownership					-0.000934* (0.000513)
MTB	0.0150*** (0.00292)	0.0149*** (0.00295)	0.0149*** (0.00295)	0.0139*** (0.00297)	0.0137*** (0.00291)
Age	0.0187*** (0.00690)	0.0175** (0.00709)	0.0175** (0.00710)	0.0165** (0.00680)	0.0170** (0.00686)
CAPEX-ratio	-0.00279*** (0.000935)	-0.00286*** (0.000944)	-0.00286*** (0.000940)	-0.00291*** (0.000875)	-0.00289*** (0.000863)
Size	0.0490*** (0.00936)	0.0492*** (0.00928)	0.0493*** (0.00929)	0.0488*** (0.00913)	0.0492*** (0.00914)
Leverage	-0.0143 (0.00871)	-0.0153* (0.00873)	-0.0153* (0.00876)	-0.0152* (0.00803)	-0.0157** (0.00793)
R&D	-2.95e-05*** (1.10e-05)	-2.99e-05*** (1.11e-05)	-3.02e-05*** (1.13e-05)	-3.15e-05*** (1.16e-05)	-2.94e-05*** (1.09e-05)
Board size	-0.0214*** (0.00644)	-0.0216*** (0.00645)	-0.0217*** (0.00646)	-0.0201*** (0.00636)	-0.0206*** (0.00639)
Exchange dummy	0.0813** (0.0321)	0.0831*** (0.0319)	0.0833*** (0.0318)	0.0872*** (0.0317)	0.0866*** (0.0316)
Power owner	-0.00846 (0.0155)	-0.0179 (0.0172)	-0.0182 (0.0173)	-0.0184 (0.0161)	-0.0170 (0.0160)
Dual-class dummy	-0.00176 (0.0137)	-0.00464 (0.0137)	-0.00472 (0.0137)	-0.0167 (0.0135)	-0.0158 (0.0136)
Constant	-0.213*** (0.0698)	-0.235*** (0.0717)	-0.226*** (0.0726)	-0.256*** (0.0689)	-0.271*** (0.0712)
Industry effect	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes
	Clustered by	Clustered by	Clustered by	Clustered by	Clustered by
Standard errors	firm	firm	firm	firm	firm
Observations	1,046	1,046	1,046	1,046	1,046
R-squared	0.399	0.403	0.403	0.416	0.420
Number of firms	328	328	328	328	328

Note: Table 6 shows the results of the multivariate regressions executed with POLS to investigate the relationship between ESG performance and firm performance as well as the moderating effect of concentrated ownership and family ownership. ROA is the dependent variable in all regressions and is measured as net income divided by total assets. Concentrated ownership is a dummy variable equal to 1 if the largest owner of the firm has a stake larger than 10% and 0 otherwise. Family ownership is a dummy variable equal to 1 if the largest owner is a family owning a stake larger than 10% and 0 otherwise. All control variables are defined in table 2. All regressions use robust standard errors clustered by firm. Column 1 display the results for the relationship between ESG and ROA. Columns 2 and 3 display the results for the relationship between concentrated ownership and ROA and its moderating effect on the relationship between ESG and ROA. Column 4 and 5 display the results for family ownership's relationship with ROA and its moderating effect on the relationship between ESG and ROA.

Firm-level clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

8.2 Random effects

To further investigate our explanatory variables *ESG*, *family ownership* and *concentrated ownership* these are in table 7 regressed against *ROA* to see if the results hold with the RE model that we deploy to account for unobserved heterogeneity and mitigate endogeneity. Similarly to POLS, the models include controls for the effect of industry, years, as well as use robust standard errors that are clustered on the firm level. First, *ESG* is no longer weakly significant but significant at the 5% level instead in all columns. As seen in column 2, this means *ESG* is statistically significant even when regressed with concentrated ownership, unlike in the POLS. As in the POLS, *ESG* loses its significance when including it in an interaction term (column 3 and 5). Different from the POLS, the RE model estimation of the coefficients are about halved in size. Also concentrated ownership now yields a weakly significant positive coefficient of 0.0335 in column 2. Lastly, columns 4 and 5 show that family ownership withholds its strongly significant positive relationship although the coefficient drops about 25%. This means that our main findings remain in the random effects model, with slightly lower coefficients but somewhat stronger significance levels. Applying the random effects model, the control variables are overall consistent from the POLS. Notably, *leverage* is now strongly significant instead of weakly. As opposed to the main variables, the coefficients of the control variables increase slightly in magnitude, as a consequence of the random effects model.

