The Effects of Sustainable Corporate Governance Mechanisms on CEOs' Incentives: Evidence from the United States

ETIENNE DEVELAY

Nottingham Business School

A thesis submitted in partial fulfilment of the requirements of

Nottingham Trent University for the degree of Doctor of Philosophy

May 2023

Acknowledgements

This journey would not have been possible without the advice, guidance, and support of numerous people who helped me complete this thesis for the Doctor of Philosophy (PhD) degree.

First, I am extremely grateful to my supervisors. Both afforded me extraordinary opportunities to develop my skills, discover the different facets of academia, and participate in research events. My Director of Studies, Associate Professor Yan Wang, was always there for me and went above and beyond to support me. His implication and supervision throughout this PhD journey allowed me to stay motivated and on track. My supervisor, Associate Professor Stephanie Giamporcaro, was also highly involved throughout this PhD journey. Her pieces of advice and supervision pushed me to challenge my ideas, think more critically, and get out of my comfort zone. To both of you, the benefits of your supervisions will be valuable well beyond my academic research.

Second, I am grateful to the joint French SIF (FIR in French) and Principles for Responsible Investment (PRI) initiative for funding this thesis. This financial help has significantly improved my student experience and my ability to produce better-quality research by giving me more time to study. However, beyond the financial value, I would like to highlight the symbolic value of receiving this award. The FIR-PRI initiative is highly regarded in the field of sustainable finance and has worked with renowned researchers. The honour of receiving this award gave me the motivation to complete this thesis.

Third, I would like to thank my family and friends for encouraging me during the troubled times and celebrating the small wins. Your love, friendship, and support made a significant difference in completing this thesis.

Fourth, I am grateful to the different directors of the Doctoral Programme at the Nottingham Business School (NBS) for sponsoring several of my conferences. Additionally, I am particularly thankful to Dr Ishan Jalan for his support.

Finally, I would like to thank my partner, Niha, for her encouragement, patience, and unconditional love. Thank you for supporting me throughout this journey, especially during the tough times.

Abstract

Despite regulatory efforts to increase transparency and reduce corporate misconduct, environmental, social, and governance (ESG) failures persist, while society's demand for more sustainability grows. This situation challenges the traditional role of accounting and corporate governance by pushing corporations to communicate more non-financial information alongside financial information. Accordingly, researchers have called for the development of an integrated corporate governance model to effectively disseminate information to all legitimate stakeholders while advancing sustainability objectives. This thesis seeks to address this pressing issue by examining the components of a corporate governance model that aligns with the principles of sustainability and evaluating the extent to which they influence chief executive officers' (CEO) incentives. Through three empirical studies, it delves into the effects of three sustainable corporate governance mechanisms (regulation, CEO compensation, and the board of directors). Drawing on the stakeholder-agency theory, this thesis employs quantitative methods to analyse a sample of US-listed companies from the Russell 3,000 index over the last decade. Chapter 5 examines the impact of regulation on CEO incentives by examining the mediating role of shareholder say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation. Chapter 6 investigates the influence of the type of ESG targets (general or material) in CEO compensation contracts on corporate financial and non-financial performance. Chapter 7 studies the structure and effectiveness of sub-board corporate social responsibility (CSR) committees in shaping the inclusion of ESG targets in CEO compensation contracts. Findings reveal that these mechanisms enhance CEO accountability by ensuring the flow of information to all legitimate stakeholders, fostering relationships that align business models more closely with sustainability principles. However, they also have limitations and potential unintended consequences that require caution. Overall, this thesis demonstrates the importance of sustainable corporate governance in promoting success for all legitimate stakeholders by pushing CEOs to consider the interdependence between corporations, society, and the environment. This thesis contributes to the literature on corporate governance and sustainability by exploring the nuances of sustainable corporate governance and has theoretical and practical implications relevant for academics, practitioners, and regulators.

Keywords: Corporate governance, sustainable development, CEO compensation, corporate social responsibility, stakeholder-agency theory, sustainable corporate governance.

Research Outputs

List of outputs for Chapter 5

Publications

Develay, E., Wang, Y., & Giamporcaro, S. (2021). CEO-to-Worker pay ratio, say on pay votes, and executive compensation. *Academy of Management Proceedings*, 2021. https://doi.org/10.5465/AMBPP.2021.12466abstract

Develay, E., Wang, Y., & Giamporcaro, S. (2023). The effect of CEO-to-worker pay disparities on CEO compensation: The mediating role of shareholder say on pay votes. *International Journal of Finance & Economics*, 1-18. https://doi.org/10.1002/ijfe.2866

Conference contributions

Develay, E., Wang, Y., & Giamporcaro, S. (2020, September 1). *CEO-to-Worker pay ratio, say on pay votes, and executive compensation* [Conference presentation]. British Academy of Management Doctoral Symposium 2020, online event.

Develay, E., Wang, Y., & Giamporcaro, S. (2021, July 29-August 4). *CEO-to-Worker pay ratio, say on pay votes, and executive compensation* [Conference presentation]. 81st Annual Meeting of the Academy of Management, online event.

Awards

I received the Tony Beasley Award for the best research article produced by a PhD student. This award was given by the British Academy of Management in September 2020 for my first project on the CEO-to-worker pay ratio, say on pay votes, and executive compensation.

List of outputs for Chapter 6

Publications

Everett, C. (2021, February 14). *Should you tie ESG to executive pay?* The Raconteur (Sunday Times supplement). Some elements of my second research on CSR contracting are quoted in this Sunday Times supplement on sustainable investing.

Develay, E., Giamporcaro, S., & Wang, Y. (2022). CSR contracting, materiality, and their effects on financial and non-financial performance. *Academy of Management Proceedings*, 2022. https://doi.org/10.5465/AMBPP.2022.12151abstract

Develay, E., Giamporcaro, S., & Wang, Y. (2023). Material CSR contracting and its effects on financial and non-financial performance. *Journal of Management Studies*, under review.

Conference contributions

Develay, E., Giamporcaro, S., & Wang, Y. (2021, July 8-10). *CSR contracting, materiality, and their effects on financial and non-financial performance* [Conference presentation]. 37th EGOS (European Group for Organizational Studies) Colloquium, Amsterdam, Netherlands.

Develay, E., Giamporcaro, S., & Wang, Y. (2021, August 31-September 3). *CSR contracting, materiality, and their effects on financial and non-financial performance* [Conference presentation]. 35th British Academy of Management conference, Lancaster, UK.

Develay, E., Giamporcaro, S., & Wang, Y. (2022, August 5-9). *CSR contracting, materiality, and their effects on financial and non-financial performance* [Conference presentation]. 82nd Annual Meeting of the Academy of Management, Seattle, Washington, USA.

List of outputs for Chapter 7

Publications

Develay, E., Wang, Y., & Giamporcaro, S. (2023). The impact of CSR committees' characteristics and effectiveness on CSR contracting. *Academy of Management Proceedings*, 2023. https://doi.org/10.5465/AMPROC.2023.14174abstract

Conference contributions

Develay, E., Wang, Y., & Giamporcaro, S. (2022, August 31-September 2). *The impact of CSR committees' characteristics and effectiveness on CSR contracting* [Conference presentation]. 36th British Academy of Management conference, Manchester, UK.

Develay, E., Wang, Y., & Giamporcaro, S. (2023, March 28-30). *The impact of CSR committees' characteristics and effectiveness on CSR contracting* [Conference presentation]. Joint Early Career and Doctoral symposium Kedge Business School and Nottingham Business School, Paris, France.

Develay, E., Wang, Y., & Giamporcaro, S. (2023, August 4-8). *The impact of CSR committees' characteristics and effectiveness on CSR contracting* [Conference presentation]. 83rd Annual Meeting of the Academy of Management, Boston, Massachusetts, USA.

List of outputs for the overall thesis

Publications

Develay, E., & Giamporcaro, S. (2023). Sustainable finance and the role of corporate governance in preventing economic crimes. In: M. Dion (Ed.), *Sustainable finance and financial crime* (pp. 267-287). Springer.

Awards

My thesis has been distinguished by the 15th edition of the joint French Sustainable Investment Forum (SIF – FIR in French) and Principles for Responsible Investment (PRI) award on the 'Finance & Sustainability' theme. I was awarded a research grant of EUR 10,000.

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Abbreviations

2SLS	Two-Stage Least Squares
CDP	Carbon Disclosure Project
CDSB	Climate Disclosure Standards Board
CEO	Chief Executive Officer
COP	Conference Of the Parties
COVID	Coronavirus Disease
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
DEF	Definitive Proxy Statement
EDGAR	Electronic Data Gathering, Analysis, and Retrieval system
ESG	Environmental, Social, and Governance
EU	European Union
FTX	Futures Exchange Trading Limited
GHG	Greenhouse Gas emissions
GMM	Generalised Method of Moments
GRI	Global Reporting Initiative
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
ISSB	International Sustainability Standards Board
MSCI	Morgan Stanley Capital Investment
NBS	Nottingham Business School
NFRD	Non-Financial Reporting Directive
OLS	Ordinary Least Squares
PhD	Doctor of Philosophy (Philosophiae Doctor)
PRI	Principles for Responsible Investment
R&D	Research and Development
RID	Ratio of Indirect effect to Direct effect
RIT	Ratio of Indirect effect to Total effect

S&P	Standard and Poor's
SASB	Sustainability Accounting Standard Board
SDG	Sustainable Development Goals
SEC	Security and Exchange Commission
SEM	Structural Equation Modelling
SIF	Sustainable Investment Forum
TCE	Transaction Cost Economics
TCFD	Task force on Climate-related Financial Disclosures
UK	United Kingdom
UN	United Nations
US	United States
VIF	Variance Inflation Factors
VRF	Value Reporting Framework
World Bank – IFC	World Bank – International Fund Cooperation

Chapter 1
Introduction

1.1. Background of the study, problem statement, and research questions

Modern corporations must build and maintain solid relationships with shareholders and other stakeholders to grow and prosper. Over the past two decades, myriad of corporate environmental, social, and governance (ESG) failures have eroded stakeholders' trust in corporations (Tricker, 2019). For example, in the United States (US) in 2001, the chief executive officer (CEO) and other top executives of the energy company Enron realised accounting manipulations to virtually inflate the company's revenues and reduce its debts, leading to its bankruptcy and to major financial losses for its stakeholders (Healy & Palepu, 2003). In the same country in 2022, the CEO of a crypto-trading platform, Futures Exchange Trading Limited (FTX), was accused of diverting his company's funds for personal purposes (Conlon, Corbet, & Hu, 2022). The company went bankrupt after an investigation, which led to losses for investors, employees, and users. Such failures also appear in other parts of the world. For example, in 2010, the CEO of British Petroleum (BP) and other top executives were accused of enabling the catastrophic Deepwater Horizon oil spill by implementing aggressive cost-cutting measures, resulting in the deaths of 11 employees and the release of millions of barrels of oil into the Gulf of Mexico (Lin-Hi & Blumberg, 2011). In 2015, the CEO of Volkswagen resigned after the company admitted to using a software to manipulate emissions tests on its diesel vehicles, deceiving regulators about their pollution output and affecting public health globally (Alexander & Schwandt, 2022). Common to these different failures is the recognition that corporate governance systems did not provide sufficient control over the activities of CEOs and protect the interests of all stakeholders.

