



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Lund University School of Economics and Management
Department of Business Administration
BUSN79

Beyond Profits: The Role of Executive Rewarding in Shaping ESG Metrics
An Empirical Study of Europe's Largest publicly-listed Companies

Authors: Axel Björk & Jan Stosik

Supervisor: Johan Dergård

Examiner: Anna Glenngård

Abstract

Seminar date: 2024-05-29

Course: BUSN79, Degree Project in Accounting and Finance.

Authors: Axel Björk, Jan Stosik.

Examiner: Anna Glenngård.

Five key words: ESG, policy rewarding, CSR, Agency Theory, Institutional Theory.

Purpose: This study examines how policies rewarding sustainable initiatives affect ESG scores in European firms and how these dynamics are influenced by a nation's Environmental Performance Index (EPI). It aims to contribute to the ongoing dialogue on sustainable and responsible business practices in Europe and beyond.

Methodology: The study employs Fixed-effects Ordinary Least Squares (OLS) regressions to test hypotheses derived from a theoretical framework. Historical data from the STOXX 600, covering 2018 to 2022 and spanning 19 European countries, provides a comprehensive view of the region's business landscape. Data is gathered from reputable sources including Refinitiv Eikon, and Bloomberg Terminal for variables such as ESG metrics, executive compensation, firm size, and financial performance. Additionally, data on the EPI is sourced from its official website.

Theoretical perspectives: The theoretical framework explores how executive compensation aligns with both shareholder and stakeholder interests, influenced by Agency and Stakeholder theories. Institutional Theory highlights regulatory and societal pressures shaping ESG performance measurement, with the EPI guiding policy makers toward sustainable practices.

Empirical foundation: Results demonstrate that ESG-linked executive compensation policies significantly enhance overall ESG performance, particularly in the Environmental and Social dimensions. Furthermore, it finds that the effectiveness of these policies is heightened in countries with higher EPI scores.

Conclusions: This research underscores the effectiveness of ESG-linked compensation policies in enhancing corporate sustainability performance. It confirms the importance of institutional context and sector-specific approaches, advocating for broader application of performance-based incentives aligned with sustainability goals.

Lund, May 23, 2024

Acknowledgements

We would like to express our deepest gratitude to our supervisor, Johan Dergård, for his invaluable guidance and support throughout this research process. His insights and expertise have been crucial in shaping the direction and quality of this thesis. In addition, we extend our sincere thanks to Amanda Sonnerfeldt and Reda Moursli, who have been instrumental in the administration and execution of the Master's programme. Their dedication and commitment have provided us with the knowledge and resources necessary to pursue our academic goals. We are also grateful to the personnel of the Lund University School of Economics and Management, whose contributions have enriched our learning experience. Finally, we would like to extend our appreciation to our fellow students. Your company and encouragement have made this journey both challenging and rewarding. We wish you all the best in your future academic and professional paths. Overall, this academic year has been a period of intense learning and personal growth. It has been both challenging and extremely rewarding, and we are thankful for the opportunities and experiences it has provided.

Axel Björk

Jan Stosik

Table of Contents

1. Introduction.....	1
1.1. Background.....	1
1.2. Problematization.....	1
1.3. Purpose.....	3
1.4. Contribution.....	3
1.5. Outline.....	4
2. Theoretical Framework.....	5
2.1. Executive Compensation and Policy Rewarding in the Context of ESG.....	5
2.1.1. Agency Theory and Executive Compensation.....	5
2.1.2. Stakeholder Theory and Executive Compensation.....	8
2.1.3. Corporate Governance and ESG Integration into Executives' Compensation.....	9
2.2. ESG Scores and Institutional Influence.....	10
2.2.1. CSR Theories and ESG Performance.....	11
2.2.2. Institutional Theory and ESG.....	12
2.2.3. Institutional Theory and Rewarding for ESG Initiatives.....	12
3. Hypotheses Development.....	18
4. Methodology.....	21
4.1. Scientific Approach.....	21
4.2. Econometric Design.....	21
4.3. Sample Selection.....	23
4.4. Sample Description.....	24
4.5. Variable Description.....	27
4.5.1. Dependent Variable - ESG Score.....	27
4.5.2. Policy Executive Compensation ESG Performance - Explanatory Variable.....	28
4.5.3. An Interaction Term for Country-Specific Characteristics.....	28
4.5.4. Control Variables.....	29
4.5.5. Statistical Tests.....	30

4.6. Robustness.....	30
5. Statistical Summary and Model Results.....	31
5.1. Summary Statistics.....	31
5.1.1. ESG Scores.....	31
5.1.2. Explanatory Variable and Interaction Term.....	33
5.1.3. Control Variables.....	37
5.1.4. Correlation Analysis.....	37
5.2. Empirical Results.....	40
5.2.1. Models 1-5 - Policy Exec. Comp. ESG as the main independent variable.....	40
5.2.2. Models 6-9 - Interaction term PolicyxHighIndex as the main independent variable.....	43
6. Discussion and Analysis.....	46
7. Conclusion, Limitations and Further Research.....	53
8. References.....	56
9. Appendix.....	61

1. Introduction

1.1. Background

In the contemporary landscape of business administration, the integration of Environmental, Social, and Governance (ESG) metrics into corporate practices has emerged as a crucial paradigm shift. This transition underscores a fundamental reevaluation of corporate goals, with an increasing emphasis on sustainability, responsibility, and long-term value creation. At the heart of this evolution lies the intricate interplay between ESG considerations, executive compensation structures, and the broader institutional environment within which firms operate. As European firms navigate this transformative terrain, understanding the dynamics of executive compensation concerning ESG metrics becomes paramount. This paper embarks on a comprehensive exploration of these dynamics, delving into the nuanced relationships between ESG performance, executive compensation, and the contextual factors of the Environmental Performance Index (EPI).

1.2. Problematization

Traditionally, executive compensation structures have been primarily linked to financial performance metrics, often overlooking broader stakeholder concerns and ESG imperatives (Baraibar-Diez et al., 2019). However, with the growing recognition of the materiality of ESG factors and their impact on firm value and risk management, there is a shift towards incorporating ESG considerations into executive compensation structures. This transition underscores the inherent tension between the principles of Agency Theory, Stakeholder Theory, and Institutional Theory within corporate governance frameworks.

Agency theory, as proposed by Jensen and Meckling (1976), posits that executives, as agents of shareholders, may prioritize their own interests over those of shareholders, leading to agency conflicts. Bebchuk and Fried (2003) analyze executive compensation as an agency problem, highlighting the potential conflicts of interest between executives and shareholders in compensation arrangements. They argue that executive compensation arrangements, particularly

those involving stock options and bonuses, may incentivize executives to engage in short-term behavior that maximizes their own wealth at the expense of long-term shareholder value.

On the other hand, Stakeholder Theory, as advanced by Freeman and Dmytriyev (2017), emphasizes the importance of considering the interests of all stakeholders affected by a company's actions, including employees, customers, communities, and the environment. Barnea and Rubin (2010) examine Corporate Social Responsibility (CSR) as a conflict between shareholders, emphasizing the tensions between CSR initiatives and shareholder value maximization. They argue that while CSR activities may generate positive social and environmental outcomes, they could also detract from shareholder wealth if not aligned with shareholder interests.

Moreover, the institutional perspective, as articulated by DiMaggio and Powell (1983), sheds light on how organizations face pressures from the broader institutional environment to conform to prevailing norms and standards. These institutional pressures arise from regulative frameworks, normative expectations, and cultural-cognitive beliefs, influencing organizational behavior and outcomes. Additionally, the notion of legitimacy, as proposed by Dowling and Pfeffer (1975), underscores how organizations seek to maintain legitimacy by aligning their actions with prevailing social norms and values, particularly in the context of ESG integration and sustainability.

Recent studies by Baraibar-Diez et al. (2019), Baraibar-Diez and Odriozola (2019) and Cohen et al. (2023) have delved into the effects of CSR committees and sustainable compensation policies on ESG performance, shedding light on how organizational structures and practices shape corporate sustainability initiatives. They suggest that the establishment of CSR committees and the adoption of sustainable compensation policies can augment ESG performance by aligning executive incentives with long-term sustainability objectives and fostering stakeholder engagement.

This convergence of the agency, stakeholder, and institutional perspectives underscores the intricacy of harmonizing executive compensation with both financial imperatives and broader stakeholder interests. Navigating this delicate balance between shareholder value maximization, stakeholder engagement, and institutional pressures presents a formidable challenge for corporate leaders, particularly in the realm of ESG integration and sustainability.

Understanding how executive compensation structures can effectively integrate ESG considerations while mitigating agency conflicts, addressing stakeholder concerns, and navigating institutional pressures could be valuable for advancing sustainable and responsible business practices. Yet, despite the burgeoning interest in ESG, a significant gap persists in comprehending the precise mechanisms through which these metrics influence executive compensation, not least within the European context. Moreover, the role of environmental performance in shaping these relationships warrants further investigation.

1.3. Purpose

This study addresses these gaps by investigating the relationships between ESG scores, policies rewarding sustainable initiatives, and the external factors of the Environmental Performance Index. By doing so, it aims to contribute to the ongoing dialogue on sustainable and responsible business practices in Europe and beyond.

Research Question 1: *To what extent do policies rewarding executives for ESG initiatives influence ESG scores and their separate dimensions in European firms?*

Research Question 2: *How are these relationships shaped by the institutional context of the nation?*

1.4. Contribution

Findings in this research area have the potential to inform corporate leaders, investors, policymakers, and other stakeholders, enriching the discourse on sustainable business practices. Moreover, by providing empirical evidence on the integration of ESG metrics into executive compensation in European firms, this study contributes to the broader understanding of corporate

governance and sustainability. This paper sets out to explain some of the complexities of the relationship between ESG metrics, executive compensation, and the broader institutional context within which firms operate. With that it contributes to broad literature on policy rewarding as previously examined by Baraibar-Diez et al., (2019). Apart from that it broadens the theoretical scope of Stakeholder Theory in the aspect of ESG, which was previously researched by Rubin (2010) and by Freeman and Dmytriiev (2017). Lastly it contributes to CSR theories by examining ESG scores interactions and as in research by Priem and Gabbellone (2024), it uses a variable measuring institutional pressures to add value to the research on Institutional Theory and ESG. By shedding light on these dynamics and revealing significant associations between ESG-linked compensation policies and various dimensions of corporate sustainability performance, it aims to contribute to advancing sustainable and responsible business practices. Ultimately, these insights can foster long-term, sustainable value creation and stakeholder welfare in European firms and beyond.

1.5. Outline

Following the introduction, the subsequent sections of the paper are organized as follows: Section 2 introduces the theoretical framework, including Agency Theory, Stakeholder Theory, and Institutional Theory to offer a comprehensive perspective on the interplay between ESG metrics, executive compensation, and the institutional context. The theoretical framework also includes essential definitions and clarifications, setting the stage for subsequent sections. For a summary of the articles mentioned in the theoretical framework, please refer to Table 1 thereafter. Building upon this foundation, Section 3 formulates hypotheses, synthesizing insights from the theoretical framework and addressing gaps in the literature. Section 4 elucidates the research methodology, delineating the scientific approach and econometric design employed in the study. Subsequently, Section 5 presents a statistical summary and model results derived from the empirical analysis. Section 6 engages in an in-depth discussion and analysis of the empirical findings. Finally, Section 7 provides a conclusive summary of the paper, covering key findings and their significance as well as limitations and avenues for future research.

2. Theoretical Framework

2.1. Executive Compensation and Policy Rewarding in the Context of ESG

In today's corporate landscape, the integration of ESG metrics into executive compensation frameworks is of great importance. This section explores the relationship between executive compensation structures and ESG considerations. It investigates how executives, tasked with maximizing shareholder value, navigate the complexities of aligning compensation incentives with broader stakeholder interests, including environmental and social responsibilities. Through academic works and empirical evidence, we examine how Agency Theory and Stakeholder Theory inform the design of executive compensation to promote sustainable business practices and long-term value creation. However, executive compensation in this study should first be defined as the remuneration, including salary, bonuses, and stock options, provided to top-level executives of a company for their services rendered. It serves as a crucial tool for aligning executive behavior with organizational objectives, particularly in maximizing shareholder value. In recent years, there has been a growing recognition of the need to integrate ESG considerations into executive compensation frameworks. This integration involves linking executive compensation to the company's performance on ESG metrics, thereby incentivizing executives to prioritize sustainability alongside financial goals (Baraibar-Diez et al., 2019).

Moreover, policy rewarding, in the context of this study, refers to the adoption of explicit policies within organizations that tie executive compensation to ESG performance. These policies outline the criteria and mechanisms through which executive compensation is determined based on the company's performance on ESG indicators. Such policies signal the company's commitment to sustainability and provide a framework for aligning executive incentives with broader stakeholder interests (Baraibar-Diez et al., 2019, Refinitiv, 2024).

2.1.1. Agency Theory and Executive Compensation

Agency Theory provides a foundational framework for understanding the relationship between executive compensation and firm performance, particularly in the context of ESG metrics integration. Originating from seminal works by Jensen and Meckling (1976), Agency Theory highlights the principal-agent problem, where executives act as agents tasked with maximizing

shareholder wealth. This lens allows for an examination of how executive compensation structures can align with shareholder interests while considering broader stakeholder concerns, including ESG factors.

Bebchuk and Fried (2003) investigate the complexities of executive compensation as an agency problem, discussing how compensation contracts are designed to incentivize performance-enhancing behavior while mitigating agency costs. Their insights inform our understanding of the mechanisms through which executive incentives are structured and how they influence firm behavior and performance. In their conclusion, Bebchuk and Fried (2003) emphasize the significant impact of managerial power on executive compensation design within companies characterized by a separation of ownership and control. They suggest that executive compensation serves not only as a tool to address the agency problem stemming from this separation but also as a component of the agency problem itself. This highlights the relationship between executive compensation, managerial power and corporate governance. Understanding how executive incentives are structured and the impact they have on firm behavior and performance is essential for addressing the influence of executive compensation policies on ESG metrics in European firms.