Table 7 Random effects regressions

Dependent variable:	(1)	(2)	(3)	(4)	(5)
ROA	RE	RE	RE	RE	RE
ESG	-0.000253** (0.000129)	-0.000262** (0.000131)	2.95e-05 (0.000259)	-0.000257** (0.000129)	1.29e-05 (0.000158)
Concentrated ownership		0.0335* (0.0181)	0.0439** (0.0215)		
ESG x Concentrated ownership			-0.000274 (0.000310)		
Family ownership				0.0411*** (0.0143)	0.0652*** (0.0185)
ESG x Family ownership					-0.000572** (0.000253)
MTB	0.00941*** (0.00279)	0.00956*** (0.00284)	0.00960*** (0.00284)	0.00949*** (0.00279)	0.00968*** (0.00279)
Age	0.0170** (0.00814)	0.0174** (0.00824)	0.0170** (0.00820)	0.0162** (0.00823)	0.0157* (0.00818)
CAPEX-ratio	-0.00442*** (0.000831)	-0.00438*** (0.000783)	-0.00436*** (0.000764)	-0.00445*** (0.000805)	-0.00445*** (0.000788)
Size	0.0569*** (0.0124)	0.0561*** (0.0121)	0.0563*** (0.0121)	0.0559*** (0.0122)	0.0564*** (0.0123)
Leverage	-0.0285*** (0.00666)	-0.0280*** (0.00643)	-0.0279*** (0.00637)	-0.0282*** (0.00653)	-0.0280*** (0.00652)
R&D	-2.43e-05 (1.75e-05)	-2.33e-05 (1.69e-05)	-2.28e-05 (1.68e-05)	-2.49e-05 (1.52e-05)	-2.31e-05 (1.57e-05)
Board size	-0.0223*** (0.00810)	-0.0221*** (0.00805)	-0.0222*** (0.00804)	-0.0216*** (0.00815)	-0.0221*** (0.00814)
Exchange dummy	0.0664** (0.0334)	0.0694** (0.0329)	0.0691** (0.0329)	0.0723** (0.0330)	0.0724** (0.0329)
Power owner	0.00666 (0.0152)	-0.00348 (0.0144)	-0.00285 (0.0145)	0.000826 (0.0159)	0.000786 (0.0159)
Dual-class dummy	-0.00991 (0.0172)	-0.0115 (0.0169)	-0.0111 (0.0170)	-0.0185 (0.0173)	-0.0181 (0.0174)
Constant	-0.221*** (0.0762)	-0.245*** (0.0788)	-0.254*** (0.0777)	-0.255*** (0.0768)	-0.266*** (0.0776)
Industry effect	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes
	Clustered by				
Standard errors	firm	Clustered by firm	Clustered by firm	Clustered by firm	Clustered by firm
Observations	1,046	1,046	1,046	1,046	1,046
R-squared (between)	0.4536	0.457	0.457	0.467	0.469
Number of firms	328	328	328	328	328

Note: Table 7 shows the results of the multivariate regressions executed with RE to investigate the relationship between ESG performance and firm performance as well as the moderating effect of concentrated ownership and family ownership. ROA is the dependent variable in all regressions and is measured as net income divided by total assets. Concentrated ownership is a dummy variable equal to 1 if the largest owner of the firm has a stake larger than 10% and 0 otherwise. Family ownership is a dummy variable equal to 1 if the largest owner is a family owning a stake larger than 10% and 0 otherwise. All control variables are defined in table 2. All regressions use robust standard errors clustered by firm. Column 1 display the results for the relationship between ESG and ROA. Columns 2 and 3 display the results for the relationship between concentrated ownership and ROA and its moderating effect on the relationship between ESG and ROA. Columns 4 and 5 display the results for family ownership's relationship with ROA and its moderating effect on the relationship between ESG and ROA.

Firm-level clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

8.3 Instrumental variable approach

Following the discussion in section 6.3 regarding endogeneity, an instrumental variable is created for ESG where the yearly industry average ESG score acts as an exogenous instrument, in accordance with El Ghouli et.al (2011). The α_1 coefficient of the first stage regressions is reported in table 8 columns 1 and 2 where it can be discerned that the relationship between *ESG* and the yearly industry average is significant and positive, although not that strong. The f-statistic for the first-stage regression is 20.65 in column 1 and 19.83 in column 2.