Although recently coined, 'corporate governance' is an old concept (Tricker, 2019). It focuses on a 'system of checks and balances by which companies are directed and controlled' (Cadbury, 1992, p. 15). Two main models of corporate governance systems exist: the shareholder-centric and the stakeholder-centric (Charreaux & Desbrières, 2001). On the one hand, the shareholder-centric model tries to limit CEOs' self-interested behaviours and protect the financial interests of owners, also called 'shareholders' (Dion, 2016). It is associated with effectiveness because it promotes economic prosperity (Crifo & Rebérioux, 2016). However, the shareholder-centric model is accused of encouraging the negligence other stakeholders' interests, which may undermine their welfare in different time frames (Stout, 2012; Maley, 2014; Supiot, 2017; Belinfanti & Stout, 2018). On the other hand, the stakeholder-centric model considers the interests of all legitimate groups of individuals affected by corporate actions, also named 'stakeholders'

(Mason & Simmons, 2014). It is associated with orientation, as it promotes environmental integrity and social equity for all stakeholders (Crifo & Rebérioux, 2016). Nevertheless, the stakeholder-centric model is criticised for being ineffective as it fails to attract the attention of CEOs on relevant sustainability issues, insulates them from market pressures, and delays stakeholder-oriented reforms (Bebchuk & Tallarita, 2020; Roe et al., 2021; Bebchuk & Tallarita, 2022; Walker, 2022). The academic community remains divided concerning the merits of these two corporate governance models due to divergences in time frames, due to negative externalities/impact, and due to distributional concerns among stakeholders (Roe et al., 2021).

Despite the efforts of regulators to increase more transparency and to reduce corporate misbehaviour, the evolving needs of society for more sustainable development are questioning the construction of current corporate governance systems (Paine & Srinivasan, 2019; EY, 2020). Sustainable development consists of 'meeting the needs of the present, without compromising the ability of future generations to their own needs' (World Commission for Environment and Development, 1987, p. 43). Corporations are now expected to embrace the principles of sustainable development by implementing effective corporate governance systems oriented toward all stakeholders to pursue economic prosperity, environmental integrity, and social equity (Goergen, 2022). However, this new demand has important implications for corporations because it implies an evolution of their governance practices, processes, and policies. Indeed, shareholder-oriented systems are constructed around shareholder value creation, which incentivise CEOs to mostly consider economic prosperity through short-term financial gains (Dion, 2016). Alternatively, stakeholder-oriented systems are built around stakeholder value creation, incentivising CEOs to mostly consider environmental integrity and social equity through long-term socio-environmental incentives (Bebchuk & Tallarita, 2022). Nevertheless, both corporate governance systems reduce the accountability of CEOs to legitimate stakeholders, leading to partial corporate governance and dubious incentives.

The stakeholder-agency theory (Hill & Jones, 1992) provides a new paradigm by which to examine the components of a corporate governance system aligned with sustainable development, as well as, to determine the extent of these mechanisms' influence on CEO incentives. By combining the agency theory (Jensen & Meckling, 1976; Schleifer & Vishny, 1997) and the stakeholder theory (Donaldson & Preston, 1995; Freeman, 1984; Jones, 1995), the stakeholder-

agency theory extends the contractual relationship between CEOs and shareholders to a series of relationships between CEOs and all legitimate stakeholders (Coombs & Gilley, 2005). It assumes that CEOs should act in the best interests of all legitimate stakeholders, not just shareholders. Legitimacy is established through an exchange relationship where the stakeholders who provided critical resources to the corporation have a claim on the corporation's use of the supplied resources (Kock, Santaló, & Diestre, 2012). Ergo, corporations are responsible for the use of stakeholders' resources, and stakeholders have the right to be informed and empowered about the use of their resources by the corporation. According to the stakeholder-agency theory, corporations must preserve and enhance these resources over time to sustain their exchange relationships with stakeholders. Consequently, this theory posits that corporations and their CEOs should act as the agents of their stakeholders and in congruence with sustainable development as it covers all legitimate stakeholders, different time frames, and sustainability issues, making corporations more democratic, inclusive, and participatory (Winschel & Stawinoga, 2019).

Facing the changing needs of society, corporations adopt new or transform current corporate governance systems, embracing the principles of sustainable development, to influence CEOs to consider the interests of all legitimate stakeholders in different time frames and for different sustainability-related matters. Thus, this work is organised around the following central research question:

Central research question: What are the components of sustainable corporate governance influencing CEOs' incentives?

The concept of sustainable corporate governance (Goergen and Tonks, 2019; Cardoni, Kiseleva, & Lombardi, 2020; EY, 2020; Goergen, 2022; Kavadis & Thomsen, 2023) emphasises the importance of balancing the interests of various stakeholders in the pursuit of long-term shared value creation. However, among its main challenges is the implementation of mechanisms incentivising, guiding, and rewarding CEOs for making decisions in the interests of all stakeholders, acting on different time frames, and mitigating sustainability issues (Cardoni & Kiseleva, 2023). The corporate governance literature classes such mechanisms, traditionally as external or internal (Tricker, 2019). Where external corporate governance mechanisms are established by actors outside the organisation, internal corporate governance mechanisms are set up by actors within the organisation. For example, Aguilera et al. (2015) identify three main

internal corporate governance mechanisms (the board of directors, ownership concentration, and CEO compensation) and six main external corporate governance mechanisms (regulation, the market for corporate control, external auditors, stakeholder activism, rating organisations, and the media).

While initially these mechanisms were designed to align CEO and shareholder interests, societal demand for more sustainable development is pushing corporations to implement mechanisms better aligned with the interests of all stakeholders (Ayuso et al., 2014). Set in the context of the United States, this thesis focuses on three key corporate governance mechanisms — regulation, CEO compensation, and the board of directors — that evolved in response to the changing needs of society and are supposed to align with the principles of sustainable development. The choice of the United States as the country of focus is motivated by the size and influence of its publicly listed companies nationally and internationally, the established corporate governance and sustainability regulatory landscape permitting initiatives such as shareholder activism, and data accessibility.

The first mechanism of interest is regulation. After the 2007-2009 financial crisis, United States financial regulation evolved to restore confidence in capital markets and to protect economic actors from corporate misbehaviour (SEC, 2015). Several rules, such as the shareholder say on pay votes one and the CEO-to-worker pay ratio disclosure one, have been implemented to increase transparency about corporate remuneration practises and to empower shareholders to vote on CEO compensation contracts based on this information (Crawford, Nelson, & Rountree, 2021). This set of rules was concerned with improving accountability and transparency for shareholders, employees, and consumers, hence, contributing to sustainable development. However, the complex role that shareholder engagement towards CEO-to-worker pay ratios plays on CEO compensation remains unclear, and more research is necessary to understand their relationships.

The second mechanism of interest is CEO compensation. An increasing number of corporations have begun to integrate ESG targets in their compensation contracts to attract CEOs' attention to non-financial objectives that are in the interests of different groups of stakeholders and benefitting the corporation in the long run (Hong, Li, & Minor, 2016; Maas, 2018). Nevertheless, the financial significance, or materiality, of these ESG targets tied to CEO compensation has been overlooked. Consequently, some scholars are concerned about the ability of this initiative to attract

CEOs' attention to relevant ESG issues and to meet sustainable development requirements (Bebchuk & Tallarita, 2022; Walker, 2022). Therefore, more research is needed to understand whether including material ESG targets in CEO compensation contracts improves corporate performance, both financial and non-financial.

The final mechanism of interest is the board of directors. With the crucial role of the board of directors in the governance of sustainability, many corporations are concerned about their corporate social responsibility (CSR). CSR deals with 'the integration of an enterprise's social, environmental, ethical, and philanthropic responsibilities towards society into its operations, processes, and core business strategy in cooperation with relevant stakeholders' (Rasche, Morsing, & Moon, 2017, p. 483). In this way, corporations have implemented CSR committees to coordinate and centralise CSR initiatives to contribute to sustainable development (Mallin & Michelon, 2011). CSR committees can be seen as sub-board committees that monitor, guide, and reward ESG-related activities, possibly influencing CEO behaviour (Al-Shaer & Zaman, 2019). However, their structures and effectiveness are crucial since CEOs may engage in sustainability activities only if they have incentives to do so (Berrone & Gomez-Mejia, 2009). Thus, more research is necessary to understand whether CSR committees' structural characteristics and effectiveness influence the initiative of tying ESG targets to CEO compensation contracts.

Overall, this thesis examines the effects of three sustainable corporate governance mechanisms — regulation, CEO compensation, and the board of directors — on CEO incentives. Specifically, from the central research question, three research questions are proposed.

Research question 1: To what extent do shareholders say on pay votes, motivated by CEO-to-worker pay disparities, influence CEO compensation?

Research question 2: To what extent does the inclusion of financially material ESG targets in CEO compensation contracts impact corporate financial and non-financial performance?

Research question 3: To what extent is an effective CSR committee more likely to influence the presence of ESG targets in CEO compensation contracts?

1.2. Research objectives

This thesis proposes to gain an understanding of the components of sustainable corporate governance influencing CEOs' incentives. Through a series of three empirical studies, it seeks to achieve the four following research objectives:

- To explore the nuances of the concept of sustainable corporate governance and propose a theoretical approach that promotes the integration of sustainability in corporate governance to incentivise CEOs to consider the interests of all legitimate stakeholders on different time frames and for different sustainability-related matters.
- To examine the extent to which regulation affects CEOs' incentives. Specifically, whether shareholder dissent say on pay votes mediate the link between CEO-to-worker pay disparities and CEO compensation.
- To examine the extent to which the construction of compensation contracts affects CEOs' incentives for corporate performance. More precisely, whether the inclusion of material ESG targets in CEO compensation contracts influences corporate financial and non-financial performance.
- To examine the extent to which board committees affect CEOs' incentives. Especially, whether CSR committees' structural components and effectiveness influence corporations to opt for CSR contracting.

1.3. Contributions and practical implications

This thesis makes three main contributions to the literature on corporate governance and sustainability. First, it adds to research on sustainable corporate governance by advocating for the implementation of governance mechanisms incentivising CEOs to consider the interests of all legitimate stakeholders in different time frames and for different sustainability-related matters (Goergen & Tonks, 2019; Cardoni, Kiseleva, & Lombardi, 2020; EY, 2020; Goergen, 2022; Kavadis & Thomsen, 2023). More specifically, it suggests that implementing corporate governance mechanisms aligned with sustainability ensures the good flow of financial and non-financial information to all legitimate stakeholders, promoting more transparency and accountability. These mechanisms also serve as safeguards to prevent potential misuse of resources provided by legitimate stakeholders, as more information on their use by corporations will better protect those

stakeholders. In summary, this thesis offers a different perspective on sustainable corporate governance by promoting stronger accountability relationships prioritising the preservation and enhancement of the resources brought by legitimate stakeholders. This approach permits us to go beyond the traditional debate between shareholder-centric and stakeholder-centric corporate governance models through an integrated corporate governance model better answering the needs of society for sustainable development (Crifo & Rebérioux, 2016).

Second, this thesis expands upon the stakeholder-agency theory of Hill and Jones (1992) by showing its applicability and relevance to the study of the effects of sustainable corporate governance mechanisms on CEOs' incentives. This theoretical framework is employed to examine the extent to which CEOs balance the different interests of legitimate stakeholders to avoid harm and to preserve and enhance the sustainable use of legitimate stakeholders' resources to support their success (Kock, Santaló, & Diestre, 2012). Additionally, this thesis contributes to the stakeholder-agency theory by proposing certain refinements of its assumptions to consider the shifting behaviour of shareholders towards sustainability, the dynamic prioritisation of stakeholders, and the structural characteristics of CSR committees.

Third, this thesis provides empirical evidence on the effectiveness of three sustainable corporate governance mechanisms (regulation, CEO compensation, and the board of directors) in incentivising CEOs to follow the principles of sustainable development and align their interests with those of all stakeholders. While some researchers in the fields of corporate governance and sustainability suggest that the mechanisms promoting accountability are under-researched (Brennan & Solomon, 2008), this thesis attempts to fill this gap by examining their effectiveness to incentivise CEOs to consider the interests of all stakeholders in different time frames and for different sustainability-related matters.