Eccles and Serafeim (2013) emphasize the positive impact of corporate sustainability on organizational processes and performance, highlighting how firms that integrate sustainability into their operations tend to exhibit improved financial and non-financial outcomes. Their study offers insights into the interplay between corporate sustainability practices and organizational processes, shedding light on the distinct characteristics of high sustainability companies compared to low sustainability ones. For instance, they found differences in the executive compensation structures between these two groups. High sustainability companies tended to have compensation arrangements that directly involved the board in sustainability issues and linked executive compensation to sustainability objectives (Eccles & Serafeim, 2013). On the other hand, low sustainability companies typically followed more traditional compensation models focused primarily on financial performance metrics, with less emphasis on sustainability-related goals in executive compensation packages (Eccles & Serafeim, 2013).

More recently, Cohen et al. (2023) looked into the incorporation of ESG metrics in executive compensation contracts. Their study suggests that this compensation practice varies across countries, industries, and firms, aligning with efficient incentive contracting. Furthermore, the adoption of “ESG Pay” is associated with engagement, voting, and trading by institutional investors, indicating alignment with certain shareholder groups' preferences. Additionally, the adoption of this type of compensation is accompanied by improvements in key ESG outcomes, highlighting the potential impact of integrating ESG metrics into executive compensation arrangements (Cohen et al., 2023).

Jensen and Murphy's (1990) study on performance-based compensation and top-management incentives provides further insights into the design and impact of executive compensation within the Agency Theory framework. By analyzing the relationship between performance-based pay and firm value, Jensen and Murphy (1990) offer empirical evidence supporting the effectiveness of performance incentives in aligning executive behavior with shareholder wealth maximization objectives. Their analysis sheds light on the influence of policies rewarding executives for performance. Understanding the nuances of executive compensation structures, particularly in relation to performance-based incentives, can provide insights into how these policies influence executive behavior and company performance.

Furthermore, recent research by Baraibar-Diez et al. (2019) explores the relationship between sustainable compensation policies and ESG scores. Their findings suggest that companies with sustainable compensation practices tend to exhibit higher ESG scores, indicating a potential alignment between compensation incentives and long-term sustainability goals.

Al-Shaer et al. (2023) examine the influence of CEO power and CSR-linked compensation on environmental performance. Their study suggests that CEOs who receive compensation from engagement in environmental activities are motivated to improve environmental performance. Additionally, newly appointed CEOs engage more in environmental initiatives, suggesting that they use it as a signal to mitigate career concerns in their early tenure. However, CEOs with managerial power engage less in environmental projects due to associated costs. These findings underscore the importance of considering CEO power dynamics and compensation structures in driving environmental initiatives within organizations (Al-Shaer et al., 2023).

2.1.2. Stakeholder Theory and Executive Compensation

Stakeholder Theory complements Agency Theory by emphasizing the importance of considering the interests of all stakeholders, not just shareholders, in executive compensation decisions. Freeman (1984) argues that firms operate within a network of interconnected stakeholders, necessitating a balance between shareholder value maximization and stakeholder engagement. Integrating ESG metrics into executive compensation aligns with the principles of Stakeholder Theory, incentivizing executives to consider the broader impacts of their decisions on society, the environment, and other stakeholders.

Freeman and Dmytriiev (2017) explore the symbiotic relationship between CSR and Stakeholder Theory, advocating for mutual learning and knowledge sharing between CSR practitioners and stakeholders. Their insights underscore the importance of stakeholder engagement in driving effective CSR strategies and fostering sustainable business practices. In the context of this thesis, the article by Freeman and Dmytriiev (2017) is relevant because it suggests that executive compensation policies that align with stakeholder interests can lead to more effective implementation of ESG initiatives and thereby higher ESG scores.

Russo and Perrini (2010) contribute empirical evidence and theoretical insights into the relationship between Stakeholder Theory, “social capital”, and CSR practices in both large firms and small and medium-sized enterprises (SMEs). Their study highlights the role of CSR initiatives in fostering relationships and networks among stakeholders, thereby enhancing trust, cooperation, and mutual support. This is relevant to understanding how policies rewarding executives for ESG initiatives may influence ESG scores and their dimensions in European firms, as it suggests that such initiatives can contribute to building social capital and fostering stakeholder relationships, potentially impacting ESG outcomes.

2.1.3. Corporate Governance and ESG Integration into Executives' Compensation

The integration of ESG metrics into executive compensation reflects broader trends in corporate governance, where firms are increasingly recognizing the materiality of ESG factors. Eisenhardt (1989) emphasizes the role of corporate governance mechanisms, including compensation committees and board oversight, in aligning executive incentives with long-term sustainability

goals. This perspective underscores the importance of effective governance structures in facilitating the integration of ESG considerations into executive compensation frameworks.

Baraibar-Diez and Odriozola's (2019) study on CSR committees in European countries highlights the significance of CSR committees in driving ESG performance within companies. Their findings suggest that the presence of CSR committees can positively influence ESG scores, indicating the importance of dedicated oversight in promoting sustainable business practices. Additionally, Velte and Stawinoga (2020) examine the impact of sustainable management control mechanisms, including Chief Sustainability Officers (CSOs) and CSR committees, on CSR-related outcomes. Their systematic literature review indicates that CSR committees positively influence CSR reporting and performance, suggesting that their implementation substantively contributes to CSR activities rather than being merely symbolic. Moreover, Barnea and Rubin (2010) have examined the effects of CSR committees and sustainable compensation policies on ESG performance, providing insights into how organizational structures and practices influence corporate sustainability efforts. Their study underscores the potential conflicts among shareholders arising from CSR policies and the need to balance shareholder interests with social responsibility goals.

More generally, Margolis et al. (2009) conducted a meta-analysis exploring the relationship between CSR and financial performance. Their study contributes valuable insights into the potential benefits of CSR activities for companies, offering empirical evidence on the link between CSR and financial performance. Their findings suggest a mildly positive relationship between CSR and financial performance, although small in absolute terms. Despite this, they emphasize the importance of CSR for securing legitimacy and the "license to operate" from society, independent of its financial effects. Integrating findings from this meta-analysis can enrich discussions on incorporating environmental, social, and governance considerations into compensation frameworks. Furthermore, Flammer and Bansal (2017) present evidence on the value creation potential of a long-term orientation in firms. Their regression discontinuity approach offers insights into how a long-term perspective can contribute to firm performance, suggesting implications for executive compensation structures that prioritize sustainability and long-term value creation.

2.2. ESG Scores and Institutional Influence

ESG scores have become key indicators of corporate sustainability performance, shaping investors' perceptions and stakeholder engagement. ESG scores are metrics used to evaluate a company's performance in the areas of Environmental, Social, and Governance responsibility. These scores assess factors such as carbon emissions, labor practices, diversity and inclusion, and board diversity, among others. ESG scores serve as indicators of a company's sustainability practices and its overall impact on society and the environment (Refinitiv, 2024).

This section delves into the institutional influences that underpin ESG performance measurement and evaluation. Drawing on Institutional Theory, it explores how regulatory frameworks, industry norms, and stakeholder pressures drive firms' adoption of ESG practices and influence their corresponding ESG scores. By understanding these institutional dynamics, insights can be gained into the effectiveness of corporate governance mechanisms in promoting responsible business conduct and the implications for executive compensation structures.

In this study, the Environmental Performance Index serves as a proxy for assessing countries' environmental performance and governance effectiveness. It evaluates various environmental indicators and policy outcomes to provide a comprehensive measure of a country's efforts towards sustainability. These indicators assess countries' adherence to environmental policy targets, highlight emerging pollution issues, and monitor trends and outcomes (Wolf et al., 2022). The EPI serves as a benchmark for comparing countries' environmental performance and identifying areas for improvement in environmental policies and practices. It also helps policymakers as a crucial instrument to fine-tune policy agendas, engage with stakeholders, and optimize environmental investments. It functions as a guide for nations striving for sustainability, in line with the UN Sustainable Development Goals (Wolf et al., 2022).

As a clarification, this study will begin by examining the impact of policy rewarding at the company level, focusing on how policies linking executive compensation to ESG performance influence the company's ESG score. Subsequently, the analysis will be expanded to a country-level perspective, exploring the effect of country-specific factors, such as regulatory frameworks and institutional environments, on the relationship between executive compensation

policies and ESG performance, utilizing the EPI as a contextual factor. This sequential approach allows for a comprehensive understanding of the influence of executive compensation policies on ESG outcomes at both the company and country levels.

2.2.1. CSR Theories and ESG Performance

Corporate Social Responsibility theories offer insights into the motivations and implications of ESG performance measurement and its integration into corporate practices. Carroll's (1979) three-dimensional model of corporate performance highlights the multifaceted nature of CSR, encompassing economic, social, and environmental dimensions. This framework informs the measurement and evaluation of ESG scores, reflecting firms' efforts to balance financial objectives with social and environmental responsibilities.

McWilliams and Siegel (2001) contribute to the theoretical landscape of CSR by adopting a theory of the firm perspective. Their analysis emphasizes the economic rationale for CSR, highlighting the instrumental value of CSR activities in enhancing firm performance and competitiveness. By adopting this perspective, they provide insights into the economic underpinnings of CSR practices. Their analysis underscores the instrumental role of CSR in driving firm performance and competitiveness, suggesting that CSR activities are not just driven by ethical considerations but also by economic motivations. This perspective is valuable for stakeholders interested in understanding how CSR can create tangible benefits for firms beyond just fulfilling social or ethical obligations. Therefore, McWilliams and Siegel's (2001) work contributes to a deeper understanding of the economic rationale behind CSR and its implications for firms' strategic decision-making processes. In addition, Flammer's (2015) study presents evidence suggesting that CSR initiatives are associated with superior financial performance, supporting the argument for integrating ESG considerations into executive compensation to drive long-term value creation.

2.2.2. Institutional Theory and ESG

Institutional Theory provides a lens through which to understand the institutional pressures and norms that shape firms' adoption of ESG practices and their corresponding ESG scores. Powell and DiMaggio (2012) emphasize the role of institutions in shaping organizational behavior and

outcomes, highlighting how regulatory frameworks, industry norms, and stakeholder pressures influence firms' ESG performance. By integrating insights from Institutional Theory, this framework examines how institutional factors shape the adoption and implementation of ESG practices, ultimately influencing firms' ESG scores and their responsiveness to environmental and social concerns.

Dowling and Pfeffer's (1975) work on organizational legitimacy offers valuable insights into the relationship between organizational behavior and societal expectations. Their research highlights how organizations seek to maintain legitimacy by aligning their actions and behaviors with prevailing social norms and values. This insight is crucial for understanding how organizations navigate their external environment and manage their reputation. It underscores the significance of legitimacy in shaping organizational strategies and behaviors, providing implications for stakeholders interested in organizational behavior and societal impact (Dowling & Pfeffer (1975). Understanding how organizations seek to maintain legitimacy is relevant for investigating the relationship between ESG metrics and executive compensation policies. More specifically, Dowling and Pfeffer (1975) shed light on the broader context within which firms operate, including the role of stakeholders and regulatory frameworks. This contextual understanding could be crucial for examining how the relationship between ESG metrics and executive compensation policies are shaped by external factors.

2.2.3. Institutional Theory and Rewarding for ESG Initiatives

With the significant surge in the adoption of ESG practices by organizations, firms increasingly recognize the potential benefits of incorporating sustainability practices into their corporate strategies (Arroyo, 2012). Where this happens, there arises a need for management accounting systems that can effectively capture, analyze, and control environmental, social, and economic performance. As described above, such adoption of sustainable practices often leads to compensation policies that enhance the balance between the interests of executives and stakeholders.

New Institutional Theory states that organizations face institutional pressures coming from the broader institutional environment. DiMaggio and Powell (1983) and Scott (1995) describe the

concept of institutional isomorphism, in which organizations face the need for legitimacy and converge towards similar structures and practices. This homogenization process happens through three pillars of institutional influence: regulative, normative, and cultural or cognitive.

The regulative pillar enforces compliance with external rules and regulations, often placed by governmental bodies. Normative pressures are social expectations and professional standards, while cultural or cognitive influences shape shared perceptions and beliefs of organizations. As companies are now under the spotlight of these institutional pressures, they face regulations and surveillance from public and private parties, as well as from non-governmental independent groups. The social structures play a key role in shaping the decisions of the company towards the institutional perspective of non-financial disclosure, which is not limited to ESG considerations. These institutional pressures push organizations to adopt ESG practices to align with prevailing norms and expectations, which has the potential to enhance their legitimacy and social acceptance (Singhania & Saini, 2021). Moreover, stakeholder groups, governmental bodies, and industry associations wield significant influence in shaping organizational behavior through their capacity to mobilize resources, enact regulations, and set industry standards. For instance, regulatory mandates, such as mandatory ESG reporting requirements imposed by government agencies, compel firms to integrate sustainability considerations into their operations (Arroyo, 2012).

Furthermore, Arroyo (2012) highlights the evolving nature of management accounting practices, particularly in the area of sustainability. The emergence of ESG accounting reflects a shift towards recognizing that financial, environmental, and social performance are connected. As organizations navigate this transition, Institutional Theory provides an understanding of the underlying dynamics of adopting ESG practices and rewards for them.

One of the means to measure the influence of country-level pressures is the EPI. As outlined by Wolf et al. (2022) it offers an evaluation of sustainability efforts on a global scale, utilizing various performance indicators ranked 180 countries. These indicators not only assess a country's actions to meet established environmental policy targets but also serve as a means to identify emerging pollution problems, track trends, and understand outcomes. The EPI provides policymakers with a valuable tool to refine policy agendas, communicate with stakeholders, and

maximize returns on environmental investments. It serves as a roadmap for countries aspiring to move towards a sustainable future, aligning with the targets of the UN Sustainable Development Goals.