\widehat{ESG} is not significant on its own, but is similar to ESG with a negative coefficient that increases in magnitude from the main models. The interaction effect between \widehat{ESG} and family ownership is significant and negative in column 2, consistent with previous results. In addition, the IV regression attributes the interaction with a stronger negative effect compared to POLS and RE when *ESG* and *family ownership* interacts.

Table 8 Instrumental variable regressions

Dependent variable: ROA	(1) RE	(2) RE
\widehat{ESG}	-0.000858 (0.000600)	-0.0000656 (0.000419)
Family ownership		0.103*** (0.0317)
\widehat{ESG} x Family ownership		-0.00147** (0.000618)
MTB	0.00980*** (0.00264)	0.00948*** (0.00289)
Age	0.0199** (0.00809)	0.0160* (0.00819)
CAPEX-ratio	-0.00438*** (0.000823)	-0.00451*** (0.000805)
Size	0.0578*** (0.0119)	0.0559*** (0.0127)
Leverage	-0.0274*** (0.00677)	-0.0275*** (0.00679)
R&D	-2.75e-05 (1.79e-05)	-3.15e-05** (1.47e-05)
Board size	-0.0208*** (0.00764)	-0.0223*** (0.00811)
Exchange dummy	0.0670** (0.0326)	0.0707** (0.0333)
Dual-class dummy	-0.0102 (0.0167)	-0.0181 (0.0177)
Power owner	0.00481 (0.0147)	-0.00101 (0.0158)
Constant	-0.215*** (0.0731)	-0.265*** (0.0782)
Year control	Yes	Yes
Industry control	Yes	Yes
Standard errors	Clustered by firm	Clustered by firm
R-squared (between)	0.427	0.439
α_1	.859***	1.163***
F-statistic	20.65	19.83
Observations	1,046	1,046
Number of firms	328	328

Note: Table 8 shows the results of the instrumental variable regressions executed with RE to investigate the relationship between ESG and firm performance as well as the moderating effect of family ownership on the relationship between ESG and ROA. ROA is the dependent variable in all regressions and is measured as net income divided by total assets. \widehat{ESG} is the instrumental variable defined as the industry year average ESG. Family ownership is a dummy variable equal to 1 if the largest owner is a family owning a stake larger than 10% and 0 otherwise. Column 1 display the results for the relationship between \widehat{ESG} and ROA. Column 2 display the results for the moderating effect of family ownership on the relationship between \widehat{ESG} and ROA. F-test results and first stage α_1 are reported in the bottom of the table.

Firm-level clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

8.4 Pillar scores

Additionally, the pillars which make up the ESG score are analyzed separately with random effects in order to explore if an aspect of ESG drives financial performance more than the others. The standard errors and all controls remain. Concentrated ownership is disregarded in these regressions since no statistical relevance was found in previous specifications. As shown in table 9 in column 1, *E* shows a negative relationship that is strongly significant with a coefficient of -0.000450. This means that for a point increase in the environmental pillar score, *ROA* decreases by 0.045 percentage units, *ceteris paribus*. Both *S* and *G* do not appear to have a significant relationship to *ROA* in our sample. However, interacting the social pillar with family ownership produces a negative effect shown in column 5. This suggests that the social pillar has a negative moderating effect on the relationship between ESG and *ROA*, meaning that, on average, a one point increase in *S* decreases *ROA* by 0.063 percentage units more for family controlled firms compared to non-family controlled.