Finally, this thesis has important implications for practitioners and regulators. Drawing on its findings, three indicators are proposed to better assess sustainable corporate governance practises. The first indicator is the 'say on sustainability', which estimates the percentage of shareholder votes supporting the sustainability initiatives implemented by a corporation. The second indicator is 'two-way material CSR contracting', measuring whether a corporation has integrated double materially significant ESG targets in CEO compensation contracts. The third indicator is 'multiple CSR committees', capturing whether a corporation has integrated one or more

CSR committees. These indicators might be helpful to a wide range of economic actors. For example, analysts and investors could use these indicators to better evaluate the non-financial performance of corporations. Data providers could substantiate their ESG scores by integrating new measures that better capture the efforts of corporations concerning sustainability. Lastly, regulators could use them to design more democratic, inclusive, and participatory regulations better aligned with the evolving needs of corporations and society.

1.4. Thesis structure

The remainder of this thesis is organised as follows. Chapter 2 presents the context in which the nascent concept of sustainable corporate governance is embedded. To fully understand this concept, it is necessary to return to the construction of accounting information and its importance to accountability and corporate democracy. First, the chapter deals with the evolving role of accounting due to the growing need for more information on sustainability in this context. Then, this chapter continues by examining the main points of the sustainability debate, such as raison d'être (purpose of corporations), temporality, materiality, regulation, and integration of sustainability. Finally, the chapter discusses the implications of the evolving role of accounting due to the sustainability debate in corporate governance.

Chapter 3 investigates the theoretical and empirical literature on corporate governance, sustainability, and CEO compensation. It then presents the concept of sustainable corporate governance, and finally, it discusses the three mechanisms tested in this research. A selected literature review of the relationships examined is provided for each mechanism.

Chapter 4 presents the study's methodology. First, the research philosophy, approach, and strategies are discussed. Building on this section, the chapter introduces the data, sample, and analysis techniques employed. Finally, data management and research ethics considerations are briefly discussed.

Chapter 5 tries to disentangle the complex role that shareholder engagement towards CEO-to-worker pay disparities plays in CEO compensation. In response to alarming levels of pay disparities between CEOs and employees, the US financial regulator has taken a number of initiatives to inform and mobilise shareholders. However, the usefulness of these rules for

shareholders and their ability to reduce CEO compensation have generated a heated debate. Using a sample of 1,594 non-financial firms from 2013 to 2019, a regression-based mediation analysis is conducted to examine the mediation role of shareholder dissent votes in the relationship between CEO-to-worker pay disparities and CEO compensation. Firms with higher CEO-to-worker pay ratios are found to increase the proportion of shareholder dissent votes, and shareholder votes are found to increase CEO compensation, after controlling for CEO-to-worker pay disparities. Furthermore, shareholder engagement is found to partially mediate the relationship between CEO-to-worker pay disparities and CEO compensation through their votes. Overall, these findings have important implications for regulators, demonstrating the usefulness of the regulatory initiatives to shareholders and documenting their unintended consequences on CEO compensation.

Chapter 6 examines whether material ESG targets tied to CEO compensation contracts improve corporate financial and non-financial performance. This initiative raises questions about which stakeholders should take priority as it may direct CEOs' attention to objectives that do not match those of the corporation and influence corporate outcomes. Thus, the concept of materiality is applied to help select and include ESG targets based on their financial significance to the corporation. Using a sample of 1,577 firms from 2011 to 2019, both general and material CSR contracting are found to positively impact non-financial performance, but not financial performance. More precisely, the use of general ESG targets in CEO compensation reduces corporations' ability to generate revenues from their assets; the use of material ESG targets in CEO compensation has a greater effect on environmental performance than do general ESG targets immediately; and the effect of material ESG targets on corporate non-financial performance is superior to that of general ESG targets after three years of implementation. Given these competing results, the merits of material CSR contracting for corporations and all stakeholders are discussed. This raises tough questions concerning the simultaneous achievement of financial and non-financial performance and the soundness of shareholder-oriented materiality frameworks.

Chapter 7 investigates whether a CSR committee's structural components and effectiveness influence corporations to opt for CSR contracting. Companies have increasingly begun to establish a CSR committee to guarantee the accountability of their CEOs to all stakeholders. However, the structural characteristics and effectiveness determine the ability of CSR committees to appropriately monitor, guide, and reward CSR-related activities. In a sample of 575 corporations

from 2015 to 2019, those with an independent and more effective CSR committee structure were more likely to opt for CSR contracting. This study demonstrates that the structural characteristics and effectiveness of CSR committees are key to improving the controllability of this initiative, facilitating its monitoring, and promoting the accountability of CEOs towards the corporation and all stakeholders. These findings have implications for practitioners, who should consider adopting more objective leadership to effectively monitor and protect stakeholders' interests, and for regulators and standardisation institutions, who should more specifically guide best practises concerning the implementation and functioning of CSR committees.

Chapter 2
Context of research

2.1. Introduction

The changing societal priorities towards sustainable development have led to a common understanding that achieving sustainable finance requires a better understanding of how corporations impact the environment and society. This shift in expectations has increased the demand for non-financial information, inducing changes in accounting and subsequently affecting corporate governance practises. A thorough understanding of the research context is necessary to appreciate the evolution of accounting caused by these new social expectations for corporate sustainability. It will help us identify current issues in this field, situate the research within a larger context, and understand their implications for the construction of corporate governance systems. The remainder of this chapter is organised as follows. Section 2.2. presents background information on accounting. It then introduces the main points of the sustainability debate, such as raison d'être, temporality, materiality, regulation, and integration of sustainability. Finally, it discusses the consequences of this debate for corporate governance.

2.2. Background information on accounting

This section explains the role of accounting information in promoting accountability and corporate democracy. Moreover, it discusses the evolving role of accounting due to the growing need for better information on corporate sustainability.

2.2.1. Accounting information, accountability, and corporate democracy

The flows of accounting information distribute information to decision-makers, which then define accountability and, finally, determine the level of corporate democracy (Gray, Adams, & Owen, 2014). In this way, accounting can be seen as a 'set of subjective information systems, politically negotiated, whose purpose is to measure the value means and results of an entity' (Richard, Bensadon, & Rambaud, 2018, p. 14 – own translation). Ergo, the type of information produced to meet one stakeholder's needs might not necessarily be appropriate for other stakeholders. This divergence raises questions about how information flows within corporations, how it grants accountability to other stakeholders, and the state of corporate democracy in the face of the lack of

consideration of their needs. Thus, accounting systems are critical to 'collect, process, and report information' (Gelinas, Dull, & Wheeler, 2014, p. 14).

Accounting information systems have four main objectives: to take into account, to be accountable (for one's actions), to count, and to report (Richard, Bensadon, & Rambaud, 2018). First, accounting information systems consider particular events based on their importance to the corporation and its environment. They permit one to increase the visibility of certain events and to define what is important (or material) for a corporation. Second, accounting information systems establish a corporation's responsibilities through their ability to keep records of past exchanges. They enable us to define the corporation's accountability, to whom, and why. Third, accounting information systems provide metrics and measurement techniques to transform data into meaningful information. They raise questions about how these measures have been created and why. Finally, accounting information systems facilitate the communication of information. They allow a corporation to organise how information is reported based on the needs of its beneficiaries. Thus, accounting information systems are constructed based on the needs of their recipients and for a particular objective (Richard, Bensadon, & Rambaud, 2018).

As only one of the four objectives of accounting information systems, accountability is crucial for modern accounting (Bebbington, Unerman, & O'Dwyer, 2014). It can be defined as 'a duty to provide information to those who have a right to it' (Gray, Adams, & Owen, 2014, p. 7). Accountability is a concept with two dimensions, as it involves accountability to someone for something and holding someone accountable for something. On the one side, an 'accountee' (or agent) discharges its accountability by providing information to an 'accountor' (or principal), while on the other side, an 'accountor' gives instructions about the resources' use, monitors, and rewards the actions of an 'accountee' (Gray, Adams, & Owen, 2014, p. 52). Hence, accountability conditions the distribution of power within the corporation as accountors grant certain rights and responsibilities to accountees who govern on their behalf. Subsequently, this dynamic affects the level of democracy within a corporation because the distribution of power affects the distribution of information. Overall, accountability defines the purpose of information and establishes the level of corporate democracy according to the people it considers.

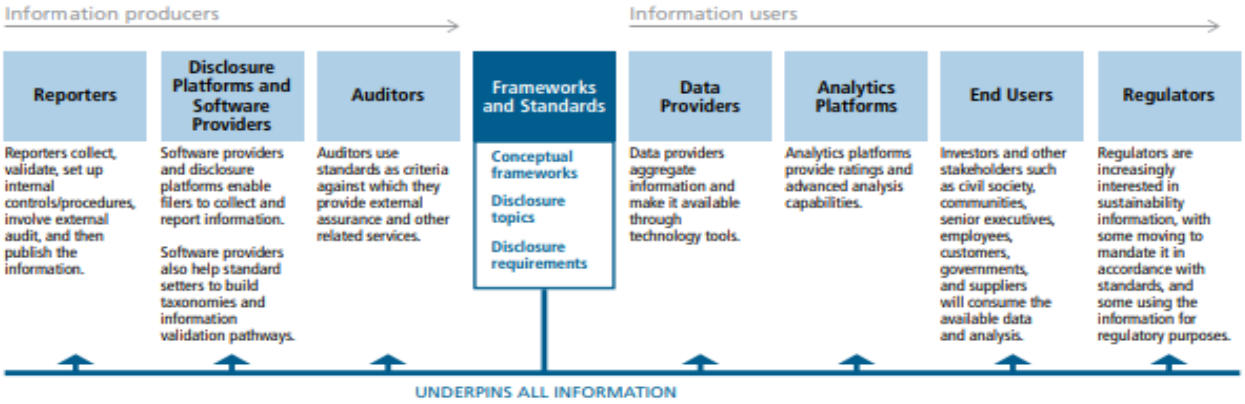
Accountability is part of today's sustainability debate because the changes in society's expectations redefine the responsibilities of companies and question the current state of corporate

democracy (Dillard & Vinnari, 2019). Corporations can be seen as 'vast and complex webs of accountability between peoples and those who govern on their behalf and in their name' (Warren, 2014, p. 39). Accordingly, information flows within organisations must be oriented toward all groups deserving of information. In this way, political theorists advocate for a more participatory corporate democracy that returns power to all individuals, including those supplying resources to companies and those affected by corporate actions (Palazzo & Scherer, 2006; Scherer & Palazzo, 2011). Overall, society's changing accountability requirements are changing the role of accounting.

2.2.2. The place of accounting in the corporate sustainability debate

Demand is currently growing for more non-financial information expressed by different economic actors due to its relevance for decision-making (EU High-Level Expert Group on Sustainable Finance, 2018). Investors increasingly request non-financial information to improve their returns, reduce risk, and contribute to the greater good (SASB, 2021). Moreover, other institutions, such as companies, industry bodies, stock exchanges, or regulators, also request non-financial information for different purposes (SASB, 2021). Hence, this growing demand shapes a new ecosystem for non-financial information. Figure 1 presents this ecosystem: on the left are information producers, composed of reporters, disclosure platforms, software providers, and auditors; on the right are information users, composed of data providers, analytics platforms, end users, and regulators.

Figure 1: The non-financial information ecosystem



Source: SASB FSA Level 1 study guide (SASB, 2021, p. 47).

In this ecosystem, accountants are key because they produce information influencing corporate decisions. Their main power lies in their ability to make things visible or invisible (Hines, 1988; Hopwood, Unerman, & Fries, 2010). Consequently, the push for more non-financial information drives organisational change to better reveal sustainability issues requiring changes in accounting. The tasks of accountants are no longer limited to the traditional activities of bookkeeping, taxation, or financial services because they are in a position to help identify problems and make recommendations affecting the sustainable development of organisations (ACCA, 2021). In addition, accountants can use their skills to support the measurement, management, and communication of non-financial data and its transformation into relevant information (ICAEW, 2021). Thus, accountants are at the heart of the sustainability debate due to their ability to create purpose-oriented information meeting the changing needs of corporations, the economy, and the broader society (Bakker, 2013; Bebbington & Unerman, 2018).