In parallel, the study by Baldini et al. (2016) examines the determinants of ESG practices at both country and firm levels. It reveals that country-level characteristics significantly influence ESG disclosure, with factors like corruption and unemployment rate impacting disclosure patterns. These findings are in line with institutional theory, suggesting that political, labor, and cultural systems play crucial roles in shaping ESG disclosure practices. Additionally, firm-specific variables related to visibility have a positive and significant impact on ESG disclosure, indicating the influence of legitimacy theory.

Furthermore, the EPI's methodology sheds light on new environmental issues and identifies trends, offering policymakers insights into emerging challenges such as climate change and air pollution. This emphasis on tracking trends and identifying emerging issues resonates with Baldini et al.'s (2016) findings, which highlight the importance of monitoring and responding to changing social pressures and expectations regarding ESG disclosure.

Overall, measures such as EPI serve as an indicator of a country's environmental performance, offering policymakers valuable insights into areas for improvement and guiding efforts towards more sustainable practices.

Table 1. Summary of articles.

Authors and studies.	Key concepts.	Implications.
Jensen and Meckling (1976).	Executive compensation, agency problem, shareholder wealth.	Executive compensation structures must align with shareholder interests to mitigate agency costs.
Bebchuk and Fried (2003).	Executive compensation, ESG integration, agency problem.	Aligning compensation with ESG metrics can mitigate agency costs and promote sustainable practices.
Eccles and Serafeim (2013).	ESG metrics, sustainable investing.	Integrating ESG metrics into compensation incentivizes sustainable decision-making, aligning with stakeholder interests.
Cohen et al. (2023).	ESG metrics, executive compensation, institutional investors.	Adoption of ESG-linked compensation is associated with improved ESG outcomes and investor engagement.
Jensen and Murphy (1990).	Performance-based compensation, firm value.	Performance incentives align executive behavior with shareholder wealth maximization objectives.
Baraibar-Diez et al. (2019).	Sustainable compensation policies and ESG performance.	Companies with sustainable compensation practices tend to exhibit higher ESG scores.
Al-Shaer et al. (2023).	CEO power, CSR-linked compensation, environmental performance.	CEOs with compensation linked to environmental activities are motivated to improve environmental performance.
Freeman (1984).	Stakeholder Theory, organizational stakeholders.	Firms should consider the interests of all stakeholders, not just shareholders, in executive compensation decisions.
Freeman and Dmytryiev (2017).	CSR, stakeholder engagement.	Executive compensation policies aligned with stakeholder interests can enhance the implementation of CSR initiatives.

Russo and Perrini (2010).	Stakeholder relationships, CSR practices.	CSR initiatives foster stakeholder relationships and social capital, enhancing trust and cooperation.
Eisenhardt (1989).	Corporate governance, executive compensation, ESG integration.	Effective governance structures facilitate the integration of ESG considerations into executive compensation frameworks.
Baraibar-Diez and Odriozola (2019).	CSR committees, ESG performance.	CSR committees positively influence ESG scores within companies.
Velte and Stawinoga (2020).	Sustainable management, CSR committees.	CSR committees positively influence CSR reporting and performance, contributing substantively to CSR activities.
Barnea and Rubin (2010).	CSR committees, sustainable compensation policies.	Sustainable compensation policies can positively influence ESG performance, but may pose conflicts with shareholder interests.
Margolis et al. (2009).	Stakeholder Theory, CSR practices.	CSR initiatives address stakeholder concerns and enhance organizational reputation and legitimacy.
Flammer and Bansal (2017).	Long-term orientation, firm performance.	A long-term orientation contributes to firm performance and has implications for executive compensation prioritizing sustainability.
Carroll (1979).	Corporate social responsibility, dimensions of CSR.	CSR encompasses economic, social, and environmental dimensions, guiding the measurement and evaluation of ESG scores.
McWilliams and Siegel (2001).	Theory of the firm, economic rationale for CSR.	CSR activities have instrumental value in enhancing firm performance and competitiveness beyond ethical considerations.
Flammer (2015).	CSR initiatives, financial performance.	CSR initiatives are associated with superior financial performance, supporting the integration of ESG considerations into compensation.

Powell and DiMaggio (2012).	Institutional Theory, institutional pressures.	Institutional factors shape firms' adoption of ESG practices and influence their corresponding ESG scores.
Dowling and Pfeffer (1975).	Organizational legitimacy, societal expectations.	Organizations align actions with societal norms to maintain legitimacy, guiding executive compensation practices.
Arroyo (2012).	Management accounting, sustainability practices.	Management accounting systems should capture environmental, social, and economic performance for effective ESG integration.
DiMaggio & Powell (1983).	Institutional isomorphism, organizational convergence.	Institutional pressures lead to convergence in organizational practices, but this may vary across countries due to regulatory frameworks.
Scott (1995).	Institutional Theory, cultural and normative influences.	Cultural and normative pressures shape organizational behavior, influencing the effectiveness of executive compensation policies.
Singhania and Saini (2021).	Non-financial disclosure, institutional perspective.	Institutional pressures drive organizations to adopt ESG practices to align with societal norms and enhance legitimacy.
Wolf et al. (2022).	Environmental Performance Index, sustainability.	EPI serves as a global indicator of sustainability efforts, providing insights into environmental policies and outcomes.
Baldini et al. (2016).	Determinants of ESG practices, country-level characteristics.	Country-level factors significantly influence ESG disclosure, indicating the importance of national governance frameworks.

3. Hypotheses Development

In exploring the relationship between executive compensation and ESG considerations, it becomes evident that the alignment of compensation incentives with broader stakeholder interests is pivotal for promoting sustainable business practices. As discussed in the theoretical framework, the integration of ESG metrics into executive compensation frameworks represents a strategic approach for organizations to incentivize executives towards prioritizing environmental, social, and governance responsibilities alongside financial objectives.

Agency Theory provides foundational insights into the principal-agent dynamics underlying executive compensation, emphasizing the need to align incentives with shareholder interests (Jensen & Meckling, 1976). Within this framework, the adoption of policies linking executive compensation to ESG performance emerges as a mechanism for bridging the gap between shareholder value maximization and broader stakeholder concerns (Bebchuk & Fried, 2003; Jensen & Murphy, 1990). By explicitly tying executive compensation to ESG objectives, organizations signal their commitment to sustainable practices and incentivize executives to prioritize ESG performance in their decision-making processes.

Moreover, empirical evidence suggests that companies with explicit policies regarding executive compensation linked to ESG tend to exhibit higher ESG scores, indicating a positive relationship between compensation structures and sustainability outcomes (Baraibar-Diez, 2019; Cohen et al., 2023). This aligns with the underlying premise of Agency Theory, which posits that well-designed incentive mechanisms can effectively align executive behavior with organizational goals, including those related to ESG performance.

Drawing further on Bebchuk and Fried (2003), Cohen et al. (2023), and Eccles and Serafeim (2013), among others, we propose that implementing a policy linking executive compensation to ESG metrics significantly impacts a company's overall ESG score. Bebchuk and Fried (2003) emphasize the importance of aligning compensation incentives with broader stakeholder interests, including ESG factors, to mitigate agency costs. This aligns with Cohen et al.'s (2023) findings, which suggest that adopting ESG-linked compensation practices is associated with improvements in key ESG outcomes. Additionally, Eccles and Serafeim (2013) highlight

differences in executive compensation structures between high and low sustainability companies, indicating that tying executive compensation to sustainability objectives can lead to improved sustainability performance. Therefore we put forward the following hypothesis:

Hypothesis 1: Having a policy rewarding executives for ESG initiatives has a significant impact on the ESG score and its separate dimensions.

While the adoption of policies linking executive compensation to ESG performance holds promise for driving sustainability within organizations, it is essential to acknowledge the contextual nuances that shape the effectiveness of such policies. Country-specific factors, including regulatory frameworks and institutional pressures, could play a significant role in moderating the impact of executive compensation policies on ESG outcomes.

Stakeholder Theory emphasizes the importance of considering the interests of all stakeholders, highlighting the diverse societal expectations that influence organizational behavior (Freeman, 1984). In this context, the effectiveness of policies linking executive compensation to ESG may vary across different countries, reflecting variations in governance structures and stakeholder dynamics (DiMaggio & Powell, 1983; Scott, 1995).

Empirical evidence has indicated that the relationship between executive compensation policies and ESG performance is contingent upon national governance frameworks and institutional environments, as exemplified below. Countries with strong governance mechanisms and supportive regulatory frameworks may provide ground for the successful implementation of ESG-linked compensation policies, thereby amplifying their impact on overall ESG scores.

Building on Baraibar-Diez and Odriozola (2019), Russo and Perrini (2010), and DiMaggio and Powell (1983), among others, we hypothesize that country-specific factors moderate the effectiveness of policies linking executive compensation to ESG metrics. Baraibar-Diez and Odriozola (2019) demonstrate the positive influence of CSR committees on ESG scores within companies, suggesting that national governance frameworks play a role in promoting sustainable business practices. Russo and Perrini (2010) emphasize the variability of stakeholder relationships across different institutional contexts, indicating that the effectiveness of executive compensation policies linked to ESG metrics may vary depending on country-specific factors.

Moreover, DiMaggio and Powell (1983) discuss how institutional pressures can lead to organizational convergence towards similar practices, but this convergence may differ across countries due to variations in regulatory frameworks and cultural norms. Given this theoretical background we propose the following hypothesis:

Hypothesis 2: *Country specific factors have a moderating effect on the effectiveness of the policy rewarding executives for ESG initiatives.*

4. Methodology

4.1. Scientific Approach

The research design employed in this study adheres to the deductive research approach outlined by Bryman and Bell (2015). This approach involves a systematic six-step process to test the hypotheses formulated earlier. Beginning with an extensive review and analysis of theoretical and empirical literature, the study outlines the data collection process and characterizes the final sample utilized. Furthermore, a multivariate analysis is conducted to ensure the validity or invalidity of the proposed hypotheses regarding the effectiveness of executive ESG compensation policies in shaping the ESG score of a company. Lastly, the paper ends with an analysis and discussion section where findings are analyzed and conclusions are drawn.

4.2. Econometric Design

The methodological approaches in accounting and finance vary and a brief discussion needs to be carried out to find a suitable methodology. As detailed in the sample description, panel data is used for the regressions in this work because it offers a thorough understanding of how corporate incentives and executive behavior affect ESG performance in different periods. We can identify patterns and variances in the ESG ratings by examining the data over time to produce reliable conclusions on business sustainability initiatives. Some of the previous studies in the field by Cohen et al. (2023), Lee et al. (2023), and Al-Shaer et al. (2022) utilize mostly pooled ordinary least square (OLS) regression and fixed effects models.

This research employs an empirical framework that employs fixed-effects (FE) regression models to investigate the relationship between the dependent variable, the ESG score and its three distinct dimensions (environmental, social, and governance), and the independent variable, policy rewarding executives for ESG initiatives. Panel data is used for the regressions because it thoroughly explains how incentives and executive reactions to them affect ESG performance in different periods. We can identify patterns and variances in the ESG ratings by examining the data over time, which allows for drawing reliable conclusions regarding company sustainability initiatives. The pooled ordinary least squares (OLS) method was rejected as the dataset is

unbalanced as the data on companies was not found in some years and there might be unobserved heterogeneity (Woolridge, 2016).

FE is chosen as it deals better with unbalanced data and can help address endogeneity issues by controlling for omitted variables that are constant over time but may be correlated with both the explanatory variable (Policy rewarding executives for ESG initiatives) and the outcome variable (ESG score and its dimensions). Most probably there are time-invariant unobserved factors (such as individual-specific characteristics of companies) that could affect ESG scores and correlate with policy rewarding executives for sustainable initiatives. Therefore a fixed effects model is most appropriate. FE regressions also control for unobserved heterogeneity that is constant over time but varies across individuals or entities such as industry or country (Woolridge, 2016). Time-invariant traits of companies that, if incorrectly accounted for, could bias the results can be taken into account through fixed effects. It is possible to isolate the impact of time-varying explanatory factors on the result variable by including FE. Regression models incorporating FE can mitigate multicollinearity problems, particularly in cases where time-invariant explanatory variables and the FE have strong correlations (Woolridge, 2016; Bailey, 2016). To confirm the choice of FE over the Random Effects model (RE), a Hausmann test was conducted which is described in section 5.2.6.