Table 9 Random effects regressions with pillar scores

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)
ROA	RE	RE	RE	RE	RE	RE
E	-0.000450*** (0.000120)			-0.000259 (0.000168)		
S		-7.96e-05 (0.000114)			0.000222 (0.000161)	
G			-5.40e-05 (0.000134)			-9.16e-05 (0.000187)
Family ownership				0.0498*** (0.0156)	0.0686*** (0.0180)	0.0363* (0.0186)
E x Family ownership				-0.000316 (0.000221)		
S x Family ownership					-0.000631*** (0.000211)	
G x Family ownership						9.66e-05 (0.000252)
MTB	0.00939*** (0.00279)	0.00939*** (0.00283)	0.00938*** (0.00284)	0.00957*** (0.00280)	0.00981*** (0.00280)	0.00947*** (0.00284)
Age	0.0179** (0.00811)	0.0165** (0.00813)	0.0163** (0.00818)	0.0172** (0.00815)	0.0158* (0.00813)	0.0156* (0.00825)
CAPEX-ratio	-0.00445*** (0.000826)	-0.00440*** (0.000829)	-0.00440*** (0.000832)	-0.00447*** (0.000797)	-0.00441*** (0.000784)	-0.00442*** (0.000807)
Size	0.0575*** (0.0124)	0.0566*** (0.0125)	0.0565*** (0.0125)	0.0567*** (0.0122)	0.0559*** (0.0123)	0.0554*** (0.0123)
Leverage	-0.0282*** (0.00666)	-0.0285*** (0.00667)	-0.0286*** (0.00666)	-0.0278*** (0.00657)	-0.0278*** (0.00652)	-0.0284*** (0.00654)
R&D	-2.47e-05 (1.58e-05)	-2.44e-05 (1.75e-05)	-2.50e-05 (1.77e-05)	-2.58e-05* (1.42e-05)	-2.38e-05 (1.59e-05)	-2.58e-05* (1.55e-05)
Board size	-0.0223*** (0.00804)	-0.0228*** (0.00813)	-0.0228*** (0.00813)	-0.0220*** (0.00808)	-0.0224*** (0.00812)	-0.0221*** (0.00819)
Exchange dummy	0.0669** (0.0333)	0.0663** (0.0335)	0.0662** (0.0336)	0.0726** (0.0329)	0.0724** (0.0329)	0.0720** (0.0332)
Dual-class dummy	-0.00914 (0.0170)	-0.00850 (0.0172)	-0.00869 (0.0173)	-0.0164 (0.0173)	-0.0167 (0.0174)	-0.0170 (0.0174)
Power owner	0.00855 (0.0152)	0.00654 (0.0153)	0.00636 (0.0152)	0.00275 (0.0159)	0.00141 (0.0159)	0.000849 (0.0160)
Constant	-0.231*** (0.0768)	-0.223*** (0.0765)	-0.220*** (0.0771)	-0.271*** (0.0775)	-0.274*** (0.0778)	-0.255*** (0.0778)
Year control	Yes	Yes	Yes	Yes	Yes	Yes
Industry control	Yes	Yes	Yes	Yes	Yes	Yes
	Clustered by	Clustered by	Clustered by	Clustered by	Clustered by	Clustered by
Standard errors	firm	firm	firm	firm	firm	firm
Observations	1,046	1,046	1,046	1,046	1,046	1,046
R-squared (between)	0.456	0.452	0.452	0.472	0.470	0.465
Number of firms	328	328	328	328	328	328

Note: Table 9 shows the results of the multivariate regressions executed with RE to investigate the relationship between ESG pillars and firm performance as well as the moderating effect of family ownership on the relationship between each pillar and ROA. ROA is the dependent variable in all regressions and is measured as net income divided by total assets. E, S and G are the individual pillar scores that is aggregated in to ESG. Family ownership is a dummy variable equal to 1 if the largest owner is a family owning a stake larger than 10% and 0 otherwise. All regressions use robust standard errors clustered by firm. Columns 1-3 display the results for each pillar and its relationship with ROA. Columns 4-6 display the results for the moderating effect of family ownership on the pillars relationship with ROA. Firm-level clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

8.5 Propensity score matching

The robustness of the results for family ownership are also investigated. Based on concerns regarding ownership self-selection, table 10 show results for the propensity score matched sample. The propensity score matched sample's size is smaller as there is a lack of overlap between the groups, resulting in 818 observations where are 66% treated and 34% untreated. The treatment group, family owned firms, have a strongly significant positive effect on ROA in column 1. Furthermore, the interaction term with treatment and ESG is significant and negative in column 2 with a coefficient of -0.000675, which is slightly more negative than the main model. Thus, the matched sample confirms the robustness of our previous results.