2.3. The challenges surrounding corporate sustainability

The growing recognition that financial and non-financial data should be combined to provide relevant information and contribute to the sustainable development of corporations creates a number of tensions subject to a heated debate. This section aims to review the main points of tension and summarise the current debate on corporate sustainability. The main points discussed will be as follows: Raison d'être (profit vs purpose); temporality (short term vs long term); materiality (single vs double); regulation (principle-based vs rule-based); and integration of sustainability (separation vs combination).

2.3.1. Raison d'être: Profit vs purpose

The first point of tension in the sustainability debate derives from the raison d'être of corporations. Different perspectives on corporations' objectives involve assorted visions of the purpose of accounting information systems and their recipients. On the one hand, some academics argue that the only objective of a corporation is to generate profit for shareholders. Historically, the seminal works of Friedman (1970) and Jensen and Meckling (1976) concluded that the interests of shareholders are the most important elements to consider for corporations. This shareholder view,

also known as ‘shareholder capitalism’, led to the primacy of shareholders as the recipients of accounting information and the organisation of corporate processes, practises, and policies around the idea of shareholder value creation (Davis, 2005). The shareholder view became mainstream in the 1970s with the neoclassical economic theory of the Chicago School of thought and remains dominant today.

On the other hand, some academics support a more socioeconomic objective for corporations combining profit and purpose for all stakeholders. Based on the stakeholder theory (Donaldson & Preston, 1995; Freeman, 1984; Jones, 1995), this approach promotes the consideration of all stakeholders’ interests, as they are crucial for corporate growth and success (Freeman, Harrison, & Wicks, 2007). It posits that stakeholders affected by corporate actions should receive accounting information, and corporate processes, practises, and policies should be organised around stakeholder value creation. Also known as stakeholder capitalism, this vision of corporate purpose is increasingly popular, and society is exerting pressure on corporations to implement its practices (BlackRock, 2018; Business Roundtable, 2019; EY, 2020).

2.3.2. Temporality: Short term vs long term

The second point of tension in the sustainability debate relates to temporality, putting short-term and long-term considerations for business activities in opposition. Short-termism is often defined as ‘the myopic, inefficient focus on short-term gains at the expense of larger losses in the longer term’ (Roe et al., 2021, p. 136). The effects of short-termism have polarised the academic debate. On the one hand, some scholars argue that short-term shareholder value maximisation is insufficient to meet the investors’ information needs and harms other stakeholders in other temporalities (Stout, 2012; Maley, 2014; Supiot, 2017; Belinfanti & Stout, 2018). On the other hand, some scholars have contested this argument, demonstrating that short-termism is not the problem (Fried & Wang, 2021). Instead, they state that the problem comes from corporations’ selfishness and a lack of political action (Roe, 2022). Despite these contradictory arguments on the merits of short-termism, the lack of consideration of other temporalities (i.e., medium- and long-term) is problematic. Some scholars have documented that corporations focusing exclusively on short-term value maximisation might neglect certain risks that can become relevant over time (Hillman & Keim, 2001; Freeman, Harrison, & Wicks, 2007) and may also miss profitable

opportunities (Freeman, Harrison, & Wicks, 2007; Ortiz-De-Mandojana & Bansal, 2016; Flammer & Bansal, 2017).

2.3.3. Materiality: Single vs double

Due to the complexity of this tension point, this sub-section is divided into three main parts. The first aims to define materiality. The second deals with the different perspectives on materiality, and the last presents related controversies.

2.3.3.1. Definition

Although numerous definitions exist (Vance, 2011; Brennan & Gray, 2005; Messier, Martinov-Bennie, & Eilifsen, 2005) and its origins are difficult to trace (Hicks, 1964; Holmes, 1972), materiality is considered as 'any information that might influence the decisions of its (reasonable) users' (Lai, Melloni, & Stacchezzini, 2017, p. 535). The concept is central to accounting because it helps determine key elements of decision-making. It connects information with decision-making by emphasising the importance of given information. Materiality is essential to making information visible or invisible, hence its central place in accounting. Materiality also appears as a 'multidimensional' and 'malleable' concept for which the meaning is shared by its audience and whose definition evolves depending on the circumstances of use (Edgley, 2014, pp. 255-257). In this way, accounting researchers have seen materiality as a social construction (Lai, Melloni, & Stacchezzini, 2017; Eccles, Krzus, & Ribot, 2014). Overall, materiality is about focusing on central decision-making elements. However, the importance of these elements varies depending on the context of their use.

Materiality has been chiefly employed in accounting to report information (Eccles, Krzus, & Ribot, 2014), although the concept can be operationalised to serve as a 'strategic business tool' (KPMG, 2014, p. 3; Kotsantonis & Bufalari, 2019; Beske, Haustein, & Lorson, 2020). In the context of financial reporting, 'information is material if omitting, misstating, or obscuring it could reasonably be expected to influence the decisions that the primary users of general purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity' (IFRS, 2018, p. 2). In the context of non-financial

information, materiality refers to 'those issues that can have significant repercussions on the company (both positive and negative)' (NYU, 2019, p. 2). However, the type of information reported (financial or sustainable) is crucial because different tools and techniques are necessary for different kinds of information (Eccles et al., 2012). While financial reporting uses materiality thresholds to establish the significance of information, this tool cannot be applied in the context of sustainable information due to the nature of the information (mix of qualitative and quantitative data) and its temporality (different time frames considered). Therefore, these different features make reporting non-financial information more complex than traditional financial information.

2.3.3.2. Different perspectives on materiality

Usually, two main types of materiality are used to assess a corporation's most important sustainability factors. The first type is 'financial materiality'. It consists of identifying non-financial information based on its financial impact on the corporation (European Commission, 2019). From this perspective, a corporation perceives its broader environment as a source of risk and opportunity. Its reporting focuses on the impact of sustainability factors on the company and seeks to provide investors with more information on sustainability issues that might affect future corporate activities and outcomes (Abhayawansa, 2022). The second type of materiality is 'environmental and social materiality' or 'impact materiality'. It consists of a company's impact on its broader environment (European Commission, 2019). From this perspective, a corporation reports on the effects of its activities on the environment and society. This second type may also financially impact the corporation (Abhayawansa, 2022). Finally, other types of materiality exist, such as dynamic materiality, extended materiality, or core materiality.[1] However, these different concepts are not considered in this thesis as they have been accused of contributing to the 'materiality madness' by adding unnecessary complications to the main idea of materiality (GRI, 2022, p. 2).

[1] Among these different terminologies, the one of dynamic materiality is the most popular. The evolving nature of sustainability factors implies that materiality is not static and changes over time (Kuh et al., 2020). In this way, dynamic materiality extends the idea of financial materiality to different temporalities and introduces the notion of 'pre-financial information' (GRI, 2022, p. 2). For more information on dynamic materiality, see Eccles (2020), Kuh et al. (2020), World Economic Forum (2020) and GRI (2022).

With the growing demand for more non-financial information, the concept of 'double materiality' has been introduced to make the sustainability impacts of corporations more visible under accounting standards (Täger, 2021). In its guidelines on reporting climate-related information, the European Commission (2019) advocates for combining the financial materiality and socio-environmental materiality perspectives to assess the materiality of information. The term 'double materiality' refers to '(1) materiality in the context of enterprise value creation, and (2) materiality in the context of significant impacts on the economy, environment, and people' (SASB, 2021, p. 66). However, the European Union (EU) guidelines suggest potential interrelations between the two perspectives (Adams et al., 2021). Figure 2 shows the double materiality concept in the context of climate-related information, although this concept is applicable to any other environmental, social, and governance information. As it can be seen, it combines both types of materiality (financial and socio-environmental) to determine the impact of climate on a company and the impact of the company's activities on the climate. This vision opposes the one of 'single materiality', where the only financial impact of climate on a company is considered.

Figure 2: The double materiality concept

Source: European Commission (2019).

2.3.3.3. Controversies

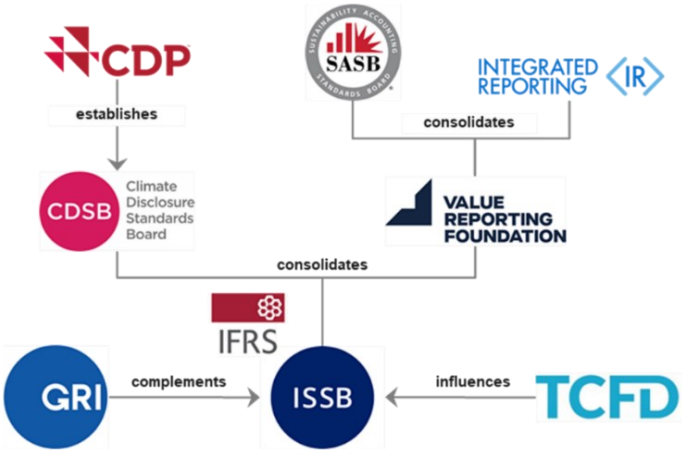
The different perspectives on materiality have generated vivid controversies concerning its determination process and implementation within corporations (Puroila & Mäkelä, 2019). This section presents the main controversy regarding the adoption of a single materiality or a double materiality. While some scholars argue that the use of financial materiality satisfies investors' information needs (Khan, Serafeim, & Yoon, 2016; Schiehll & Kolahgar, 2021), others suggest that double materiality is necessary to fully engage with stakeholders and understand the impact of their organisation on the broader environment (Puroila & Mäkelä, 2019; Adams et al., 2021). In a survey of 39 academic submissions to the International Financial Reporting Standards (IFRS) Foundation for consultation on sustainability reporting, Adams and Mueller (2022a) found that 28 academic submissions were opposed to the IFRS Foundation's proposal of using a single materiality in its sustainability reporting standards, among other key points. The main reasons for critics concern 'the lack of compatibility with the United Nations Sustainable Development Goals (UN SDG), the difficulty to meet investors' information needs, the potential encouragement of short-termism, the omission of negative externalities facilitating greenwashing, and the opposition to the going concern principle' (Adams & Mueller, 2022a, p. 1317). To conclude, defining materiality in the context of non-financial information is subject to debate because it concerns a broader audience and implies different conceptions of what value is (Lai, Melloni, & Stacchezzini, 2017).

2.3.4. Regulation: Principle-based vs rule-based

The fourth tension point of the sustainability debate deals with regulation. Due to the growing needs of various economic actors for more non-financial information, accounting reporting standards play a central role (Barker, Eccles, & Serafeim, 2020). This rising demand has led to a surge of mandatory (rule-based) and voluntary (principle-based) initiatives for sustainability reporting. For example, the regulatory database of Morgan Stanley Capital Investment (MSCI) identified the implementation of only 51 regulations for sustainability reporting in 2010 worldwide, compared to 256 in 2021 (MSCI, 2023). Therefore, the sustainability reporting ecosystem is evolving quickly to provide high-quality sustainability disclosures that meet the information needs of economic agents.

Concerning principle-based initiatives, numerous voluntary initiatives propose guidance on sustainability disclosures. However, there are concerns about their reliability, comparability, and decision-usefulness (Bernow et al., 2019). As a result, in 2020, five main sustainability reporting initiatives (Carbon Disclosure Project – CDP, Climate Disclosure Standards Board – CDSB, Global Reporting Initiative – GRI, International Integrated Reporting Council – IIRC, and Sustainability Accounting Standard Board – SASB) emitted a statement of working together to harmonise their sustainability disclosure standards (Impact Management Project, 2020). Moreover, in 2021, the IFRS Foundation announced at the Conference of the Parties (COP) 26 the creation of the International Sustainability Standards Board, named ISSB (Eccles & Mirchandani, 2022). The ISSB is supposed to 'develop – in the public interest – a comprehensive global baseline of high-quality sustainability disclosure standards to meet investors' information needs' (IFRS, 2021, p. 1). It aims at providing investor-oriented sustainability reporting standards. The ISSB has emerged through the consolidation of the Climate Disclosure Standards Board (CDSB) and the Value Reporting Framework (VRF). This initiative complements the GRI standards and employs the Task Force on Climate-Related Financial Disclosures (TCFD) framework to bring sustainability disclosure standards together. Figure 3 shows the ISSB's proposed framework to unify global sustainability disclosure standards.