The effect of compensation-related policies that reward ESG performance on ESG scores and its three, separate dimensions will be examined to investigate the first hypotheses. As mentioned above, by isolating the effects an insight can be gained on how the examined variable independently impacts ESG performance. Furthermore, control variables are added; they will be discussed in more detail in the section that follows. To test for Hypothesis 1, the following models are specified:

Model 1:

$$ESG\ Score_{i,t} = Intercept + PolicyESG_{i,t} + YearEffects_t + \epsilon_{i,t}$$

Model 2:

$$ESG\ Score_{i,t} = Intercept + PolicyESG_{i,t} + ROE_{i,t} + Leverage_{i,t} + BoardSize_{i,t} + StockReturn_{i,t} + FirmSize_{i,t} + CEO\ Ownership_{i,t} + YearEffects_t + \epsilon_{i,t}$$

Model 3:

$$\begin{aligned} \text{Environmental Score}_{i,t} = & \text{Intercept} + \text{PolicyESG}_{i,t} + \text{ROE}_{i,t} + \text{Leverage}_{i,t} + \\ & \text{BoardSize}_{i,t} + \text{StockReturn}_{i,t} + \text{FirmSize}_{i,t} + \text{CEO Ownership}_{i,t} + \text{YearEffects}_t + \epsilon_{i,t} \end{aligned}$$

Model 4:

$$\begin{aligned} \text{Social Score}_{i,t} = & \text{Intercept} + \text{PolicyESG}_{i,t} + \text{ROE}_{i,t} + \text{Leverage}_{i,t} + \text{BoardSize}_{i,t} + \\ & \text{StockReturn}_{i,t} + \text{FirmSize}_{i,t} + \text{CEO Ownership}_{i,t} + \text{YearEffects}_t + \epsilon_{i,t} \end{aligned}$$

Model 5:

$$\begin{aligned} \text{Governance Score}_{i,t} = & \text{Intercept} + \text{PolicyESG}_{i,t} + \text{ROE}_{i,t} + \text{Leverage}_{i,t} + \\ & \text{BoardSize}_{i,t} + \text{StockReturn}_{i,t} + \text{FirmSize}_{i,t} + \text{CEO Ownership}_{i,t} + \text{YearEffects}_t + \epsilon_{i,t} \end{aligned}$$

The next section will delve deeper into how country-specific characteristics influence the effects of policies on the company's ESG performance. To test for that first an Environmental Performance Index of a country was added to the dataset, further a dummy variable HighEnvPerfIndex was created to indicate if a country has an above-average score. Finally, an interaction term with the main explanatory variable PolicyESG is created to test for the above-mentioned relationship. To test for Hypothesis 2, the following model is specified:

Models 6-9:

$$\begin{aligned} \text{ESG Score (Composite, E, S or G)}_{i,t} = & \text{Intercept} + \text{PolicyESG}_{i,t} + \text{HighEnvPerfIndex}_{i,t} + \\ & \text{PolicyESGxHighEnvPerfIndex}_{i,t} + \text{ROE}_{i,t} + \text{Leverage}_{i,t} + \text{BoardSize}_{i,t} + \\ & \text{StockReturn}_{i,t} + \text{FirmSize}_{i,t} + \text{CEO Ownership}_{i,t} + \text{YearEffects}_t + \epsilon_{i,t} \end{aligned}$$

4.3. Sample Selection

The sample for this paper comprises companies of the STOXX Europe 600 (STOXX 600 or SXXP), a well-established stock index created by STOXX Ltd. The index was chosen as with its composition of 600 companies spanning 19 European countries, the index provides a comprehensive view of the region's equity landscape. It covers approximately 90% of the

free-float market capitalization, it ensures a broad representation of firms from various industries and sectors (STOXX Ltd., 2024). This diversity enables this research to capture the dynamic nature of the European economy, including both developed and developing markets. Moreover, the index's transparency in selection and weighting, combined with its historical data, enhances its credibility and reliability for the research. Overall, its broad representation, and comprehensive coverage, make it a valuable tool for investigating the European market in research. The data collection process utilized Refinitiv Eikon, containing necessary data on the index's companies' financial characteristics, ESG scores, and policy regarding ESG compensation. The variable regarding CEO ownership that was not present in Refinitiv Eikon was gathered using Bloomberg Terminal. Lastly, the data on the Environmental Performance Index were gathered from its dedicated website.

To ensure the robustness of the model, observations with missing values were systematically excluded. Additionally, companies within the financial sector were omitted from the sample due to their distinctive characteristics concerning ESG ratings, resulting in the total number of observations of 2208. This decision is justified by the research highlighting the nuanced nature of ESG considerations in the financial sector. It has minimal emphasis on environmental concerns due to its limited direct impact. Instead, governance issues take precedence within financial institutions' evaluation frameworks, reflecting regulatory imperatives and risk management priorities (Mandas et al., 2023). By excluding financial entities, this study aims to maintain analytical rigor by having a sample that is graded similarly based on its ESG actions and aligns with the broader discourse on sector-specific ESG dynamics as described in recent literature.

4.4. Sample Description

Table 2 contains the country of headquarters of each company in the sample. The STOXX Europe 600 index consists of companies primarily from the United Kingdom, France, Switzerland, and Germany. These countries represent a significant portion of the index's composition, without considering the financial sector, with the United Kingdom comprising 22%, followed by France at around 14%, Germany at approximately 12,5%, and Sweden and Switzerland, both at about 10%.

Table 2: Country of Headquarters of Companies by Year

Country of Headquarters	Year					Total
	2018	2019	2020	2021	2022	
Austria	3	3	3	3	3	15
	0.73	0.68	0.66	0.64	0.69	0.68
Belgium	8	8	8	10	10	44
	1.95	1.81	1.77	2.13	2.30	1.99
Cyprus	0	1	1	1	1	4
	0.00	0.23	0.22	0.21	0.23	0.18
Denmark	14	16	17	17	17	81
	3.41	3.63	3.76	3.62	3.91	3.67
Faroe Islands	1	1	1	1	1	5
	0.24	0.23	0.22	0.21	0.23	0.23
Finland	15	16	16	16	16	79
	3.66	3.63	3.54	3.40	3.68	3.58
France	60	64	61	64	59	308
	14.63	14.51	13.50	13.62	13.56	13.95
Germany	54	56	60	63	50	283
	13.17	12.70	13.27	13.40	11.49	12.82
Ireland	9	10	10	10	10	49
	2.20	2.27	2.21	2.13	2.30	2.22
Italy	20	21	20	22	16	99
	4.88	4.76	4.42	4.68	3.68	4.48
Luxembourg	5	6	7	8	8	34
	1.22	1.36	1.55	1.70	1.84	1.54
Netherlands	18	23	26	27	23	117
	4.39	5.22	5.75	5.74	5.29	5.30
Norway	10	11	10	11	11	53
	2.44	2.49	2.21	2.34	2.53	2.40
Poland	3	4	4	4	5	20
	0.73	0.91	0.88	0.85	1.15	0.91
Portugal	2	2	3	3	2	12
	0.49	0.45	0.66	0.64	0.46	0.54
Spain	16	16	16	16	17	81
	3.90	3.63	3.54	3.40	3.91	3.67
Sweden	33	42	46	48	47	216
	8.05	9.52	10.18	10.21	10.80	9.78
Switzerland	42	43	44	44	39	212
	10.24	9.75	9.73	9.36	8.97	9.60
United Kingdom	97	98	99	102	100	496
	23.66	22.22	21.90	21.70	22.99	22.46
Total	410	441	452	470	435	2208
	100.00	100.00	100.00	100.00	100.00	100.00

First row has *frequencies* and second row has *column percentages*

An industry breakdown is provided in Table 3. The index provides a well-distributed set of companies across industries (without considering the financial sector) with industrials (27,5%) and consumer discretionary (16,5%) carrying the most weight in the sample. The rest of the industries are approximately equally represented with around 5-10%, with telecommunications being the least represented at about 4%.

Table 3: Industry name of companies by Year

ICB Industry name	Year					Total
	2018	2019	2020	2021	2022	
Basic Materials	36	37	37	38	35	183
	8.78	8.39	8.19	8.09	8.05	8.29
Consumer Discretionary	67	74	74	78	72	365
	16.34	16.78	16.37	16.60	16.55	16.53
Consumer Staples	41	43	46	47	42	219
	10.00	9.75	10.18	10.00	9.66	9.92
Energy	17	17	19	21	19	93
	4.15	3.85	4.20	4.47	4.37	4.21
Health Care	46	49	49	50	47	241
	11.22	11.11	10.84	10.64	10.80	10.91
Industrials	114	122	123	130	120	609
	27.80	27.66	27.21	27.66	27.59	27.58
Real Estate	23	29	30	30	29	141
	5.61	6.58	6.64	6.38	6.67	6.39
Technology	24	26	29	30	26	135
	5.85	5.90	6.42	6.38	5.98	6.11
Telecommunications	17	19	19	19	17	91
	4.15	4.31	4.20	4.04	3.91	4.12
Utilities	25	25	26	27	28	131
	6.10	5.67	5.75	5.74	6.44	5.93
Total	410	441	452	470	435	2208
	100.00	100.00	100.00	100.00	100.00	100.00

First row has *frequencies* and second row has *column percentages*

4.5. Variable Description

4.5.1. Dependent Variable - ESG Score

The main point of this thesis is the examination of how Environmental, Social, and Governance factors change in the presence of ESG-related compensation policy. The thesis explores the ESG factors leveraging the comprehensive dataset provided by Refinitiv Eikon. Despite the increasing recognition of the importance of ESG criteria among investors and the growing adoption of ESG integration in asset allocation processes, achieving convergence in sustainability reporting remains a substantial challenge. As highlighted by Stolowy and Paugam (2023), the increase in diverse standards, rankings, and definitions within sustainability reporting makes the prospect of convergence in the short term largely difficult. This complexity emphasizes the significance of platforms like Refinitiv Eikon, which offer extensive ESG data coverage and scoring mechanisms to navigate the heterogeneous landscape of sustainability reporting. Given the absence of a unified standard for sustainability or ESG, Refinitiv Eikon's methodology provides a structured framework for analyzing and comparing companies' ESG practices, thereby mitigating the challenges posed by divergent reporting standards. In the analyzed model, the primary focus lies on the ESG score and its respective dimensions. Utilizing Refinitiv Eikon's database, the ESG score is derived from an extensive calculation involving more than 630 company-specific ESG metrics. These metrics are categorized into 10 distinct groups, contributing to the formation of the three overarching dimensions as well as the overall score. Environmental score contains groups of resource use, emissions and innovation. Social score contains groups of workforce, human rights, community and product responsibility. Lastly, the governance score contains groups of management, shareholders and CSR strategy. Notably, the scoring process incorporates relative category weights, which may vary across industries for the "Environmental" and "Social" dimensions, while the "Governance" dimension remains consistent regardless of industry differences. The resulting scores range from 0, indicating poor performance, to 100, signaling an outstanding outcome (Refinitiv, 2024).

4.5.2. Policy Executive Compensation ESG Performance - Explanatory Variable

The explanatory variable in this study is "*Policy Executive Compensation ESG Performance*", a dummy variable equal to 1 if a company adopts an extra-financial performance-oriented compensation strategy for its executives and equal to 0 if a company has no such policy. This strategy entails the incorporation of Environmental, Social, and Governance or sustainability metrics into executive remuneration frameworks (Refinitiv, 2024), reflecting an approach to corporate governance and performance evaluation. As stated by the framework of the principal-agent model, as described by the work of Jensen and Meckling (1976), the concept of executive compensation serves as a crucial mechanism for aligning the interests of principals (i.e., shareholders) with those of agents (i.e., executives) in the environment of corporate decision-making. Moreover, the literature on principal-agent theories underscores the importance of designing compensation structures that motivate desirable behaviors and outcomes, particularly in circumstances characterized by large uncertainties and informational asymmetries. As the ability of principals to directly monitor the actions of agents diminishes, it is more important to include incentive-based compensation mechanisms, to minimize agency conflicts and promote value-maximizing actions on behalf of shareholders (Baber et al., 1996).

In this notion, the emergence of compensation policies tied to ESG performance represents a shift in corporate governance practices, reflecting a growing recognition of the nature of financial and non-financial performance metrics. By integrating ESG considerations into executive compensation frameworks, companies seek to foster a culture of accountability, sustainability, and long-term value creation, aligning their strategic objectives with broader stakeholder interests and societal expectations. Therefore, "*Policy Executive Compensation ESG Performance*" is chosen as one of the main explanatory variables in the model of this study. The goal is to capture the evolving dynamics of corporate governance and the pursuit of sustainable business practices in the European business context.

4.5.3. An Interaction Term for Country-Specific Characteristics

Similarly, as in an article by Arat et al. (2023), this study investigates the moderating effect of a country on environmental performance utilizing the EPI. For this reason, an interaction term is

introduced. The interaction term "*PolicyESGxHighEnvPerfIndex*" represents the combined effect of the main explanatory variable "*PolicyESG*" and the Environmental Performance Index dummy variable "*HighEnvPerfIndex*" on the dependent variable. Initially, the Environmental Performance Index is constructed as a quantitative measure assessing the environmental performance of a country's policies. This index, developed from the Pilot Environmental Performance Index and refined over time, offers an evaluation of sustainability efforts across nations, utilizing 40 performance indicators across 11 issue categories to rank 180 countries. EPI is described as a policy instrument aimed at helping society advance toward an environmentally friendly future and to meet the aims of the UN Sustainable Development Goals (Wolf et al., 2022). In this context, this study seeks to examine how institutional factors, as reflected in the EPI, interact with company-level practices (*PolicyESG*) to influence environmental performance. By incorporating Institutional Theory into our analysis, the study aims to provide insights into the relationship between policy initiatives, country-level institutions, and environmental outcomes. The dummy variable "*HighEnvPerfIndex*" identifies countries with above-average environmental performance, distinguishing them from others. The interaction term then integrates this environmental performance assessment with the main explanatory variable "*PolicyESG*," which indicates the presence of an extra-financial performance-oriented executive compensation policy based on ESG factors within companies. By combining these two variables, the interaction term captures the joint impact of executive compensation policies rewarding ESG performance and the contextual influence of national environmental policy effectiveness. This interaction term allows for the examination of whether the effect of executive compensation policies on ESG performance varies depending on the environmental policy context of the country. It sheds light on the nuances between organizational practices and broader national sustainability efforts.

4.5.4. Control Variables

The model in this study includes a set of additional variables which are to control for firm-specific characteristics and its performance. The variables that affect that stand in line with prior literature (Al-Shaer et al., 2022; Cohen et al., 2023; Lee et al., 2023). To control for

firm-specific characteristics, firm size (measured by the total number of assets)¹ is included alongside, leverage, CEO ownership, and board size. The variable “*CEO ownership*” is included as CEOs with higher shares of the company in possession might have a higher power in organizational decision-making. Furthermore, board size is included too as this study by Al-Shaer and Zaman (2016) underscores that a higher number of independent board members increases the monitoring and enhances the emphasis on sustainability. Furthermore, variables that control for firm performance are included. Within this group, there are return on assets (ROE) and stock return to capture both balance sheet position as well as how a company is perceived on the stock market.

4.5.5. Statistical Tests

To ensure the choice of the FE model over the RE model, the Hausman specification test was conducted with a null hypothesis stating that the RE model is the appropriate choice for testing the hypotheses of the research. The results of it are shown in Table 16. As the p-value is close to 0.00, the null hypothesis is to be rejected, supporting the choice of the FE model for the research. Furthermore, to investigate the presence of heteroskedasticity in the main model, White test was used. As shown in Table 17, the p-value of the test is below 0.05. This indicates that heteroskedasticity is significant and must be dealt with using clustered or robust standard errors. Additionally, a variance inflation factor was conducted to investigate issues with possible multicollinearity.