Table 10 Propensity score matched regressions

Dependent variable:	(1)	(2)
ROA	RE	RE
ESG	-0.000272* (0.000162)	0.000132 (0.000239)
Family ownership	0.0402*** (0.0147)	0.0698*** (0.0206)
ESG x Family ownership		-0.000675** (0.000303)
MTB	0.0114*** (0.00309)	0.0116*** (0.00304)
Age	0.0236*** (0.00863)	0.0226*** (0.00860)
CAPEX-ratio	-0.00340*** (0.00123)	-0.00336*** (0.00118)
Size	0.0497*** (0.0111)	0.0502*** (0.0111)
Leverage	-0.0221*** (0.00683)	-0.0217*** (0.00688)
R&D	-3.11e-05** (1.23e-05)	-2.93e-05** (1.28e-05)
Board size	-0.0192** (0.00890)	-0.0198** (0.00890)
Exchange dummy	0.0816** (0.0331)	0.0809** (0.0330)
Power owner	-0.0177 (0.0167)	-0.0172 (0.0167)
Dual-class dummy	0.0205 (0.0133)	0.0208 (0.0129)
Constant	-0.262*** (0.0780)	-0.279*** (0.0794)
Year control	Yes	Yes
Industry control	Yes	Yes
Standard errors	Clustered by firm	Clustered by firm
R-squared (between)	0.3768	0.3807
Observations	818	818
Number of firms	298	298

Note: Table 10 shows the results multivariate regressions on a propensity score matched sample executed with RE to control the robustness of the results. ROA is the dependent variable in all regressions and is measured as net income divided by total assets. Family ownership is a dummy variable equal to 1 if the largest owner is a family owning a stake larger than 10% and 0 otherwise. Column 1 display the results for the relationship between family ownership and ROA. Column 2 display the results for the moderating effect of family ownership on the relationship between ESG and ROA.

Firm-level clustered robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

9. Analysis

9.1 ESG & firm performance

ESG and its relationship to financial performance, measured as ROA, has been a central part of this paper. The POLS and RE models have yielded consistent results regarding a significant relationship, the relationship is negative and relatively small. Although the instrument satisfied Wooldridges' (2016) cutoff of 10, the f-statistics of 20.65 and 19.83 are still relatively low. The yearly industry average correlation was significant but also in the low end, 0.293. Hence, the validity and relevance of the instrument is questionable. These factors potentially lend help to explaining why we could not establish a significant relationship although the sign and coefficient remained. Another possible explanation is that ESG is endogenous to firm performance, and when controlling for this the effect disappears. We thus fail to reject the null of hypothesis H1, as we cannot confidently say that ESG has a relationship to firm performance. With this in mind, the coefficient is negative and significant in all other models, indicating weak evidence of a negative relationship.

This result stands in contrast to a body of research which supports the business case for ESG, where ESG is connected to stronger financial performance (Friede, Busch & Bassen, 2015). Additionally, the result does not lend support for the stakeholder theory (Freeman, 1984) which suggests that ESG activities can improve relationships with stakeholders and in turn lead to reputational gains as well as improved bargaining power. The negative relationship instead lends weak support to that firms in our sample could be experiencing the opposite where ESG investing is value destroying. Such a result could therefore support stakeholder pressure leading firms to put ESG activities above financial performance, effectively sidelining the latter (Roberts, 1992). The result is therefore also coherent with Di Giuli & Kostovetsky (2014), and improvements in ESG can therefore be argued to come at the expense of shareholders' wealth.

Exploring the pillar scores of ESG on their own in table 9, it is reported that *E* has a strongly significant negative relationship with *ROA*. This result implies that environmental performance is the key determinant of how ESG will impact ROA. Hence, if environmental performance is what drives a company's ESG-score, a negative relationship with ROA could be expected. *G* and *S* seem to have no relationship at all. The social pillar having no relationship with firm performance is reasonable from the perspective of developed labor law in Sweden, which leaves

little room for differentiation (Henrekson & Jakobsson, 2012). Notably, since E is the score firms can impact the most, environmental pillar score having a negative relation with ROA suggests that investing in environmental activities could drive negative performance.

9.2 Concentrated ownership

Concentrated ownership, the second main explanatory variable yields inconsistent results as it relates to significance, showing a significant positive relationship when accounting for unobserved heterogeneity using random effects. These results were however not present in the POLS. Thus, we fail to reject the null hypothesis of H2. These results lead us to think that there possibly is a relationship between concentrated ownership and ROA, but that our model is too weak to explain it without accounting for unobserved heterogeneity. Consequently, this lends weak support to the reduction in type I agency problems between management and owners as proposed by Shleifer & Vishny (1986) with the monitoring hypothesis. Where increased monitoring can lead to increased financial performance through alignment of interests. This also is in line with Sanchez-Ballesta & Garcia-Meca (2007) by confirming their finding that in countries with weak shareholder protection, firms reap financial benefits from concentrated ownership through monitoring. The findings of Sanchez-Ballesta & Garcia-Meca (2007) can however be put in contrast to Gompers, Ishii & Metrick (2003) who found that firms with stronger shareholder rights outperform the contrary. On the basis of this, we should find that firms missing concentrated ownership in Sweden would outperform, this is however not the case. An explanation for this could be Agnblad et al. (2001) who argues that Swedish shareholder protection is not as weak as it looks on a legal basis, due to informal mechanisms protecting shareholder rights which would support our results.