Figure 3: ISSB's proposal for sustainability reporting standards unification



Source: Farmer et al. (2022).

Concerning rule-based initiatives, the EU has been at the forefront of sustainability regulation (Ringe & Gözlügöl, 2022). For example, the directive 2014/95/EU for non-financial reporting (NFRD) requires the disclosure of non-financial information to listed companies with more than 500 employees since 2018 (European Commission, 2014). However, the NFRD faced several limitations due to a lack of normalisation (i.e., the process of standardising data to make it comparable across corporations) and the lack of a framework for the quality and presentation of the information disclosed (ANC, 2019). Thus, in 2021, the NFRD has been extended by the Corporate Sustainability Reporting Directive (CSRD). This new rule aims to mitigate NFRD's flaws and extend the requirements to all listed companies with more than 250 employees and a turnover of more than EUR 40 million, or EUR 20 million of total assets (BDO, 2022). At the same time, in 2020, the EU established a taxonomy to classify business activities according to their sustainability characteristics and to create a common language among practitioners (European Commission, 2020). In sum, other regulators have started to take action, such as the US Security and Exchange Commission (SEC) did in March 2022 with its proposal for a set of rules to mandate sustainability disclosures (Aguiar, Bandy, & Woan, 2022).

Although these initiatives share the same recognition that sustainability reporting is crucial to meeting the challenging goals of sustainable development, the reasons for their implementation differ (Christensen, Hail, & Leuz, 2021). On the one hand, voluntary initiatives are, by definition, based on the will of corporations to disclose non-financial information. However, certain concerns have emerged that such standards might not provide all environmental and social information about corporate activities because they might exclude information that portrays them negatively (Giner & Luque-Vílchez, 2022). On the other hand, mandatory initiatives involve the disclosure of non-financial information by law. However, mandating sustainability disclosures can be costly and can restrict corporations' discretion more than voluntary disclosures do (Sundvik, 2019). Nevertheless, given the fragmentation of the voluntary sustainability disclosure ecosystem (despite the efforts of the ISSB), some practitioners are calling for immediate action from regulators to increase transparency, reliability, and comparability of non-financial information (Van Hoorn, 2021).

Additionally, investor-focused and principle-based initiatives (e.g., the ISSB) are controversial for three main reasons. First, they assume that all investors have the same needs,

which is not given (Adams & Mueller, 2022a). Second, they overlap with the work of other initiatives (such as the GRI) adopting an 'all-stakeholders' focus (Adams & Mueller, 2022a). Finally, their legitimacy is questionable as they are privately owned, meaning that their interests might not be those of the general public and might be incompatible with national governments' commitments towards UN sustainable development goals (Adams & Mueller, 2022a). In conclusion, the debate on mandatory versus voluntary regulation is delicate, as some positions in this debate promote the standard-setting processes and ideologies of certain groups of individuals to the detriment of the common good. This sensitive subject has generated a tumultuous conversation in the press and between academics (see Adams & Cho, 2020; Eccles, 2021; Adams & Mueller, 2022b; Eccles, 2022).

2.3.5. Integration of sustainability: Separation vs combination

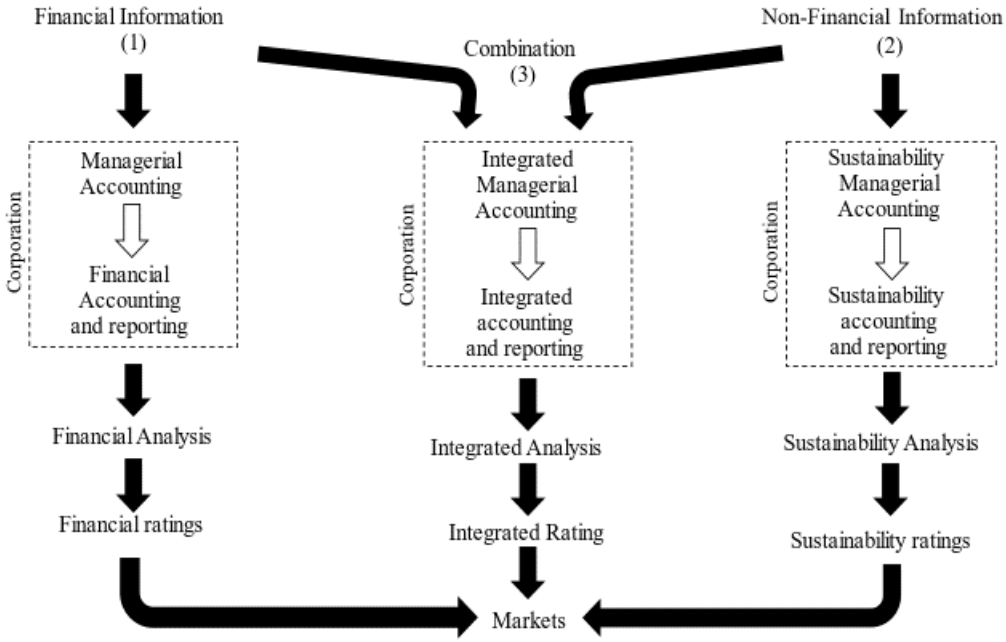
The final point of tension in the sustainability debate concerns the connection between financial and non-financial information. Today, there are different ways to integrate non-financial information, such as through the collection of indicators with sustainability reporting, through the creation of a specific accounting system (e.g., carbon accounting), through a connection between sustainability reporting/accounting and financial reporting/accounting, or through integrated reporting and accounting (Gray, Adams, & Owen, 2014). However, these different approaches might lead to a separation or a combination of financial and non-financial information. Thus, it is important to examine these different approaches to understand their implications for corporations and for society.

First, let us examine the flow of financial information in a business context where non-financial information is absent. Initially, data is transformed into financial information through an internal accounting system within the corporation. Also called 'managerial accounting', this internal accounting system is 'concerned with providing information to managers – that is, people inside an organisation who direct and control its operations' (Seal et al., 2018, p. 3). Then, a second type of accounting system, 'financial accounting', intervenes to report this information in the financial statements of corporations. This type of accounting is external, as the information is prepared through the accounting standards of a given jurisdiction and is 'concerned with providing information to shareholders, creditors, and others who are outside an organisation' (Seal et al.,

2018, p. 3). This information must be interpreted to help economic actors in their decision-making, however, which is the role of financial analysis: it 'examines a company's performance in the context of its industry or economic environment to arrive at a decision or recommendation' (CFA, 2022, p. 1). From this financial analysis, the information will be compiled, summarised, and assessed by rating agencies, who will rate the corporation based on the information given by the financial analysis (IOSCO, 2008). Finally, this financial rating will fuel financial markets and motivate investment decisions. Column (1) of Figure 4 depicts the flow of financial information in a business context where non-financial information is absent. In sum, the role of accounting is central to this process because it fuels financial markets with information about corporations that motivates investment decisions and influences the behaviour of economic actors (Gray, Adams, & Owen, 2014).

Then, non-financial information can be added to the flow of financial information through a disconnected approach. Column (2) of Figure 4 illustrates this approach, showing that sustainability analysis, sustainability accounting, sustainability reporting, and sustainability ratings are added and treated separately from financial information. Although this approach might affect financial markets, it is disconnected from the financial business context of corporations. Consequently, certain problems of non-financial information reliability, comparability, and decision-usefulness can emerge due to a lack of normalisation and assurance of non-financial information compared to financial information (Bernow et al., 2019). Finally, an integrated approach can combine financial and non-financial information flows. Promoted by certain practitioners and scholars, this approach influences the financial business context of corporations by using the same processes, practises, and policies to treat financial and non-financial information, improving their quality (Hallstedt et al., 2010; Crifo & Rebérioux, 2016; EU High-Level Expert Group on Sustainable Finance, 2018). Column (3) of Figure 4 presents this integrated approach. Overall, the integration of sustainability should combine financial and non-financial data into its accounting systems to provide standardised information relevant to all sustainable finance actors.

Figure 4: The different approaches to non-financial information integration



Source: Own adaptation from the introductory training on the challenges of ecological accounting and to the principles and methodological stages of the CARE (Comprehensive Accounting in Respect of Ecology) model. The teaching was administered by Dr Alexandre Rambaud in July 2022 as part of the Ecological Accounting Chair and CERCES joint training.

2.4. Implications for corporate governance

This section discusses the implications of the evolving role of accounting due to the growing expectations for sustainability in corporate governance. With the recognition that no sustainable finance is possible without a more robust accounting base, the challenges concerning the integration of sustainable development in accounting are redefining the issues and challenges of corporate governance. Where accounting is traditionally focused on the collection, management, and communication of information, corporate governance ensures the good flow of this information to decision-makers. In this way, corporate governance systems guarantee accountability to the recipients of this information, giving them power and determining the level of corporate democracy. Thus, corporate governance systems are subjective and political, due to their ability to orient the flow of information towards different recipients.

However, the evolving needs of society for more non-financial information have questioned the construction of current corporate governance systems (Paine & Srinivasan, 2019; EY, 2020). There are suspicions that corporate governance systems traditionally oriented towards shareholders are limited because the control mechanisms in place have not been designed to guarantee CEOs will act in the best interests of the corporation and its stakeholders (Mitchell, Agle, & Wood, 1997; Ayuso et al., 2014; Mason & Simmons, 2014). Some scholars argue that this corporate governance model has been designed to avoid CEOs' self-interest and opportunism while causing minimal interference with shareholder value creation (Dion, 2016). Alternatively, there are suspicions that corporate governance systems oriented toward all stakeholders might be ineffective and have unintended consequences for corporations. Some scholars claim that this corporate governance model fails to attract the attention of CEOs on relevant sustainability issues, increases the insulation of CEOs to market pressures, and delays stakeholder-oriented reforms (Bebchuk & Tallarita, 2020; Roe et al., 2021; Bebchuk & Tallarita, 2022; Walker, 2022). Thus, new corporate governance systems and mechanisms more aligned with the principles of sustainable development are expected.

2.5. Conclusion

This chapter discusses the context of the research. It first presented background information on accounting, discussing the role of accounting information in promoting accountability and corporate democracy and the evolving role of accounting in the current sustainability debate. This chapter next introduced five main points in the sustainability debate and their respective streams of literature. It focused particularly on the raison d'être, the temporality, the materiality, the regulation, and the integration of sustainability. It closed with a discussion of the implications of the sustainability debate on corporate governance.

This chapter demonstrates that corporate governance is embedded in a broader social context. While it shows that corporate governance aims to ensure the good flow of accounting information to decision-makers, the demand for more non-financial information exercises pressure on corporations to change their corporate governance systems to fulfil these new social expectations.

Chapter 3

Literature review

3.1. Introduction

This chapter presents the concepts of corporate governance, CEO compensation, and sustainability. It reviews their definitions, theories, main literature streams, and controversies. Then, it presents the concept of sustainable corporate governance and, finally, summarises three corporate governance mechanisms supposedly aligned with sustainable development.