4.6. Robustness

Apart from the tests described above we help achieve robustness by using fixed-effects regressions as they are advantageous for controlling unobserved heterogeneity at the individual level and mitigating potential endogeneity concerns, thereby increasing the reliability of the conclusions. Additionally, variables used in the model were winsorized at the 1st and 99th percentile for continuous variables and clustered standard errors by year were incorporated to enhance robustness. This approach acknowledges varying market dynamics over the analyzed years and accounts for the escalating awareness of environmental, social, and governance factors

¹ The firm size variable is logarythmed in the models to normalize its distribution.

5. Statistical Summary and Model Results

5.1. Summary Statistics

In this section, we present an overview of the summary statistics for the variables used in our analysis. This includes a description of how the variable's values are distributed. Given the panel data structure of our dataset, we also explore how these variables have evolved over time, looking into trends and variations.

Particular emphasis is placed on three central variables of our model: ESG Scores, policy compensation for ESG, and the Environmental Performance Index. These variables are critical to our analysis, and their values are examined in depth to understand their distribution, variability. The summary statistics provide a foundational understanding of the data, which will be followed by presentation of the empirical results and discussion of them.

5.1.1. ESG Scores

Table 4 provides the summary statistics derived from the dataset, providing insights into the ESG and financial performance of the included companies. To ensure robustness and accuracy in the estimation process, continuous variables were winsorized values at the 1st and 99th percentiles to effectively address outliers that might skew the mean. Across the entire sample, companies show an average total ESG score of 68.986 over the five-year period of the study. Notably, the Social dimension of the overall score shows a higher performance score in comparison to the Environmental and Governance dimensions, with mean scores of 72.78, 66.445, and 65.36, respectively.

To achieve a deeper level of analysis, ESG scores were tabulated to show the distribution by Year, and Industry. Tables 5 and 6 show insights into the total ESG performance by categorizing by these dimensions. As mentioned above, the industrial sector is the most represented in the sample, and it has slightly below-average ESG performance. Conversely, companies operating in the energy, basic materials, and healthcare industries have the highest ESG scores, indicative of their proactive stance towards sustainability and responsible business practices. Furthermore, the yearly trend analysis shows a gradual improvement in ESG performance over time, with the

mean rising from 66 to 70. Additionally, the standard deviation lowered from around 17 to about 14 indicating that there is a decrease in the variability or dispersion of ESG scores across the companies included over the examined time. Such a change suggests that the ESG scores of these companies are becoming of similar value and converging to a similar range. It may indicate an increased alignment among companies in their ESG practices. Moreover, higher awareness from investors, stakeholders, and regulatory bodies may incentivize companies to enhance their ESG performance, resulting in a narrower range of scores over time (Daugaard & Ding, 2022). Furthermore, changes in reporting requirements related to ESG and sustainability may also lead to increased uniformity in how companies measure and report their ESG performance. The changes align with the heightened global awareness surrounding issues such as climate change and human rights as well as with the information about new directives, most notably the Corporate Sustainability Reporting Directive (CSRD) coming into force on January the 5th, 2023 strengthening the rules of non-financial reporting (European Commission, 2023).

In sum, the decrease in the standard deviation of ESG scores signifies a trend towards greater consistency and convergence in ESG performance among the analyzed companies, potentially reflecting positive advancements in sustainability practices and reporting standards within the dataset.

Table 4: Summary Statistics

	Mean	Median	SD	Min	Max	N
ESG Score	68.986	71.996	15.324	5.437	95.73	2208
Environmental Score	66.445	70.632	21.168	0	98.946	2208
Social Score	72.78	76.71	17.819	.258	98.194	2208
Governance Score	65.36	68.836	19.007	1.455	98.557	2208
PolicyExec. Comp ESG	.682	1	0.466	0	1	2208
Env. Perf. Index	67.621	65.9	7.775	50.4	77.9	2208
ROE	.167	.149	0.158	-.356	.757	2208
Firm Size (Assets, m€)	25911.784	9441.528	48270.665	369.664	564013	2208
Leverage	.276	.272	0.146	.001	.657	2208
Board Size	10.786	10	3.551	3	26	2208
CEO Ownership	.054	.005	0.130	0	.822	2208
Stock Return	.13	.104	0.327	-.535	1.213	2208
PolicyxHighIndex	.333	0	0.471	0	1	2208

Table 5: ESG Score by Year

Year	Mean	Median	SD	Min	Max	N
2018	66.298	69.481	16.805	5.437	94.751	410
2019	67.69	70.796	16.014	5.815	93.871	441
2020	69.989	72.636	15.185	8.21	95.191	452
2021	70.298	73.291	14.437	11.575	95.73	470
2022	70.373	72.632	13.774	9.016	95.483	435

Table 6: ESG Score by Industry

ICB Industry name	Mean	Median	SD	Min	Max	N
Basic Materials	73.896	76.621	12.534	22.421	92.246	183
Consumer Disc.	67.884	72.196	16.560	9.475	93.662	365
Consumer Staples	69.511	70.926	13.600	33.944	94.269	219
Energy	75.318	77.469	11.465	48.487	94.231	93
Health Care	72.351	73.412	13.515	21.811	95.73	241
Industrials	67.584	70.686	15.381	9.016	94.04	609
Real Estate	65.724	66.735	15.416	27.2	90.774	141
Technology	61.864	63.092	18.002	5.437	93.518	135
Telecommunications	70.877	73.563	14.314	32.27	92.029	91
Utilities	69.687	73.357	16.003	9.514	91.592	131

5.1.2. Explanatory Variable and Interaction Term

As shown in Table 4, 68% of the companies have a policy rewarding executives for ESG initiatives within a firm which is the main explanatory variable for models 1-5. However, the data by year shown in Table 7 show that this mean was significantly lower in the first year of the analysis. In 2018 only 5% of the analyzed companies had such a policy. A significant increase can be seen in 2019 in comparison with 2018. The mean increased from 5% to almost 60% indicating a very large shift in the actions of the companies. This might be due to the adoption of a significant European Union (EU) policy initiative called the Sustainable Finance Action Plan. The initiative was announced in early 2018 and some of its key measures were introduced later this year. The EU's action plan aimed to redirect capital flows towards sustainable investments and integrate sustainability factors into corporate governance and risk management practices. This plan included the EU Taxonomy Regulation, which established a classification system for sustainable economic activities, clarifying what can be considered environmentally sustainable (finance.ec.europa.eu, 2020). The regulation might have been one of the factors causing such an

increase in companies including a policy rewarding ESG. After 2019 the percentage of companies introducing these policies increased steadily and reached 83% in 2022.

Table 7: Policy rewarding ESG by Year

Year	Mean	Median	SD	Min	Max	N
2018	.5	.5	0.501	0	1	410
2019	.594	1	0.492	0	1	441
2020	.675	1	0.469	0	1	452
2021	.791	1	0.407	0	1	470
2022	.832	1	0.374	0	1	435

Table 8 shows how much each industry has introduced a policy rewarding ESG. Industries rewarding their executives for ESG initiatives the most are utilities (88%), energy (80%), telecommunications (76%) and basic materials (75%). Among the industries with the lowest percentage of companies having such policies are real estate (56%) and technology (58%). Such differences may be due to the perceived relevance of such policies in these industries. Companies in industries like real estate and technology may perceive ESG considerations as less directly relevant to their core business compared to industries with more tangible environmental and social impacts. As a result, they may prioritize other factors in executive compensation policies.

Table 8: Policy rewarding ESG by Industry

ICB Industry name	Mean	Median	SD	Min	Max	N
Basic Materials	.749	1	0.435	0	1	183
Consumer Disc.	.69	1	0.463	0	1	365
Consumer Staples	.621	1	0.486	0	1	219
Energy	.806	1	0.397	0	1	93
Health Care	.639	1	0.481	0	1	241
Industrials	.675	1	0.469	0	1	609
Real Estate	.56	1	0.498	0	1	141
Technology	.578	1	0.496	0	1	135
Telecommunications	.758	1	0.431	0	1	91
Utilities	.878	1	0.329	0	1	131

Data for the main explanatory variable for models 6-9 (*PolicyxHighIndex*) is presented in Table 4. It shows that 33% of the companies in the sample are from a country scoring higher than average in EPI and have a policy rewarding executives for ESG actions. Table 9 shows the EPI score for each country. The highest-rated countries according to EPI methodology are the United Kingdom, Switzerland, Sweden, Luxemburg, Finland, Denmark and Austria.

Table 9: Environmental Performance Index by Country

Country of Headquarters	Environmental Performance Index
Austria	66,5
Belgium	58,2
Cyprus	58
Denmark	77,9
Faroe Islands	77,9
Finland	76,5
France	62,5
Germany	62,4
Ireland	57,4
Italy	57,7
Luxembourg	72,3
Netherlands	62,6
Norway	59,3
Poland	50,6
Portugal	50,4
Spain	56,6
Sweden	72,7
Switzerland	65,9
United Kingdom	77,7

The distribution of the interaction term used in models 6-9 is shown in Table 10. It shows the distribution of the interaction term *PolicyxHighIndex*. Countries scoring high on the EPI in which having the policy rewarding ESG is the most popular are Austria, Denmark, Finland, Switzerland, and the United Kingdom. This fact aligns with having high EPI indicating a greater focus on sustainable development in these countries. Conversely, in Sweden and Luxembourg having the policies is not as common as in the other countries despite all of them scoring high on EPI. This indicates that, probably these countries have other practices to facilitate sustainable development rather than implementing policies to reward executives for it.

Table 10: PolicyxHighIndex by Country

CountryofHeadquarters	PolicyxHighIndex		
	0	1	Total
Austria	1	14	15
	0.07	1.90	0.68
Belgium	44	0	44
	2.99	0.00	1.99
Cyprus	4	0	4
	0.27	0.00	0.18
Denmark	22	59	81
	1.49	8.03	3.67
Faroe Islands	5	0	5
	0.34	0.00	0.23
Finland	33	46	79
	2.24	6.26	3.58
France	308	0	308
	20.91	0.00	13.95
Germany	283	0	283
	19.21	0.00	12.82
Ireland	49	0	49
	3.33	0.00	2.22
Italy	99	0	99
	6.72	0.00	4.48
Luxembourg	21	13	34
	1.43	1.77	1.54
Netherlands	117	0	117
	7.94	0.00	5.30
Norway	53	0	53
	3.60	0.00	2.40
Poland	20	0	20
	1.36	0.00	0.91
Portugal	12	0	12
	0.81	0.00	0.54
Spain	81	0	81
	5.50	0.00	3.67
Sweden	120	96	216
	8.15	13.06	9.78
Switzerland	81	131	212
	5.50	17.82	9.60
United Kingdom	120	376	496
	8.15	51.16	22.46
Total	1473	735	2208
	100.00	100.00	100.00

First row has *frequencies* and second row has *column percentages*

5.1.3. Control Variables

Summary statistics for control variables are presented in Table 4. The average return on equity (ROE) across all firms is positive at 16.7%, ranging from a minimum of -35.6% for weak-performing firms to a maximum of 75.7% for top performers. Similarly, the average stock return is 13%, indicating variability across firms in terms of financial performance. The leverage, measured by the debt-to-equity ratio, is at 27.6% on average, suggesting a healthy balance between debt and equity financing.

Firm size, represented by total assets, shows a higher mean value of almost €26 billion compared to the median of €9 billion, indicating the presence of relatively smaller firms in the sample. Board size ranges from 3 to 26 members, with an average of 10.7 members per board. Given that very large firms exist in the sample, the high mean of board size is not surprising. CEO ownership, expressed as the percentage of shares outstanding, averages 5.4%, with few outliers where the CEO holds a majority of shares, indicating concentrated ownership in some companies.

5.1.4. Correlation Analysis

Correlation data showing pairwise correlations between the variables is presented in Table 11. *ESG Score*, the dependent variable is significantly correlated with its three dimensions which makes economic sense as the overall score is made out of them. The lowest correlation coefficient of 0.653 is with the *Governance Score* showing that it carries the lowest weight in the overall score which is consistent with the previous description of the score and the fact that the weighting of the dimensions varies among industries (Refinitiv, 2024). Furthermore, the correlation coefficients of the *ESG Score* and its dimensions with the main explanatory variable for models 1-5 are positive and statistically significant at $p < 0.01$ which supports Hypothesis 1 indirectly.

The unanticipated correlation coefficients can be observed between the *ESG Score* and its dimensions and the EPI. They are statistically significant and slightly negative for the overall score and environmental and social dimension standing in contrast to Hypothesis 2 and indicating that countries scoring lower in the EPI may focus more on the ESG performance.

Furthermore, the *ESG Score* has a significant positive correlation with the firm and board size. Larger firms tend to have a greater number of board members. In contrast, the fact that the score is positively correlated aligns with the research by Dremptic, Klein and Zwergel (2017) which states that larger firms have higher ESG scores, often due to their ability to provide a higher degree of disclosure and more information on sustainable practices.

For the other coefficients, the control variables *ROE* and *Stock Return* regarding firm performance are negatively correlated with the *ESG Score* and its dimensions. *ROE* being weakly significant at $p < 0.1$ and *Stock Return* being highly statistically significant. This could mean that investors perceive companies with stronger ESG performance in Europe as less financially profitable in the short term, possibly due to the costs associated with implementing sustainability measures or the perception that sustainable practices may constrain profitability. Regarding leverage, a positive correlation coefficient between *leverage* and *ESG score* suggests that companies with higher levels of *leverage* tend to have higher ESG scores. This could mean that companies with more debt are more likely to invest in ESG initiatives. It might also indicate that investors or creditors view companies with higher *leverage* and better ESG performance as less risky or more sustainable, leading to favorable financing terms.

From an econometric viewpoint, the majority of correlation coefficients among our variables are moderate or low. Since the ESG score and its dimensions are not included in any regression model together, the interpretations regarding the primary explanatory variables should remain sound. Furthermore, STATA, the program used in this study to facilitate statistical calculations, will automatically exclude variables exhibiting high collinearity, which mitigates multicollinearity concerns.