9.3 Family ownership

Family ownership is strongly significant and positive in all our base models. The relationship is robust using propensity score matching. The coefficient tells us that family controlled firms on average have 4-5 percentage units higher ROA than non-family controlled firms. We reject the null-hypothesis of H4 and conclude that family ownership has an effect on firm performance measured as ROA. These results are in contrast to Thomsen and Pedersen (2000) who find that family owner's long term focus is interpreted as non-shareholder wealth maximizing behavior. Rather, our results can be explained by reduced type 1 agency conflicts, in line with Maury (2006) who finds that firms which are actively controlled by families are more profitable. Also,

since Swedish family owners have large holdings and generally are entrenched they could be more incentivized to monitor (Maug, 1998). Extending the argument of Anderson and Reeb (2003), in transparent markets where there are sufficient safeguards related to control and monitoring, family ownership can function as an efficient organizational structure. These safeguards can in turn negate the potential type 2 agency problems, and might explain why in this study on the Swedish markets our results differ from the findings of Faccio, Lang, and Young (2001) who finds evidence in south-east Asia that family owners are less incentivized to maximize shareholder wealth. Our results are instead more in line with Anderson and Reeb (2003). As described by Agnblad et al. (2001) a reputation of running a successful firm can in Sweden be seen as an informal mechanism of protection for minority shareholders. Families are further tied to their reputation to a large extent, and can value it through a lens of socioemotional wealth (Gomez-Mejia, 2007). These socioemotional benefits and traditional economic gains that a strong reputation can infer, motivate strong performance and shareholder wealth maximization.

9.4 Moderating effects of concentrated ownership

As mentioned in chapter 5, the hypothesized moderating effect of concentrated ownership on the relationship between ESG and ROA is also investigated. The interaction term used to explore the effect is not significant and switches signs between POLS and RE. We thus do not find enough support for a moderating effect of concentrated ownership and therefore fail to reject the null-hypothesis of H3. The findings of Javeed and Lefen (2019), where ownership concentration had a positively moderating effect on the relationship between ESG and firm performance, can therefore not be confirmed in this study. The institutional context is however important to consider, as owners might be able to reap more tangible reputational benefits on the Pakistani stock market. In comparison to the Swedish markets, where ESG performance already is the norm, and less reputationally beneficial for blockholders. Hence, our findings say that firms with concentrated owners might not see different effects on ROA from increased ESG.

9.5 Moderating effects of family ownership

The interaction between *ESG* and *family ownership* is significant and negative, in both models (5) and (10) using POLS and RE, respectively. The interaction effect further holds in the instrumental variable approach and is robust to PSM. The result indicates that family controlled

firms see their ROA negatively impacted by ESG performance compared to non-family owned firms. Thomsen and Pedersen (2000) provide a possible explanation, that family owners have different priorities, e.g. a more long-term approach or other personal motives. This result could be interpreted in line with reputational considerations in accordance with organizational identity and socioemotional wealth theory (Whetten & Albert, 1985; Gomez-Mejia, 2007). Family owned firms might have a larger stake in maintaining their reputation, and engage in ESG activities that make the firm look good but this comes at the cost of operational performance. These noneconomic benefits might further be exacerbated by the Swedish context, as the historical strong standing of powerful families might further increase the importance of legacy and social status, which further are benefits that accrue more to the owning family than smaller shareholders. This is in accordance with El Ghouli et al. (2016) who find that family owners in East Asia disregard shareholder wealth maximization for their own good. From a resource-based view, aggressive ESG-investing could be necessary if an outstanding ESG-profile is a competitive advantage that family firms are striving for in order to propel their reputation (Barney, 1991). In this case, striving to acquire the competitive advantage might lead to overinvestment, neglecting financial performance. Alternatively, from a stakeholder view (Roberts, 1992), in the long term, stakeholder's demands on strong ESG-scores might make it worthwhile to invest in ESG to the degree that it negatively affects short-term performance in order to remain trusted and maintain pace with other family firms.