3.2. Corporate governance, CEO compensation, and sustainability

3.2.1. Corporate governance

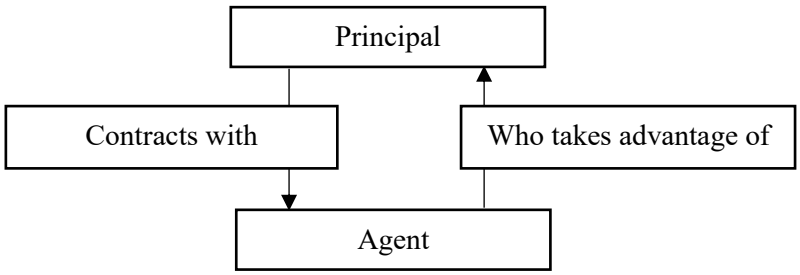
3.2.1.1. Definitions, origins, and theories of corporate governance

Despite the recent popularity of the concept, the need for corporate governance has long been identified, for example by Shakespeare (2000) in *The Merchant of Venice* or by Smith (2022) in *The Wealth of Nations*. It became particularly conspicuous with the arrival of the joint stock and limited liability company, which intensified the possibility of conflicts between investors and CEOs (Cheffins, 2013; Tricker, 2019). For example, the first notable corporate governance conflict can be traced back to the 17th century with the Dutch East India Company. The corporation's lack of appropriate governance precipitated serious agency conflicts involving fraud, misappropriation of funds, and mismanagement, eventually prompting a shareholder revolt (Frentrop, 2019). De Jongh (2011) identifies especially Isaac Le Maire, a controversial businessman and influential shareholder, who drove the shareholder revolt by publicly accusing executives of the Dutch East India Company of being responsible for the losses. The Dutch East India Company is the first modern example of an agency dilemma, which constitutes the main challenge underlying all corporate governance systems (Tricker, 2019).

Corporate governance arises from this agency dilemma by viewing the separation of ownership and control as a source of information asymmetries between a principal and an agent (Berle & Means, 1932). The principal, who hires an agent, must mitigate these information asymmetries due to the agent's self-interested and opportunistic behaviour that might not be in his or her best interests. In so doing, the principal expects the same level of duty and care (fiduciary duty) that he or she would naturally have if the principal represented his or her interests. Consequently, the principal implements various governance policies, practises, and processes to

mitigate the problem of the principal-agent relationship (see Figure 5). Corporate governance can therefore be seen as 'the systems by which companies are directed and controlled' (Cadbury, 1992, p. 15).

Figure 5: The principal-agent relationship



Source: Tricker (2019).

The principal-agent relationship is the basis of the agency theory (Jensen & Meckling, 1976). It mainly concerns with the contractual relationship between shareholders and CEOs, although it can be applied in different contexts. Under the agency theory lens, shareholders contract with CEOs to ensure that their interests are maximised. In this way, corporate governance systems are implemented to better align the interests of shareholders with those of CEOs and minimise the agency dilemma (Shleifer & Vishny, 1997). The agency theory was popularised via a conference on 'Managerial Compensation and the Managerial Labor Market' at the University of Rochester in 1984, where it became widely accepted in the academic community (Murphy, 1999). This view of corporate governance is also shared by practitioners. It was, for instance, popularised in the early 1980s by Jack Welch, the former CEO of General Electric, and his popular speech on shareholder value maximisation (Guerrera, 2009). Consequently, through the lens of the agency theory, corporate governance can be deemed 'the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment' (Shleifer & Vishny, 1997, p. 737).

Closely related to the agency theory is the transaction cost economics (TCE) theory of Williamson (1975, 1984), which views the corporation as a governance structure (Mallin, 2019). Derived from the seminal work of Coase (1937), the TCE theory focuses on selecting appropriate

governance mechanisms that reduce costs associated with contracting (Williamson, 2008). It posits that choosing corporate governance structures helps align the interests of shareholders and CEOs (Williamson, 2008).

Drawing on the assumptions of the agency and TCE theories, the stewardship theory assumes a different position on corporate governance that aligns with the original legal view on the nature and purpose of corporations (Tricker, 2019). It supposes that shareholders hire CEOs to protect their interests, and in exchange, they agree to be stewards of their interests (Donaldson & Davis, 1991). Unlike the agency and TCE theories, CEOs are not necessarily seen as self-interested and opportunistic. Instead, they can act responsibly, and the governance structures are implemented to empower them and facilitate coordination within the corporation (Davis, Schoorman, & Donaldson, 1997).

The resource dependency theory takes a more strategic approach to corporate governance by viewing 'the governing bodies of a corporation as the linchpin between the company and the resources needed to achieve its objectives' (Tricker, 2019, p. 73). It focuses on power relationships where directors are seen as individuals able to connect the company to its environment through their networks (Pfeffer & Salancik, 2003). This emphasis enables corporations to access various resources crucial for their long-term success, such as customers, competitors, technologies, financial capital, and politicians.

Alternatively, the managerial and class hegemony theories posit that managers consider themselves elite groups and hold significant power in corporations that can affect the functioning of the board of directors (Mallin, 2019). Managerial hegemony refers to managers who may dominate the board of directors through their knowledge of the daily company's operations, while class hegemony refers to individuals at the top of companies who may perceive themselves as an elite group and may make decisions in the interests of this group (Tricker, 2019). The theories are often employed to explain the difference between what a board of directors should do and what it is doing in practice (Mallin, 2019).

These five different perspectives on corporate governance adopt a view at the level of the firm; however, there are other perspectives at the socio-cultural level that have greatly contributed to its development (Tricker, 2019). First, the stakeholder theory challenges the economic perspective on corporate governance promoted by the agency theory (Donaldson & Preston, 1995;

Freeman, 1984; Jones, 1995). It states that corporations should create value for all stakeholders, not just shareholders (Freeman, Harrison, & Wicks, 2007). The term 'stakeholders' refers to any constituents who have a legitimate claim into the corporation (Freeman, 1984). Under the stakeholder theory lens, corporate governance systems are implemented to ensure that CEOs are accountable to all legitimate stakeholders (Ayuso et al., 2014). Therefore, this socioeconomic perspective contrasts previous views on corporate governance, which can now be seen as 'the process by which corporations are made responsible for the rights and wishes of stakeholders' (Demb & Neubauer, 1992, p. 9).

Then, the institutional theory provides a different approach to corporate governance by focusing on the way cultural norms and values have an impact on the decision-making and the design of various actors (DiMaggio & Powell, 1983). Applied at the organisational level, the institutional environment of a corporation influences its behaviour, its practises, and its governing structures (Berthod, 2016). In other words, the institutional theory explains the tendencies of corporations to conform to the norms in which they are embedded.

Next, the political theory examines the governance of corporations through the lens of political ideologies, structures, and processes (Roe, 2006). It focuses on the influence of governments, stakeholders, and political processes on corporate ownership and governance practises (Roe & Vatiero, 2015). Similar to the stakeholder and institutional theories, the political theory not only encompasses purely economic considerations, but also social, ethical, and political dimensions.

Although not an exhaustive review, this section has presented prominent perspectives elaborating corporate governance (Mallin, 2019). Corporate governance is a multi-disciplinary field with many theoretical perspectives coming from economics, law, accounting, organisation studies, sociology, politics, and philosophy (Solomon, 2020). For example, Guiso, Sapienza, and Zingales (2015) also highlight the important role of culture in shaping corporate governance structures. This myriad of theoretical lenses illuminates different facets of corporate governance while leaving others in the dark. Some researchers have argued that the field is seeking a new paradigm, and they advocate for a more comprehensive theory of corporate governance (Tricker, 2019).

3.2.1.2. Different corporate governance models and controversies

In the following sections, this thesis will focus mainly on the agency and stakeholder theories, as they constitute the basis of the two main models of corporate governance, namely the shareholder-centric and stakeholder-centric models (Charreaux & Desbrières, 2001). This section examines the strengths and weaknesses of these two models.

First, the shareholder-centric corporate governance model concerns the alignment of interests between CEOs and shareholders. Based on the agency theory, this pure economic view of corporate governance 'deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment' (Shleifer & Vishny, 1997, p. 737). The shareholder-centric model posits that the responsibility of a corporation is to make profits and maximise returns to shareholders (Friedman, 1970). It implies that all the systems by which a corporation is directed and controlled should espouse the sole economic objective of the corporation. Thus, the absence or malfunction of shareholder-centric corporate governance systems is seen as detrimental to shareholders, as CEOs may then fail to act in shareholders' best interests, harming their profits (Bebchuk & Fried, 2004).

Second, the stakeholder-centric corporate governance model is concerned with the inclusion of other groups of constituents impacted by the corporation's activities, called stakeholders, who have legitimate claims about the way corporations are directed and controlled (Mallin, 2019). Based on the stakeholder theory (Donaldson & Preston, 1995; Freeman, 1984; Jones, 1995), this corporate governance model consists of 'a collection of control mechanisms that an organisation adopts to prevent or dissuade potentially self-interested managers from engaging in activities detrimental to the welfare of shareholders and other stakeholders' (Larcker & Tayan, 2011, p. 8). This view of corporate governance extends the sole economic objective of shareholder value maximisation to a more socioeconomic one, promoting accountability and responsibility towards a broader range of stakeholders (Ayuso et al., 2014). Thus, the stakeholder-centric governance model ensures that CEOs maximise the interests of all stakeholders, not only those of shareholders.

Nevertheless, a theoretical contest is underway in academia regarding the selection of the best corporate governance models, due to their divergences in temporality, to negative externalities or impact, and to distributional concerns among stakeholders (Roe et al., 2021). Although the

shareholder-centric corporate governance model produces effective governance mechanisms that protect shareholder financial interests and try to limit the self-interested behaviours of CEOs, their implementation might pose problems due to the lack of orientation on other stakeholders (Hong, Li, & Minor, 2016; Flammer, Hong, & Minor, 2019; Cavaco, Crifo, & Guidoux, 2020). For example, some scholars argue that the shareholder-centric corporate governance model narrows the quest of shareholders' interests to the maximisation of profits in the short term, which may undermine the welfare of all other stakeholders in other temporalities (Stout, 2012; Maley, 2014; Supiot, 2017; Belinfanti & Stout, 2018). Alternatively, the stakeholder-centric corporate governance model produces governance mechanisms oriented towards all stakeholders, but their implementation might pose effectiveness problems (Berrone & Gomez-Mejia, 2009; Kolk & Perego, 2014; Haque & Ntim, 2020). For example, law and economics scholars assert that stakeholder-centric corporate governance is problematic because it may isolate CEOs from market pressures, attract their attention to irrelevant ESG issues, and delay stakeholder-oriented reforms (Bebchuk & Tallarita, 2020; Roe et al., 2021; Bebchuk & Tallarita, 2022; Walker, 2022). Overall, the debate on the selection of appropriate corporate governance models has important implications for corporations, as it influences the effectiveness and orientation of the mechanisms overseeing CEOs' behaviours.

3.2.2. CEO compensation

3.2.2.1. Background, level, and structure of CEO compensation

The CEO compensation package is the most common corporate governance tool to align the interests of principals and agents (Jensen & Meckling, 1976; Holmstrom, 1979). CEOs have a central role in the corporation due to their significant influences on employees and impact on corporate outcomes (Peters & Romi, 2015). Their main activities consist of running day-to-day business operations and leading the corporation. In this manner, compensation packages are designed to attract, retain, and motivate CEOs to act in line with their corporations' strategy and risk appetite (Frydman & Jenter, 2010). They are also designed to dissuade them from engaging in actions not in the corporation's best interests (Edmans, Gabaix, & Jenter, 2017). The remuneration committee sets CEO compensation packages, which make recommendations to be approved by the board of directors (Tricker, 2019). The remuneration committee comprises independent directors

linked to the neither corporation nor the executive team, thereby avoiding conflicts of interest (Tricker, 2019). They often receive advice from specialist compensation consultants when they design compensation packages (Murphy & Sandino, 2020).

The academic literature on CEO compensation has been prolific over the past four decades due to the increasing level of CEO compensation in the US. Edmans, Gabaix, and Jenter (2017) state that CEO compensation multiplied by six from 1980 to 2014. By contrast, the Economic Policy Institute, a US think tank specialising in economic and policy research, argues that CEO compensation has been multiplied by nine from 1978 to 2018 (Baker, Bivens, & Schieder, 2019). The rise of CEO compensation has been accompanied by a modification of its structure. Indeed, much of the debate focuses on how much CEOs are paid. Nevertheless, some scholars have argued that it is how the CEOs are paid that matters (Jensen & Murphy, 1990a; Bebchuk & Grinstein, 2005). While CEO compensation packages are traditionally composed of four components: a salary, an annual bonus, stock options, and a long-term incentive plan (Murphy, 1999), this structure might vary depending on the firm's characteristics and sectors (Maas, 2018).