Table 11: Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) ESG Score	1.000											
(2) Env. Score	0.811***	1.000										
(3) Social Score	0.869***	0.642***	1.000									
(4) Govern. Score	0.653***	0.273***	0.352***	1.000								
(5) Pol. Exc. ESG	0.346***	0.272***	0.286***	0.289***	1.000							
(6) EnvPerfIndex	-0.050**	-0.070***	-0.115***	0.078***	-0.017	1.000						
(7) ROE	-0.039*	-0.037*	-0.036*	-0.025	-0.070***	0.099***	1.000					
(8) Firm Size	0.348***	0.328***	0.285***	0.206***	0.172***	-0.119***	-0.040*	1.000				
(9) Leverage	0.103***	0.087***	0.080***	0.073***	0.060***	-0.097***	-0.065***	0.100***	1.000			
(10) Board Size	0.366***	0.370***	0.376***	0.096***	0.190***	-0.286***	-0.140***	0.404***	0.106***	1.000		
(11) CEO Owner.	-0.013	-0.027	-0.011	0.003	-0.007	0.013	-0.026	-0.002	0.057***	0.004	1.000	
(12) Stock Return	-0.145***	-0.127***	-0.103***	-0.117***	-0.148***	0.003	0.124***	-0.043**	-0.121***	-0.100***	-0.034	1.000

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

5.2. Empirical Results

This section presents the empirical findings derived from fixed-effects OLS regressions. It aims to investigate the relationship between ESG-linked compensation policy for executives and ESG scores, including the Environmental, Social, and Governance dimensions. Panel data analysis is used to offer a comprehensive understanding of the policies employed over time and their impact on ESG performance. The analysis is conducted in two phases: firstly, assessing the direct effects of compensation-related policies on ESG scores and their dimensions, and secondly, integrating an interaction term to investigate the interaction between the policy rewarding executives for ESG actions and the EPI of a country which provides additional insights into how this policy's effectiveness may vary depending on the country's environmental performance. By estimating the coefficient of the interaction term, the study investigates the interplay among various aspects of corporate sustainability and their impact on ESG performance, to support or reject the hypotheses outlined.

5.2.1. Models 1-5 - Policy Exec. Comp. ESG as the main independent variable

Table 12 contains the set of regression results for models 1-5. In the first column, the model 1 results, with the overall *ESG Score* as the dependent variable, show a statistically significant coefficient for the main independent variable, *Policy Exec. Comp. ESG*, with a p-value below 0.01 and a coefficient of 2.515. This suggests that, when holding all other variables constant, companies implementing policies that reward executives based on ESG initiatives tend to have a higher *ESG Score* by, on average, 2.515 points. The model does not contain any control variables apart from period control given the panel data usage. This initial relationship aligns favorably with the hypothesis outlined previously. In Columns 2 to 5, the overall score as well as Environmental, Social, and Governance scores are examined as dependent variables. To ensure the quality of the models and robustness of the results, the control variables were added to the rest of the models. With the addition of the control variables, the coefficient for the overall *ESG Score*, lowered to 2.209 but the result remained statistically significant at $p < 0.01$. This means that the performance and characteristics of the firm have a moderating effect on policy

effectiveness but still, companies which adopt such policy, have higher overall *ESG Score*, by 2.209 points.

Regarding the dimensions, notably, *Policy Exec. Comp. ESG* shows the strongest impact on the *Environmental Score*, with a statistically significant coefficient of 3.464, indicating that companies employing the policy described previously tend to achieve a 3.464-point higher score in their Environmental dimension. Similarly, for the Social dimension, the coefficient is also statistically significant and is equal to 2.071, meaning that companies that set a policy rewarding for ESG initiatives, on average have a 2.071-point increase in the Social score. Finally, the results for the *Governance score* do not show statistical significance. Even though the results for model 4 were not found to be significant, based on the results from models 1-5, the statement of *H1* that having a policy rewarding executives for ESG initiatives has a significant impact on ESG scores is favored.

Additionally, for the results to be reliable, heteroskedasticity needs to be examined. Therefore, model 1 was initially tested for it using the White test. The results for it are shown in Table 17. Based on the p-value of 0 for the test, the null hypothesis of homoscedasticity is rejected. Therefore a conclusion can be drawn that the models suffer from heteroskedasticity. In order to combat this, clustered robust standard errors are employed throughout the models.

The assessment of multicollinearity through both VIF tests (shown in Table 18) and pairwise correlations within this study indicates that multicollinearity is not a significant concern. The VIF values for each variable are below the accepted threshold of 10, with a mean VIF of 1.417, suggesting minimal redundancy among the variables. Additionally, the correlations between variables reveal no examples of exceptionally high correlation, further supporting the conclusion that multicollinearity is not a significant problem in the study. This combined analysis enhances the robustness of the regression models, favoring the independence of the variables and the reliability of the estimated coefficients.

In all of the models apart from Model 1, a set of control variables were added to the set. Most of them also show statistical significance. In Model 2, both *ROE* and *Leverage* show a statistically significant, negative relationship with *ESG Score* with $p < 0.05$ and $p < 0.01$ respectively. For

ROE, a 1p.p increase results in a 3-point decrease in *ESG Score*. In the case of *Leverage*, the coefficient is equal to -7.2, meaning that each 0.1 increase in debt-to-equity ratio leads to a 0.72 decrease in the overall *ESG Score*. The relationship between *ROE* and Environmental and Social scores is also negative, with a p-value implying significant results. A 1p.p increase in *ROE*, on average, leads to a 6-point decrease in the *Environmental score* and a 2.7-point decrease in the *Social score*. For *Leverage* the relationship is negative as well. A 0.1 increase in *Leverage* results in a 0.75 decrease in *Environmental Score* and a 1.03 decrease in *Social Score*. Both of the results are statistically significant however not at the highest level of significance with values of $p < 0.1$ and $p < 0.05$ respectively. As previously, the results for the *Governance Score* are not statistically significant.

As to *Firm Size*, the relationship is as expected. The coefficients for the overall *ESG Score*, *Environmental Score*, and *Social Score* are all statistically significant and positive. For the coefficients, a 1% increase in the total number of assets, holding all other variables constant, leads to a 0.03-point increase in *ESG Score*, a 0.053-point increase in *Environmental Score*, and a 0.0244-point increase in *Social Score*. Again the results for the Model 5 (*Governance Score*) were not found to be statistically significant. Surprisingly, as to *Board Size*, the results for *ESG Score* and *Governance Score*, show a negative coefficient with statistical significance. The coefficients of -0.407 and -1.041 mean that, on average, for each 1 additional person on the board of the company, this company has a lower *ESG score* of 0.4 and a lower *Governance Score* by 1.

Continuing with the last set of control variables, for the variable *CEO Ownership* no statistical significance was found, but it was found in all models which have control variables for the *Stock Return*. The coefficients show a negative relationship between *Stock Return* and the *ESG Score* and its dimensions. The results show that, on average a 1p.p increase in *Stock Return*, results in around a 1.5-point decrease in the overall score, as well as all of its three dimensions.

Table 12: Regression results for Models 1-5

	(1)	(2)	(3)	(4)	(5)
	ESG Score	ESG Score	Env. Score	Social Score	Gov. Score
PolicyESG	2.515*** (0.596)	2.209*** (0.572)	3.464*** (0.824)	2.071*** (0.756)	1.371 (0.927)
ROE		-3.148** (1.285)	-6.166*** (2.119)	-2.773** (1.354)	-1.140 (2.351)
Leverage		-7.205*** (2.558)	-7.594* (4.550)	-10.387*** (3.103)	-2.399 (4.565)
Firm Size (Assets, m€)		3.113*** (0.925)	5.299*** (1.515)	2.440** (1.063)	2.117 (1.419)
CEO Ownership		0.668 (1.914)	-1.262 (2.920)	0.040 (1.705)	2.698 (3.392)
Board Size		-0.407** (0.160)	-0.193 (0.218)	-0.061 (0.236)	-1.041*** (0.230)
StockReturn		-1.459*** (0.429)	-1.203* (0.620)	-1.621** (0.643)	-1.554** (0.697)
_cons	68.515*** (0.556)	46.796*** (8.632)	22.134 (13.859)	53.676*** (10.162)	58.022*** (13.330)
Observations	2208	2208	2208	2208	2208
R-squared	0.202	0.229	0.178	0.109	0.125
Standard errors	Clustered	Clustered	Clustered	Clustered	Clustered
Method	FE	FE	FE	FE	FE
Year Effects	Yes	Yes	Yes	Yes	Yes

Standard errors are in parentheses

*** p<.01, ** p<.05, * p<.1

5.2.2. Models 6-9 - Interaction term *PolicyxHighIndex* as the main independent variable

The results for Models 6-9 are shown in Table 13. In Model 6, examining the overall ESG score, the coefficient for the interaction term *PolicyxHighIndex* is not statistically significant and the coefficient for *PolicyESG* is slightly increased with the addition of the other variables. This suggests that the impact of the policy on the ESG score is not present in countries with higher EPI scores. Comparing this result to Model 1, where only the policy variable was considered, it cannot be proven that the presence of a supportive environmental policy environment in high-EPI countries strengthens the positive effect of the executive compensation policy on overall ESG scores. Coefficient for the variable indicating only the countries with high EPI

(HighEnvScore) is also insignificant indicating that no significant relationship between the “greenness” of a country and effectiveness of policies rewarding ESG initiatives.

For the coefficient of the *PolicyESG* variable in Model 7 it remains statistically significant and has increased in comparison to the results from Model 3 by 1.2. This means that companies which adopt a policy rewarding executives for ESG initiatives have higher Environmental Scores by, on average, 4.7 points with the addition of the other variables in the Model. However the coefficient for the interaction term *PolicyxHighIndex* is statistically significant and shows a surprising negative relationship, which indicates that policies in countries with high EPI scores are less effective than in other countries and companies operating in high EPI countries, which have the policy examined have, on average, lower Environmental Scores by 2 points.

The coefficients for *PolicyESG* in Models 8 and 9 are similar to Models 4 and 5 with *Governance Score* also being insignificant. The rest of key coefficients examined are statistically insignificant not favoring H2.

Additionally, the results of coefficients for the control variables remained stable and did not change significantly after introducing the interaction term *PolicyxHighIndex*. This suggests that the observed effects of the executive compensation policy on ESG scores, particularly in relation to the EPI of a country, are robust and not driven by changes in other control variables.

Overall, the results for Models 6-9 do not favor the statement from Hypothesis 2 and indicate that the effectiveness of the policy rewarding executives for ESG initiatives is not enhanced and when operating in countries with higher environmental performance.

Table 13: Regression results for Models 6-9

	(6)	(7)	(8)	(9)
	ESG Score	Env. Score	Social Score	Gov. Score
PolicyESG	2.398*** (0.675)	4.718*** (1.022)	2.054** (0.878)	1.016 (1.196)
HighEnvScore	-0.163 (0.657)	1.120 (0.907)	-0.863 (0.810)	-0.129 (1.062)
PolicyxHighIndex	-0.282 (0.695)	-2.159** (0.973)	0.075 (0.855)	0.684 (1.143)
ROE	-3.250** (1.282)	-6.304*** (2.096)	-3.016** (1.336)	-1.005 (2.355)
Leverage	-7.261*** (2.556)	-7.550* (4.538)	-10.457*** (3.076)	-2.533 (4.581)
Firm Size (Assets, m€)	3.045*** (0.915)	5.229*** (1.512)	2.271** (1.047)	2.203 (1.420)
CEO Ownership	0.635 (1.902)	-1.073 (2.894)	-0.143 (1.683)	2.717 (3.386)
BoardSize	-0.414*** (0.159)	-0.193 (0.215)	-0.075 (0.236)	-1.043*** (0.231)
StockReturn	-1.432*** (0.427)	-1.089* (0.615)	-1.621** (0.641)	-1.558** (0.696)
_cons	47.599*** (8.492)	22.020 (13.857)	55.965*** (9.946)	57.313*** (13.420)
Observations	2203	2203	2203	2203
R-squared	0.228	0.181	0.112	0.124
Standard errors	Clustered	Clustered	Clustered	Clustered
Method	FE	FE	FE	FE
Year Effects	Yes	Yes	Yes	Yes

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

6. Discussion and Analysis

Drawing from the regression outcomes detailed in the previous chapter, the analysis provides support for the statement that having ESG-linked compensation policies for executives influences ESG scores and their separate dimensions. Specifically, the inclusion of Policy Exec. Comp. ESG as the main independent variable reveals significant associations across various dimensions of corporate sustainability performance measured by the Refinitiv Eikon's (2024) ESG score and its separate dimensions. The positive relationship is evident in the strongly significant coefficients through specified models (refer to Table 12). Model 1 serves as the first examination of the relationship, while models 2-5 have all of the control variables included, therefore they can be perceived as the most accurate. The results show that, companies in the examined sample which adopt such policy, on average, have higher, overall ESG score, Environmental Score and Social Score by respectively 2.209, 3.464 and 2.071. Despite the fact that no significance was found for the Governance Score, the results suggest that *Hypothesis 1* can be confirmed. Having a policy regarding executive compensation linked to ESG has a significant impact on the ESG Score, with a note that it does not significantly impact Governance Score.

Hypothesis 1: Having a policy rewarding executives for ESG initiatives has a significant impact on the ESG score and its separate dimensions.

The results indicate that the effectiveness of rewarding executives for ESG initiatives is mostly aligned with Jensen and Murphy's (1990) study on performance-based compensation. The addition of compensation based on particular performance is shown to be effective as companies which had the policy rewarding for ESG exhibited higher ESG scores than those that did not have such policy. Incorporating ESG metrics into executive compensation represents a transition beyond the traditional statements of Agency Theory, which primarily emphasizes the maximization of shareholder value (Jensen and Meckling, 1976). Stakeholder Theory offers a complementary perspective by advocating for a broader consideration of the interests of all stakeholders involved in corporate operations. Firms operating within a complex network of interconnected stakeholders, necessitating a balance between shareholder value maximization and stakeholder engagement (Freeman, 1984). By integrating ESG metrics into executive

compensation frameworks, organizations align with the principles of Stakeholder Theory, incentivizing executives to weigh the broader social, environmental, and stakeholder impacts of their decisions alongside financial performance metrics. This shift, which is also evident in the distribution of having the policy rewarding ESG changed over the years (refer to Table 7), underscores a shift towards acknowledging and addressing the various responsibilities of corporations beyond simply maximizing shareholder wealth.