Moreover, our result is inverse to the findings of Abeysekera and Fernando (2020), who find that family firms receive larger benefits by staying loyal to what their shareholders desire compared to private benefits they could receive from ESG activities which are value destroying for other shareholders. The entrenched nature of Swedish family ownership could potentially explain our inverse relationship where Swedish family owners are more diversified than traditional family owners (Jakobsson & Wiberg, 2014). The results also need to be interpreted against our own previous findings discussed in sections 8.1 and 8.2, where sufficient transparency and monitoring appears to enable family owned firms to outperform their counterparts (Frank & Hamberg, 2016), while ESG appears to be an avenue through which extraction of private benefits still takes place for Swedish firms with family ownership. This could be a manifestation of agency problems where excess profitability for family owned firms could open the door to suboptimal ESG activities, in line with a potentially reverse causal relationship between ESG and firm performance (Benabou & Tirole, 2010).

Further, investigating the individual pillars, we find support for family controlled firms negatively moderating the relationship between the *S* and *ROA*. The negative effect suggests that investing in the social pillar is less profitable for family controlled firms. However, as we find no significant results between *S* and *ROA*, likely because of the rigid nature of social laws in Sweden (Henrekson & Jakobsson, 2012), we are hesitant about making further inferences regarding that family controlled firms lack economic motives to invest in the social pillar.

10. Conclusion

Sustainability and ESG have direct implications for leaving the earth a better place for coming generations. The purpose of this study was to investigate the relationship between ESG performance and firm performance as well as a potential moderating effect of ownership structure, using a sample of 1046 firm years between 2016-2022 in Sweden. The study utilizes POLS and random effects with standard errors clustered by firm. Further an instrumental variable approach is used to mitigate endogeneity complemented by a propensity score matched sample for robustness. A relationship between ESG performance and firm performance could not be established after endogeneity concerns were taken into consideration. We however find that family control has a positive relationship with firm performance. Moreover, we find that family control negatively moderates the relationship between ESG and firm performance. Family controlled firms see their ROA negatively moderated 0.572 percentage units compared to non-family controlled firms following a 10 unit increase in ESG score, the result is further robust to the propensity score matched sample. On the basis of our findings, we theorize that the reputational benefits that families reap from ESG could incentivize them to overinvest in ESG, thereby neglecting profitability.

These findings have implications for parties interested in interpreting Swedish companies' ESG work. Moreover, the role of the widespread Swedish family ownership comes into question, as these firms might potentially engage in ESG activities for reasons which are less aligned with smaller shareholders wealth maximization. ESG inclined investors wanting to invest in Swedish firms should therefore find that the divergence between profitability and ESG performance is smaller for non-family controlled firms. The fact that Sweden's dominant ownership structure meets worse firm performance following ESG investing should also be of interest for regulatory bodies seeking to improve corporate Sweden's sustainability focus while maintaining competitiveness.

Although we utilize a sample with firms from Sweden's two largest exchanges, the sample is heavily limited since a majority of firms still miss ESG ratings. Another limitation is that we use the performance measure ROA and no measure of long-term firm performance. As family controlled firms are said to have a long term view, the benefits of these firms investing in ESG might not be reflected on the annual report instantly. Finally, the possible reverse causal relationship between both firm performance and ESG as well as ownership structure and firm

performance has been an endogeneity concern central to the paper. While we try to account for this through the use of random effects and an instrumental variable approach, stronger instruments could be found for ESG performance, while also incorporating instruments for ownership.

We invite future research to consider further investigating family ownership as a moderator by a three-way interactive effect of family ownership, ESG and dual-class shares as dual-class shares are one of the means that are used to maintain control of firms. Future research could also take a more hands on approach by substituting ESG performance in our study with actual ESG investment, in order to investigate if family firms differ with regard to their efficiency in converting ESG investments. Finally, the upcoming EU-taxonomy will increase the amount and relevance of reported ESG data. As a consequence, researching the relationship between ESG and firm performance will be more accurate than ever.

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Appendices

Appendix 1 Hausman and White test

<i>Test</i>	<i>H0</i>	<i>P-value</i>
Hausman	Difference in coefficients not systematic	0.0002***
White	Homoskedasticity	0.0000***

Note: Appendix 1 display the results of White's test and the Hausman test. The results show that the data is characterized by heteroskedasticity and that the differences in coefficients are systematic.