The academic literature on CEO compensation has widely covered the shift in CEO compensation structure from cash-based to stock options-based (Frydman & Jenter, 2010; Edmans, Gabaix, & Jenter, 2017). The rationale behind this shift is to provide compensation packages that better incentivise and reward CEOs for the performance achieved. These performance-based compensation packages are supposed to improve the alignment of interests between principals and agents (Jensen & Murphy, 1990b). However, the evolution of the CEO compensation structure is suspected to have driven the increased pay disparity between CEOs and employees over the past decades. According to the Economic Policy Institute, pay gaps between CEOs and average workers have risen from 20:1 in the 1960s to 278:1 in 2018 for the largest 350 US companies (Mishel & Wolfe, 2019).

Overall, CEO compensation packages have important implications for society as they affect the perception of income inequality. They induce socio-political tensions and a high engagement from investors and civil society (Grewal, Serafeim, & Yoon, 2016). For some scholars, the changes in CEO compensation follow the recognition that the market for managerial talent is not optimal due to CEOs' ability to manipulate their compensation contracts and extract rents (Bebchuk, Fried, & Walker, 2002). This approach sees CEO compensation packages as a source of agency problems,

contrasting with the optimal contracting theory (Bebchuk & Fried, 2003). In sum, CEO compensation is subject to intense academic debate concerning its appropriate design (Frydman & Jenter, 2010).

3.2.2.2. Theories on CEO compensation

This sub-section presents the main theories on CEO compensation: optimal contracting, and managerial power, and rent extraction theories. It then presents symbolic theories, namely relative deprivation and tournament theories. Finally, it briefly summarises other theories and approaches frequently used in the CEO compensation literature.

First, the optimal contracting theory posits that principals delegate tasks to agents who might take advantage of their positions to maximise their own interests (Jensen & Meckling, 1976). A solution to this problem is to design a compensation contract aligning the interests of agents with those of principals (Eisenhardt, 1989). In this way, optimal compensation contracts are designed to incentivise agents to act in the principal's best interests and to reward them depending on their success. A compensation contract is optimal when it respects three principles (Berrone & Gomez-Mejia, 2009): The first principle is informativeness, which is concerned with selecting performance measures to reflect the agent's contribution (Holmstrom, 1979). The second principle is risk-bearing, dealing with the potential costs arising from the agent's attempt to reach performance targets (Bloom & Milkovich, 1998; Miller, Wiseman, & Gomez-Mejia, 2002). Finally, the last principle is controllability, which refers to the agent's influence over a specific performance target (Antle & Demski, 1988). These three principles for optimal contracting are supposed to mitigate agency costs. This view of compensation contracts is the dominant paradigm in the current academic research on CEO compensation.

However, Bebchuk, Fried, and Walker (2002) have developed an alternative view to the optimal contracting theory, namely the managerial power and rent extraction theory. This theory posits that agents exercise power to set their own compensation and extract rents without attracting outsiders' intervention (Weisbach, 2007). This approach sees CEO compensation as an outcome of power relationships between agents and principals, where CEOs might affect their compensation design to maximise their profits (Bebchuk & Fried, 2003). The managerial power and rent extraction theory has two main components: outrage and camouflage. First, the perception of

outsiders on CEO compensation determines the 'acceptable' level of rent that the CEO can take. This outrage caused by rent extraction limits the amount of rent extracted. Then, the camouflage intervenes to dissimulate or minimise the outrage caused by the rent extraction. CEOs have incentives to use discretion to hide their rent extractions. The concept of discretion is crucial in this theory because it is through activities difficult to value and an entrenched position that powerful CEOs can extract rents. This view on compensation contracts has gained popularity over the past two decades, fuelled by scandals of excessive CEO compensation and corporate governance failures.

Next, another set of theories has tried to explain the design of CEO compensation using a symbolic approach. For Otten (2007), these theories address the merits of CEO compensation. This thesis focuses on two main social comparison theories: relative deprivation and tournament theories. First, the relative deprivation theory (Martin, 1981; Crosby, 1984; Fehr & Schmidt, 1999; Bolton & Ockenfels, 2000) suggests that certain individuals might experience a feeling of deprivation due to the comparison of their compensation with that of a reference group or individual. Supporters of the relative deprivation theory maintain that a feeling of deprivation impacts the perception of fairness and lowers productivity (Trevor, Reilly, & Gerhart, 2012). Second, the tournament theory (Lazear & Rosen, 1981) posits that compensation is the outcome of an internal competition to reach the top of the company. CEOs are the ultimate winners of this competition, and their compensation levels reflect the intensity of the competition and demonstrate their superior abilities and skills for the position. In this way, pay is seen as a prize reflecting the outcome of a given tournament (O'Reilly, Main, & Crystal, 1988). Supporters of the tournament theory argue that compensation and pay dispersions are fundamental mechanisms to stir up employees' taste of effort and increase their productivity (Henderson & Fredrickson, 2001).

Finally, other theories have tried to explain the design of CEO compensation. This is, for example, the case of theories adopting a value approach, such as Roberts' marginal productivity theory (1956). These theoretical approaches concern the amount of CEOs compensation (Otten, 2007). In addition to these different sets of theories, Edmans, Gabaix, and Jenter (2017) state that legal and institutional factors also influence the design of CEO compensation. This approach supposes that changes in regulation, taxation, and accounting standards drive CEO compensation.

Overall, this sub-section has covered major theories on the concept of CEO compensation. However, these different theoretical views have led to controversies on CEO compensation.

3.2.2.3. Controversies on CEO compensation

CEO compensation is a salient and complex topic that has generated a heated academic debate on its determinants and effects (Murphy, 2013). For Mallin (2019, p. 237), today's debate on CEO compensation 'focuses on four areas related to (i) the overall level of directors' remuneration and the role of share options, (ii) the suitability of performance measures linking directors' remuneration with performance, (iii) the role played by the remuneration committee in the setting of directors' remuneration, (iv) the influence that shareholders are able to exercise on directors' remuneration'. However, in addition to these four traditional topics on CEO compensation, a fifth one can be added concerning its alignment with corporate sustainability (Hong, Li, & Minor, 2016). As the importance of CSR in contributing to sustainable development grows, there is an increasing recognition that CEOs should be encouraged to consider the interests of various stakeholders, not just shareholders, as well as sustainability-related matters, not only economic matters (Gond et al., 2012; Arjaliès & Mundy, 2013; Maas & Rosendaal, 2016). Consequently, the provision of appropriate incentives to CEOs to pursue non-financial goals has become a pressing issue (Gabel & Sinclair-Desgagné, 1993). In this way, a nascent stream of academic literature on CEO compensation has emerged to explore the determinants and effects of more sustainability-oriented CEO compensation, also called CSR contracting (Winschel & Stawinoga, 2019, for a literature review). In sum, a growing area of today's debate on CEO compensation practises focuses on the suitability of incentive mechanisms to promote sustainable corporate governance - that is, a corporate governance model more aligned with the principles of sustainable development.

3.2.3. Sustainability

3.2.3.1. Overview of sustainable development

With the growing recognition that corporations are not only responsible for maximising profits, sustainable development has become an important topic in corporate governance and CEO compensation (Tricker, 2019). Although this concept appeared in the 1970s, its origins can be traced back to the 19th century in the forestry management literature (Wiersum, 1995). Sustainable

development is based on the understanding that 'current modes of behaviour – especially in the developed world – are un-sustainable and therefore threaten current and future ways of life' (Gray, Adams, & Owen, 2014, p. 47). It is commonly described as a 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission for Environment and Development, 1987, p. 43). Sustainable development is a system-level concept based on three pillars related to economic prosperity, environmental integrity, and social equity (Elkington, 1997; Bansal, 2005). Consequently, a development is considered sustainable only if it considers all three pillars, as each, alone is insufficient (Gladwin, Kennelly, & Krause, 1995).

The definition of the World Commission for Environment and Development (1987), also called the Brundtland Commission, contains two fundamental notions that shape the concept of sustainable development (Arjaliès & Mundy, 2013). First, the notion of 'needs' refers to the inclusion of all present and future constituents. Second, the notion of 'limitations' introduces the idea of technological, societal, and environmental constraints to meet the needs of these constituents. As a result, sustainability is seen as a 'state of relationships' between constituents and sustainable development as 'a move towards that state' (Gray, 2010, p. 53 in Arjaliès & Mundy, 2013, p. 286). Sustainable development can therefore be considered a process by which to achieve sustainability (Lozano, 2008). In addition to the notions of 'needs' and 'limitations', the notion of time is central. The concept of sustainable development contains an intergenerational equity component that requires consideration of the effect of today's decisions on different temporalities (Bansal & DesJardine, 2014). In sum, sustainable development aims to create value for all stakeholders in different temporalities by simultaneously considering the environmental, social, and economic pillars.

Although the UN institutionalised sustainable development in 1992 to address the grand challenges of our time, the concept remains under debate today, due to its vagueness (Redclift, 2005). To clarify the concept, researchers have considered the notions of 'weak' and 'strong' sustainability (Davidson, 2014). While weak sustainability proponents argue that our current sustainability problems are not 'critical' or 'irreversible', strong sustainability supporters recommend a 'fundamental re-thinks of our ways of organising' (Gray, Adams, & Owen, 2014, p. 225). In addition, the notions of 'weak' and 'strong' sustainability also imply different views of

nature and human relationships, different objectives, temporalities, processes, participants, and interpretations of economic development (see Bebbington, 2001, for a detailed review). Although the 'weak' sustainability approach is dominant today among governments and corporations, scholars advocate for developing a 'strong' sustainability (Gladwin, Kennelly, & Krause, 1995; Ott, 2003). Overall, the main points of the debate on sustainable development mainly relate to the degree of change required to reach sustainability.

3.2.3.2. Corporations and sustainable development

Corporate sustainability is the application of sustainable development at the corporate level. Although academics and practitioners increasingly use the concept, few authors have comprehensively defined corporate sustainability (Hahn & Figge, 2011). Among them, Dyllick and Hockerts (2002, p. 131) define corporate sustainability as 'meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities), without compromising its ability to meet the needs of future stakeholders as well'. Adopted in this thesis, this definition can encompass the different perspectives of corporate sustainability at the societal (macro) and individual (micro) levels. The macro-level perspective views society as the aim of sustainable development, while the micro-level perspective sees the corporation's survival and growth as the aim (Hahn & Figge, 2011). For Bansal and DesJardine (2014, p. 71), a societal-level perspective is more relevant because corporations are 'systems nested within larger macro-systems'. Thus, this broader perspective better captures the interactions between society and corporations that are central to the application of sustainable development at the corporate level (Hahn et al., 2010).

Corporate sustainability is a multidimensional concept focusing on the economic, environmental, and social impacts of corporations. It became mainstream with the Triple Bottom Line accounting framework (Elkington, 1997). Under this approach, corporate sustainability is concerned with the preservation and enhancement of three different types of capital: economic, environmental, and social (Elkington, 1997). Dyllick and Hockerts (2002) distinguish six conditions to ensure corporate sustainability. The first two conditions (eco-efficiency and socio-efficiency) are concerned with the maximisation (minimisation) of positive (negative)

environmental and social impacts to add economic value (Schaltegger, Beckmann, & Hansen, 2013). Then, the second two conditions are eco-effectiveness and socio-effectiveness, which are concerned with the desirability of corporations' activities for the environment and society (Young & Tilley, 2006). The fifth condition is ecological equity, concerning equal access to environmental resources between people and generations (Young & Tilley, 2006). The final condition is sufficiency, concerned with the 'achievement of economic objectives consistent with the principles of right livelihood, ensuring the preservation of the natural environment and the welfare of each individual and the society-at-large' (Lamberton, 2005). These two ecological and social conditions are necessary to establish socioeconomic justice (Schaltegger, Beckmann, & Hansen, 2013). Overall, the combination of these six conditions is supposed to guarantee economic prosperity, environmental integrity, and social equity (Dyllick & Hockerts, 2002).