Even though with the addition of the policy rewarding ESG to the company, focus might be shifted slightly from financial results to ESG results, the financial aspect is still secured and as outlined by Eccles and Serafeim (2013) it can even be improved. Their academic work highlights that firms that incorporate sustainability practices into their operations typically demonstrate enhanced financial and non-financial results. Also, with the addition of regulations and legal considerations described above and, most importantly, with the Corporate Sustainability Reporting Directive (CSRD) coming into force in 2024, the possible sanctions for not reporting or aligning a company's actions with ESG initiatives can have negative financial consequences in the form of penalties. The EU's CSRD mandates enhanced non-financial reporting requirements for large companies and groups operating in the European Union. It expands upon the existing Non-Financial Reporting Directive by introducing more comprehensive reporting obligations, including sustainability-related disclosures. The CSRD aims to improve transparency, comparability, and reliability of non-financial information, thereby enabling stakeholders to make informed decisions and encouraging companies to integrate sustainability considerations into their business strategies. It matters for non-financial reporting as it sets a higher standard for corporate transparency and accountability regarding ESG matters, aligning with global sustainability initiatives and fostering sustainable business practices (European Commission, 2020).

As highlighted by Ronald et al. (2019), financial reporting will make shareholders and stakeholders more informed about investment and other decisions, thereby highlighting the importance of ESG initiatives for companies. Better ESG initiatives lie in the interest of the company as they reduce information asymmetry, enhance corporate reputation, mitigate risks, and potentially improve financial performance. Consequently, companies are encouraged to

reward their executives to prioritize and achieve ESG goals. By linking executive compensation to ESG performance, firms can ensure that top management is directly accountable for the company's sustainability efforts. This alignment not only addresses regulatory compliance and avoids penalties but also enhances long-term shareholder value by fostering sustainable business practices that are increasingly valued by investors. Moreover, transparent ESG reporting can attract socially conscious investors, improve stakeholder trust, and strengthen the company's competitive advantage in the market. Therefore, integrating ESG metrics into executive compensation policies is a strategic move that aligns corporate governance with the evolving expectations of stakeholders and the broader regulatory environment.

Lastly, Model 5, which investigated the Governance Score did not show significant results under Hypothesis 1. The previous academic research on Corporate Governance (Eisenhardt, 1989), which suggests that while compensation committees and board oversight play crucial roles in aligning executive incentives with long-term sustainability goals, the integration of ESG considerations into governance structures may encounter challenges or may not be fully realized in certain contexts. Additionally Refinitiv's methodology puts the greatest effort on "*Management*" aspect which focuses on metrics like management structure, independence, diversity and committees which may not be the focus of policies rewarding ESG initiatives. This could mean that companies who focus on governance implement such compensation policies or have implemented them already but in the scoring more focus is put on other governance aspects. Further examination of specific governance mechanisms and their effectiveness in driving ESG integration into executive compensation frameworks could provide insights into addressing these limitations and enhancing the overall effectiveness of corporate governance in promoting sustainability objectives.

Table 14: Results Summary

Hypothesis	Explanatory Variable	Dependent Variables			
		<i>ESG Score</i>	<i>Env. Score</i>	<i>Social Score</i>	<i>Gov. Score</i>
<i>Hypothesis 1</i>	PolicyESG	+++	+++	+++	0
<i>Hypothesis 2</i>	PolicyxHighIndex	0	--	0	0

Symbol description: “+++” - strong positive relationship; “++” - positive relationship; “0” - insignificant relationship

Regarding Hypothesis 2, based on the regression findings outlined previously, the analysis does not favor the hypothesis that country specific factors have a moderating effect on the effectiveness of the ESG-linked compensation policies for executives. There are no strong and significant coefficients across specified models, incorporating all control variables, meaning that the Hypothesis 2 has to be rejected based on the regression results. The outcomes indicate that companies within the examined sample that adopt ESG-linked compensation policies and at the same time operate in a country with a above-average EPI score do not exhibit higher average scores across overall ESG performance, Environmental Score, and Social Score, and Governance Score. There is little comparison to the results of models 2-5. The most notable difference is in the Environmental Score, as its coefficient for *PolicyESG* in Model 5 was higher by 1.2 in comparison to Model 3.

Given the results described, Hypothesis 2 has to be rejected, as country-specific factors (measured by the EPI) have not shown a moderating effect on the effectiveness of the policy regarding executive compensation linked to ESG. The effect sizes for the overall ESG Score, Social Score, and Environmental Score are modest and do not support the acceptance of Hypothesis 2. The results are statistical insignificant and the interaction term coefficient between the ESG-linked compensation policy and the country-specific factor (EPI score) is not sufficient to indicate a moderating relationship. In fact, the results suggest that policies in countries with high EPI scores are slightly, less effective than in other countries. The direction of the coefficients does not align with the hypothesis, showing inconsistent impacts which need to be discussed further.

Hypothesis 2: Country specific factors have a moderating effect on the effectiveness of the policy rewarding executives for ESG initiatives.

Effects of country-specific factors, shown by the EPI, on the relationship between ESG-linked compensation policies and ESG performance could be understood by looking at the effects of Institutional Theory. The institutional pressures reflected by the EPI, which are regulatory frameworks, normative expectations, and cultural-cognitive beliefs, shape how firms integrate ESG considerations into their executive compensation structures.

Powell and DiMaggio (2012) state in their research that institutions play a significant role in shaping organizational behavior and outcomes by influencing regulatory frameworks, industry norms, and stakeholder pressures. Furthermore, Dowling and Pfeffer's (1975) research on organizational legitimacy emphasizes how organizations seek to maintain legitimacy by aligning their actions with strongest social norms and values. This insight is crucial for understanding how organizations navigate external pressures and manage their reputation. It highlights the importance of legitimacy in shaping organizational strategies and behaviors, which might be one of the reasons why companies employ compensation policies or other practices to foster sustainable development. The broader context, including stakeholders and regulatory frameworks, is also essential for examining how external factors shape this relationship. However, this was explained in the discussion on Hypothesis 1, and given that this discussion will focus further on Institutional Theory.

Institutional Theory, particularly the concept of institutional isomorphism described by DiMaggio and Powell (1983) and Scott (1995), states that organizations face pressures from the broader institutional environment to adjust to main norms and standards. This homogenization process occurs through three pillars of institutional influence: regulative, normative, and cultural-cognitive. The regulative pillar enforces compliance with external rules and regulations, normative pressures arise from social expectations and professional standards, and cultural-cognitive influences shape how shared perceptions and beliefs are formed. Furthermore, Arroyo (2012) highlights the evolving nature of management accounting practices, particularly in sustainability, where the integration of ESG considerations into corporate strategies is

becoming increasingly common, as shown in the summary statistics of the research. Companies face institutional pressures from stakeholders, governmental bodies, and industry associations, forcing and encouraging them to adopt ESG practices to align with prevailing norms and expectations, enhancing their legitimacy and social acceptance (Singhania & Saini, 2021).

Regulatory mandates, such as mandatory ESG reporting requirements, are an example of the regulative pressures that push firms to integrate sustainability considerations into their operations. The institutional isomorphism described above is what could be happening in the landscape of ESG and sustainability within European companies and others around the world. Firms realize the benefits of including ESG strategies, and more and more of them implement these strategies and will most likely continue to do so over time. Higher institutional pressures (in countries with higher EPI) enforce a broader scope of these strategies. This notion however is not shown by the regression results which fail to justify that companies operating in countries with larger EPI show more effective policies, which boost the overall ESG score and its dimensions.

To understand why countries with higher EPI scores in Europe do not have more effective policies rewarding executives for ESG initiatives, several interrelated factors must be considered.

Countries with high EPI scores might already have mature and well-established ESG practices embedded within their corporate culture and regulatory frameworks. This maturity means that companies in these countries are likely already performing at high levels regarding ESG metrics, leaving limited room for improvement through additional executive compensation incentives. Essentially, the already high baseline performance makes the incremental impact of such policies less noticeable.

High EPI countries typically maintain stringent environmental regulations and strong enforcement mechanisms. While these regulations ensure compliance and high environmental performance, they can also shift the focus of companies towards meeting regulatory requirements rather than exceeding them through innovative ESG initiatives. In this context, the motivational effect of executive compensation policies may be overshadowed by the pressure to comply with existing regulations.

In countries with high EPI scores, societal norms and cultural expectations regarding environmental performance are likely very strong. Executives in these environments may already feel significant pressure to excel in ESG metrics due to public and stakeholder expectations, rendering additional financial incentives less impactful. The broader normative pressures could, therefore, weaken the additional motivational effect intended by ESG-linked compensation policies.

Companies in high EPI countries often operate from a high baseline of ESG performance due to the existing regulatory and normative environment. This high baseline makes it statistically challenging to observe significant improvements solely attributable to executive compensation policies. Although these policies might still be effective, their relative impact is smaller when compared to countries with lower initial ESG performance levels. In high EPI countries, the primary focus might be on compliance with stricter regulations rather than pursuing innovation or exceeding basic requirements. Consequently, executive compensation policies rewarding ESG initiatives may be more effective in environments where companies need encouragement to move beyond compliance towards proactive and innovative ESG practices.

Implementing and measuring the effectiveness of ESG-linked compensation policies can be complex, particularly in high EPI countries where ESG frameworks are more broad and specific. This complexity can make it challenging to isolate the impact of specific policies like executive compensation incentives. The difficulty of integrating these policies effectively across various ESG dimensions could reduce their perceived effectiveness.

The impact of ESG-linked compensation policies might vary across different ESG dimensions. In high EPI countries, while environmental performance might be robust, there could be differing levels of emphasis and success in social and governance aspects. The mixed results across these dimensions might dilute the overall effectiveness of these policies when considered collectively.

Executives in high EPI countries may view ESG initiatives as fundamental responsibilities rather than additional goals that require extra incentives. If the intrinsic motivation to achieve high ESG performance is already strong, the additional extrinsic motivation provided by compensation policies may have a diminished effect.

While high EPI countries provide a supportive environment for ESG performance, the effectiveness of executive compensation policies in enhancing ESG initiatives can be limited by factors such as the maturity of ESG practices, stringent regulatory environments, cultural norms, high baseline performance, and the complexity of integrating these policies effectively (Wolf, et al., 2022). These factors create a scenario where additional financial incentives for executives do not significantly enhance ESG outcomes beyond what is already achieved through existing pressures and motivations. Thus, despite the high environmental performance of these countries, the anticipated benefits of ESG-linked executive compensation policies are not as pronounced.

7. Conclusion, Limitations and Further Research

This study investigates the impact of ESG-linked executive compensation policies on corporate ESG performance within the context of the STOXX Europe 600 index. By employing a comprehensive dataset from Refinitiv Eikon and Bloomberg Terminal, along with country-specific data from the Environmental Performance Index, this research provides insights into the dynamics of ESG integration within executive compensation frameworks and its effects on corporate sustainability performance.

The findings confirm the first hypothesis that having a policy linking executive compensation to ESG metrics significantly impacts overall ESG scores, as well as Environmental and Social scores, though not the Governance score. This indicates that incentivizing executives through ESG-linked compensation aligns their objectives with broader sustainability goals, as suggested by Stakeholder Theory. Companies adopting these policies show marked improvements in their ESG performance, supporting the view that performance-based incentives can extend beyond traditional financial metrics to encompass broader sustainability outcomes. This aligns with previous research by Jensen and Murphy (1990) on performance-based compensation and extends it into the realm of corporate sustainability, highlighting a shift from Agency Theory's shareholder value maximization towards a more inclusive Stakeholder Theory perspective.

The second hypothesis, that country-specific factors measured by the EPI moderate the effectiveness of ESG-linked compensation policies, is rejected. Companies operating in countries with higher EPI scores do not exhibit more pronounced improvements in their overall ESG scores and individual Environmental, Social, and Governance dimensions when implementing ESG-linked compensation policies. This shows that the role of institutional pressures in shaping corporate behavior, as articulated by Institutional Theory is more nuanced when it comes to examining the sustainable development and executive compensation.

The interaction between regulatory frameworks, normative expectations, and cultural-cognitive beliefs in these countries proved to create a nuanced environment when it comes to positioning itself to the successful integration of ESG considerations into executive compensation. Furthermore, the research highlights the importance of considering sector-specific dynamics

when analyzing ESG performance, as evidenced by the exclusion of financial sector companies from the sample. The distinctive characteristics of ESG considerations in the financial sector, where governance issues take precedence over environmental concerns, necessitate a separate analytical approach to maintain relevance.

The study also points to the evolving regulatory landscape, particularly with the introduction of the Corporate Sustainability Reporting Directive in the European Union, which mandates enhanced non-financial reporting requirements. This regulatory shift is expected to further drive the adoption of ESG practices and reporting, reinforcing the importance of integrating sustainability into corporate strategies.

This research contributes to the growing body of literature on ESG integration by demonstrating the effectiveness of ESG-linked executive compensation policies in enhancing corporate sustainability performance. It highlights the critical role of the institutional context in moderating these effects and underscores the need for specific approaches across different institutional settings. The findings support a broader application of performance-based incentives to include sustainability metrics and aligning corporate strategies with the principles of Stakeholder Theory, Institutional Theory, and CSR theories. Specifically, this paper expands on the theoretical scope of Stakeholder Theory in the context of ESG, extending the work of scholars such as Rubin (2010) or Freeman and Dmytriiev (2017). Additionally, it contributes to CSR theories by examining the interactions of ESG scores and incorporating EPI measuring institutional pressures, with that broadening the research on Institutional Theory and ESG, as discussed by Priem and Gabellone (2024). By aligning corporate strategies with these theoretical frameworks, the study continues a research into more sustainable and accountable corporate practices.

Despite the best efforts, this study has several limitations that should be acknowledged. Firstly, the sample is limited to companies in Europe, which may not fully capture the diversity in ESG practices and executive compensation policies. Furthermore, the research relies on Refinitiv's Eikon ESG ranking, which could influence the findings, particularly regarding the Governance dimension. Refinitiv's methodology emphasizes the "*Management*" aspect, focusing on metrics like management structure, independence, diversity, and committees. These aspects may not be the primary focus of policies rewarding ESG initiatives. As a result, companies that prioritize

governance and have already implemented compensation policies might not receive high scores if these policies do not align with the specific criteria used by Refinitiv. Different ESG ranking systems might yield different results, especially in the Governance dimension. Further examination of specific governance mechanisms and their effectiveness in driving ESG integration into executive compensation frameworks could provide insights into addressing these limitations and enhancing the overall effectiveness of corporate governance in promoting sustainability objectives.

Furthermore, as this study focused on European region, EPI scores happened to be the highest in this region when analyzing entire world with this metric. This could undermine examining the Hypothesis 2 as the EPI scores might have not differ so much. Further research could examine how the relationship between “greenness” of the country and effectiveness of policy rewarding worldwide. Additionally, this study did not explore the influence of executive or CEO power on the implementation and effectiveness of ESG initiatives. Research by Al-Shaer et al. (2023) highlights the importance of CEO power dynamics in driving environmental initiatives. Their findings suggest that CEOs who are compensated for their engagement in environmental activities are motivated to improve environmental performance, particularly newly appointed CEOs who use environmental initiatives to mitigate career concerns. However, CEOs with significant managerial power may engage less in environmental projects due to associated costs. Future research could delve deeper into sector-specific dynamics and the long-term financial implications of ESG-linked compensation policies, providing further insights into the multifaceted impacts of sustainability-oriented corporate governance. Moreover, future academic work could investigate how CEO power and compensation structures influence the adoption and effectiveness of ESG-linked compensation policies, providing a more nuanced understanding of the internal organizational dynamics that drive sustainability efforts.

In conclusion, expanding the geographic scope of the sample, utilizing different ESG ranking methodologies, and considering the role of executive power in ESG initiatives would provide a more comprehensive understanding of the factors influencing the effectiveness of ESG-linked compensation policies. These areas for further research are crucial for developing more effective strategies to promote corporate sustainability.

8. References

- Al-Shaer, H. and Zaman, M. (2016) 'Board gender diversity and sustainability reporting quality', *Journal of Contemporary Accounting & Economics*, 12(3), pp. 210–222.
- Al-Shaer, H., Albitar, K. and Liu, J. (2022) 'CEO power and CSR-linked compensation for corporate environmental responsibility: UK evidence', *Review of Quantitative Finance and Accounting*. doi: 10.1007/s11156-022-01118-z.
- Arat, E., et al. (2023) 'Greenium, credit rating, and the COVID-19 pandemic', *Journal of Asset Management*, 24(7), pp. 547–557. doi: 10.1057/s41260-023-00320-5.
- Arroyo, P. (2012) 'Accounting change, particularly management accounting change: A review', *Journal of Accounting, Organisations and Society*, 8(3), pp. 287-292.
- Baber, W. R., Janakiraman, S. N. and Kang, S. H. (1996) 'Investment opportunities and the structure of executive compensation', *Journal of Accounting and Economics*, 21, pp. 297–318. doi: 10.1016/0165-4101(96)00421-1.
- Baldini, M., Maso, L. D., Liberatore, G., Mazzi, F. and Terzani, S. (2016) 'Role of country- and firm-level determinants in environmental, social, and governance disclosure', *Journal of Business Ethics*, 150(1), pp. 79–98. doi: 10.1007/s10551-016-3139-1.
- Baraibar-Diez, E. and Odriozola, M. D. (2019) 'CSR committees and their effect on ESG performance in UK, France, Germany, and Spain', *Sustainability*, 11, p. 5077. doi: 10.3390/su11185077.
- Baraibar-Diez, E., Odriozola, M. D. and Fernández Sánchez, J. L. (2019) 'Sustainable compensation policies and its effect on environmental, social, and governance scores', *Corporate Social Responsibility and Environmental Management*, 26(5), pp. 1129-1141. doi: 10.1002/csr.1842.
- Barnea, A. and Rubin, A. (2010) 'Corporate social responsibility as a conflict between shareholders', *Journal of Business Ethics*, 97, pp. 71-86. doi: 10.1007/s10551-010-0496-z.
- Bebchuk, L. A. and Fried, J. M. (2003) 'Executive compensation as an agency problem', *Journal of Economic Perspectives*, 17(3), pp. 71-92. doi: 10.1257/089533003769204362.

Bryman, A. and Bell, E. (2015) *Business research methods*. 4th edn. Oxford: Oxford University Press.

Carroll, A. B. (1979) 'A three-dimensional conceptual model of corporate performance', *Academy of Management Review*, 4(4), pp. 497-505. doi: 10.5465/amr.1979.4498296.

Cohen, S., Kadach, I., Ormazabal, G. and Reichelstein, S. (2023) 'Executive compensation tied to ESG performance: International evidence', *Journal of Accounting Research*, 61(3), pp. 805-853. doi: 10.1111/1475-679X.12481.

Daugaard, D. and Ding, A. (2022) 'Global drivers for ESG performance: The body of knowledge', *Sustainability*, 14, p. 2322. doi: 10.3390/su14042322.

DiMaggio, P. J. and Powell, W. W. (1983) 'The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields', *American Sociological Review*, 48(2), pp. 147-160. doi: 10.2307/2095101.

Dowling, J. and Pfeffer, J. (1975) 'Organizational legitimacy: Social values and organizational behavior', *Pacific Sociological Review*, 18(1), pp. 122-136. doi: 10.2307/1388226.

Drempetic, S., Klein, C. and Zwergel, B. (2020) 'The influence of firm size on the ESG score: Corporate sustainability ratings under review', *Journal of Business Ethics*, 167, pp. 333–360. doi: 10.1007/s10551-019-04164-1.

Eccles, R. G. and Serafeim, G. (2013) 'The impact of corporate sustainability on organizational processes and performance', *Management Science*, 59(5), pp. 1045–1061. doi: 10.1287/mnsc.1120.1634.

Eisenhardt, K. M. (1989) 'Agency theory: An assessment and review', *Academy of Management Review*, 14(1), pp. 57-74. doi: 10.2307/258191.

European Commission. (2020) *The European Green Deal*. Available online: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en [Accessed 3 May 2024].

European Commission. (2023) *Corporate sustainability reporting*. Available online: https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en [Accessed 3 May 2024].

finance.ec.europa.eu. (2020) *Renewed sustainable finance strategy and implementation of the action plan on financing sustainable growth*. Available online: https://finance.ec.europa.eu/publications/renewed-sustainable-finance-strategy-and-implementation-on-action-plan-financing-sustainable-growth_en#action-plan [Accessed 3 May 2024].

Flammer, C. (2015) 'Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach', *Management Science*, 61(11), pp. 2549–2568. doi: 10.1287/mnsc.2014.2038.

Flammer, C. and Bansal, P. (2017) 'Does a long-term orientation create value? Evidence from a regression discontinuity', *Strategic Management Journal*, 38(9), pp. 1827-1847. doi: 10.1002/smj.2629.

Freeman, R. E. (1984) *Strategic management: A stakeholder perspective*. Boston: Pitman Publishing.

Freeman, R. E. and Dmytriiev, S. (2017) 'Corporate social responsibility and stakeholder theory: Learning from each other', *Symphonya. Emerging Issues in Management*, 1, pp. 7-15. doi: 10.4468/2017.1.02freeman.dmytriiev.

Jensen, M. C. and Meckling, W. H. (1976) 'Theory of the firm: Managerial behavior, agency costs, and ownership structure', *Journal of Financial Economics*, 3(4), pp. 305–360. doi: 10.1016/0304-405X(76)90026-X.

Jensen, M. C. and Murphy, K. J. (1990) 'Performance pay and top-management incentives', *Journal of Political Economy*, 98(2), pp. 225-264. doi: 10.1086/261677.

Lee, J., Koh, K. (Rachel) and Shim, E. (2023) 'Managerial incentives for ESG in the financial services industry: Direct and indirect association between ESG and executive compensation', *WCBT Faculty Publications*. doi: 10.1108/MF-03-2023-0149.

Mandas, M., Lahmar, O., Piras, L. and De Lisa, R. (2023) 'ESG in the financial industry: What matters for rating analysts?', *Research in International Business and Finance*, 66, p. 102045. doi: 10.1016/j.ribaf.2023.102045.

Margolis, J. D., Elfenbein, H. A. and Walsh, J. P. (2009) 'Does it pay to be good? A meta-analysis and redirection of research on the relationship between corporate social and financial performance', *Psychological Bulletin*, 134(6), pp. 853–882. doi: 10.1037/a0017320.

- McWilliams, A. and Siegel, D. (2001) 'Corporate social responsibility: A theory of the firm perspective', *Academy of Management Review*, 26(1), pp. 117-127. doi: 10.5465/amr.2001.4011987.
- Powell, W. W. and DiMaggio, P. J. (Eds.) (2012) *The new institutionalism in organizational analysis*. Chicago: University of Chicago Press.
- Priem, R. and Gabbellone, A. (2024) 'The impact of a firm's ESG score on its cost of capital: can a high ESG score serve as a substitute for a weaker legal environment', *Sustainability Accounting, Management and Policy Journal*, 15(3), pp. 676-703. doi: 10.1108/SAMPJ-05-2023-0254.
- Refinitiv. (2024) *ESG LSEG ESG scores*. Available online: <https://www.lseg.com/en/data-analytics/sustainable-finance/esg-scores> [Accessed 21 April 2024].
- Ronald, S., Ng, S. and Daromes, F.E., 2019. Corporate social responsibility as economic mechanism for creating firm value. *International Journal of Sustainable Accounting Management*, 3(1). doi: 10.28992/ijSAM.v3i1.69
- Russo, A. and Perrini, F. (2010) 'Investigating stakeholder theory and social capital: CSR in large firms and SMEs', *Journal of Business Ethics*, 91, pp. 207-221. doi: 10.1007/s10551-009-0079-8.
- Scott, W. R. (1995) *Institutions and organizations*. Thousand Oaks: Sage Publications.
- Singhania, M. and Saini, N. (2023) 'Institutional framework of ESG disclosures: Comparative analysis of developed and developing countries', *Journal of Sustainable Finance & Investment*, 13(1), pp. 516–559. doi: 10.1080/20430795.2021.1964810.
- Stolowy, H. and Paugam, L. (2023) 'Sustainability reporting: Is convergence possible?', *Accounting in Europe*, 20(2), pp. 139–165. doi: 10.1080/17449480.2023.2189016.
- STOXX. (2024) *STOXX index methodology guide (portfolio based indices)*. Available online: https://www.stoxx.com/document/Indices/Common/Indexguide/stoxx_index_guide.pdf [Accessed 20 April 2024].

Velte, P. and Stawinoga, M. (2020) 'Do chief sustainability officers and CSR committees influence CSR-related outcomes? A structured literature review based on empirical-quantitative research findings', *Journal of Management Control*, 31(4), pp. 333-377. doi: 10.1007/s00187-020-00303-1.

Wolf, M. J., Emerson, J. W., Esty, D. C., de Sherbinin, A., Wendling, Z. A., et al. (2022) *2022 Environmental performance index*. New Haven: Yale Center for Environmental Law & Policy. Available online: <https://epi.yale.edu> [Accessed 25 April 2024].

9. Appendix

Table 15: Hausman (1978) specification test

	Coef.
Chi-square test value	81.269
P-value	0

Table 16: Heteroskedasticity Test

Test	H0	P-value	Decision	Heteroskedasticity
White test	Homoscedasticity	0	Reject	Yes

Table 17: Variance inflation factor

	VIF	1/VIF
Firm Size	1.585	.631
Board Size	1.45	.69
Stock Return	1.36	.735
PolicyESG	1.185	.844
Leverage	1.059	.944
ROE	1.058	.945
CEO Ownership	1.01	.99
Period Controls	Yes	Yes
Mean VIF	1.417	.

Table 18: Variable Description

Variable (unit or type)	Explanation
ESG Score (numerical)	Aggregate score of company's overall performance across ESG factors.
Environmental Score (numerical)	Score of company's performance related to the environment. Including resource use, emissions and innovation.
Social Score (numerical)	Score of a company's capacity to manage relations with employees, suppliers, customers and communities where it operates.
Governance Score (numerical)	Score of company's adherence to best practices in corporate governance, including board structure, shareholder rights and executive compensation policies.
PolicyESG (binary)	1 if the company has a policy rewarding executives for ESG initiatives, 0 if otherwise.
PolicyxHighIndex (binary)	1 if the company has a policy rewarding executives for ESG initiatives and is located in a country with a high EPI index, 0 if otherwise.
ROE (%)	Net income (annual) / Shareholders' Equity
Leverage (%)	Total Debt / Total Assets
BoardSize (numerical)	Number of people on the company's board.
Stock Return (%)	Annual return or loss that the company's stock generated in a period of a given year.
Firm Size (numerical)	Measured as Total Assets (in millions of Euros). The value used in the regressions was a natural logarithm of this value.
CEO Ownership (%)	Percentage of the total company shares which are in possession of its CEO.

Table 19: Abbreviation Description

Abbreviation	Explanation
ESG	Environmental, Social and Governance
EPI	Environmental Performance Index
CSR	Corporate Social Responsibility
SMEs	Small and medium-sized enterprises
CSO	Chief Sustainability Officer
FE	Fixed-effects
RE	Random Effects
OLS	Ordinary least squares
STOXX 600 or SXXP	STOXX Europe 600 Stock Index
VIF	Variance Inflation Factor
EU	European Union
CSRD	Corporate Sustainability Reporting Directive