Nevertheless, corporate sustainability has been subject to controversy related to the substitutability of the different types of capital, their irreversibility, and non-linearity (Dyllick & Hockerts, 2002). For example, while the dominant model of corporate sustainability (i.e., the Triple Bottom Line) is nowadays widely used by academics and practitioners (Amini & Bienstock, 2014), it has been variously criticised due to its emphasis on economic outcomes at the expense of environmental integrity and social equity (Rambaud & Richard, 2015). Proponents of a strong form of sustainability argue that the different types of capital are not substitutable for each other without degradation, highlighting the irreversible and nonlinear characteristics of environmental capital and social capital (Hahn & Figge, 2011). Therefore, corporate sustainability must consider the three types of capital complementarily, dealing with potential trade-offs while avoiding the dominance of one type of capital over the others. Accordingly, some authors have proposed viewing corporate sustainability through the paradox theory to 'accommodate interrelated yet conflicting economic, environmental, and social concerns to achieve superior business contributions to sustainable development' (Hahn et al., 2018, p. 237).

3.2.3.3. Corporate social responsibility and sustainability

The modern conceptualisation of CSR appeared in the 1950s with the seminal book by Bowen (1953) on the social responsibilities of the businessman. However, its roots traced back to the

nineteenth century and the Industrial Revolution, when the concept was described as business ethics, philanthropy, public service, trusteeship, or stewardship (Gond & Moon, 2011). At the time, business leaders were the main contributors, through their property holdings, to socially responsible practises to protect and improve the welfare of society (Carroll, 2008). For example, Andrew Carnegie, a notable industrialist and philanthropist, published the *Gospel of Wealth* in 1899 to promote his thinking on how private wealth should be employed to benefit the broader society (Wulfson, 2001). After the 1950s, social responsibility became essential to business success, and terms such as 'business responsibilities' or 'businessmen's social responsibilities' appeared (Carroll, 1999). Social responsibility was then defined as 'the obligations of businessman to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society' (Bowen, 1953, p. 6). More formal definitions of CSR emerged in the 1960s and proliferated in the 1970s, and alternative definitions and concepts were proposed in the 1980s, such as corporate social responsiveness, corporate social performance, and stakeholder theory (Carroll, 2008). In the 1990s, the theoretical success of the stakeholder theory served as a fertile ground for the continuation of the development of alternative concepts to CSR, such as corporate citizenship, sustainable development, or the triple bottom line (Gond & Moon, 2011). Finally, from the early 2000s to current times, new stakeholder-oriented and socially conscious concepts have emerged, such as corporate stakeholder responsibility and political CSR, and others have become an integral part of all CSR discussions, such as sustainable development (Carroll & Shabana, 2010).

The evolution of CSR is complex and controversial, which explains why there is today a lack of consensus on how to define it precisely (Carroll, 1999; Garriga & Melé, 2004; Gond & Moon, 2011). Consequently, assorted definitions capture the different meanings of CSR. For example, Dahlsrud (2008) identified and analysed 37 different definitions of CSR (Carroll, 2016). Nevertheless, although these definitions might appear contradictory or overlapping, they share the same objective: to explain the role of corporations in society. Given this confusion, Carroll (1979, 1991, 2016) made a significant contribution to the field of CSR by developing a four-part definitional framework, modelled in the form of a pyramid, to delineate the responsibilities of corporations in society. Carroll (2016, p. 2) argues that these responsibilities 'encompass the economic, legal, ethical, and discretionally (philanthropic) expectations that society has of organisations at a given point in time'. Thus, this study defines CSR as 'the integration of an

enterprise's social, environmental, ethical, and philanthropic responsibilities towards society into its operations, processes, and core business strategy in cooperation with relevant stakeholders (Rasche, Morsing, & Moon, 2017, p. 483). This definition is preferred because it accounts for what CSR is genuinely about: ethical and discretionary (philanthropic) responsibilities.

CSR and corporate sustainability seem to converge (Valente, 2017). However, the two terms are distinct and cannot be used interchangeably (Gray, Adams, & Owen, 2014). On the one hand, CSR is a normative concept based on principles of ethics and morality, where corporations concern themselves with the acceptability of their operations and the creation of a shared value with the broader society (McWilliams & Siegel, 2001). On the other hand, corporate sustainability is a multidimensional concept based on three pillars: economic prosperity, environmental integrity, and social equity (Elkington, 1997; Bansal, 2005). Corporate sustainability appears as a broader concept emphasising how changes in an individual corporation connect and contribute to systemic change (Montiel, 2008). In this way, some scholars argue that CSR is limited, as it does not necessarily address the full range of contemporary sustainability challenges that corporations face, whereas corporate sustainability appears more relevant due to its capacity to translate all these challenges to a scale suitable to corporations (Bansal & DesJardine, 2014). Nevertheless, corporate sustainability and CSR are not opposed, as both aim to positively impact society. This thesis considers the two terms to be complementary, viewing CSR as a contribution of corporations to sustainable development (Rasche, Morsing, & Moon, 2017).

3.3. Sustainable corporate governance

Research on sustainable governance highlights the importance of human institutions in governing shared resources and promoting the principles of sustainable development (Dietz, Ostrom, & Stern, 2003; Biermann et al., 2012). Although relatively new, this field gained prominence due to the increasing public awareness of environmental and social issues, regulatory changes, and the growing demand from stakeholders for more responsible business practises (Hobbs, 2023). Sustainable governance research occurs mainly at the corporate and macro levels, which invites further studies at the individual level (Cardoni & Kiseleva, 2023). The term 'sustainable corporate governance then describes the application of sustainable governance in the corporate context; still,

despite its use in varied contexts, a generally accepted definition remains absent (Goergen & Tonks, 2019; Cardoni, Kiseleva, & Lombardi, 2020; EY, 2020; Goergen, 2022; Kavadis & Thomsen, 2023). Nevertheless, most authors seem to agree that sustainable corporate governance regards aligning shareholders' interests with diverse stakeholders' needs, embracing a holistic perspective that balances short- and long-term objectives and fostering value creation for and with stakeholders (Cardoni, Kiseleva, & Lombardi, 2020).

Accounting crucially advances sustainable corporate governance by providing all stakeholders with valuable information on corporations' impacts on sustainable development (Rinaldi, 2019). The distribution of this information empowers stakeholders to make informed decisions and to consider the broader implications of corporations' activities on the environment and society (Gray, Adams, & Owens, 2014). In other words, the integration of financial and non-financial data into accounting frameworks not only offers stakeholders a voice in resource allocation, but also ensures corporations are held accountable for their actions. By establishing more robust accountability relationships to prevent harm to the planet, society, and future generations, the practice of accounting for sustainability challenges existing norms and aspires to transform corporate governance (Bebbington, 2001). In summary, sustainability accounting emphasizes the necessity for corporate governance to address the environmental and social challenges arising from contemporary economic systems.

Nevertheless, the current corporate governance academic debate remains polarised around two competing models: the shareholder-centric and the stakeholder-centric models (Crifo & Rebérioux, 2016). Each has strengths, but both face serious limitations in meeting all stakeholders' needs, including those of shareholders (Goergen, 2022). In this way, recent initiatives have been made to go beyond these two models. For example, Karpoff (2021) proposes to use the shareholder-centric model by default and the stakeholder-centric model in limited circumstances when the impact on stakeholders is substantial. Although commendable, this approach is ineffective because it disconnects the financial and non-financial business contexts, leaves too much discretion for CEOs, and does not push them to reform how corporations are directed and controlled. Moreover, this approach can be seen as a weak form of sustainable development, placing economics over environmental and social priorities. Instead, an integrated approach to corporate governance that combines the strengths of the shareholder model (associated with economic development) and

those of the stakeholder model (associated with environmental and social development) seems more appropriate to meet stakeholders' needs and sustainable development requirements (Crifo & Rebérioux, 2016; Goergen, 2022).

Certain theoretical developments in the corporate governance literature appear relevant to the proposal of a more integrated corporate governance model aligned with sustainability. First, the enlightened shareholder theory of Jensen (2001) recognises the primacy of shareholder value but also acknowledges that considering other stakeholders' interests is crucial to corporate success. This theory is an extension of the agency theory of Jensen and Meckling (1976) that aims to address the criticisms and limitations of shareholder value maximisation. This more nuanced approach emphasises the importance of adopting a long-term perspective and the implementation of effective corporate governance mechanisms to align the interests of corporate leaders with those of shareholders and other stakeholders. Second, the stakeholder-agency of Hill and Jones (1992) sees corporations as having a responsibility not only to shareholders but also to a broader set of stakeholders who can influence, or are influenced, by the activities of a corporation. This theory recognises the existence of agency relationships within a corporation but uses the principal-agent relationship as a framework whereby the principal comprises shareholders and diverse stakeholders. The theory emphasises balancing shareholders' interests with those of other stakeholders, encourages corporations to identify and address the latter's needs and concerns. The stakeholder-agency theory advocates for the implementation of effective corporate governance mechanisms oriented toward both shareholders' and stakeholders' interests.

The enlightened shareholder theory and the stakeholder-agency theory try to reconcile the two traditional views of corporate governance by mitigating their limitations. Both emphasise the importance of ethical behaviour and responsible business practises in corporate governance and decision-making. Moreover, they recognise that corporations must consider stakeholders beyond shareholders and affirm long-term value creation. However, they differ severally. The enlightened shareholder theory aims to maximise shareholder value while recognising the importance of other stakeholders. Although it acknowledges the importance of responsible practises, it places a greater emphasis on financial performance. In this manner, the corporate governance mechanisms implemented must be effective to protect, in priority, the interests of shareholders, but they are not necessarily oriented to protect other stakeholders' interests. This theory views sustainability

through a weak lens, as it may favour the substitution of resources, their optimisation, economic growth, and technological innovation to solve resource scarcity. In contrast, the stakeholder-agency theory aims to balance the interests of shareholders against those of assorted stakeholders without giving precedence to shareholder value maximisation. It adopts a broader social responsibility considering the activities of corporations in the environment and society. Under this theoretical lens, corporate governance mechanisms must be effective and oriented toward all shareholders and stakeholders to protect their respective interests. The stakeholder-agency theory seems compatible with a strong form of sustainability, as it highlights the non-substitutability and irreversibility of resources; the interconnections between the economy, the environment, society, and future generations; and the limits to growth. Table 1 summarises the similarities and differences between the two integrated corporate governance theories, namely the enlightened shareholder value theory and the stakeholder-agency theory.

Table 1: Comparison of the enlightened shareholder theory and stakeholder-agency theory

	Enlightened shareholder theory	**Stakeholder-agency theory**
Objective	Maximise shareholder value while recognising the importance of other stakeholders.	Balance the interests of shareholders with those of other stakeholders without giving precedence to shareholder value maximisation.
Ethical considerations	Both theories acknowledge the importance of ethical behaviour and responsible business practices.	
Social responsibility	Importance of responsible business practices but greater emphasis on financial performance.	Broader social responsibility and consideration of the impact of corporate activities on the environment and society.
Recognition of stakeholders	Both theories acknowledge the existence of shareholders beyond just shareholders.	
Stakeholder consideration	Consideration of stakeholders but the primary aim is to align interests with those of shareholders.	Strong emphasis on actively managing relationships with a wide range of stakeholders and addressing their needs and concerns.
Emphasis on long-term value	Both theories aim to enhance long-term value creation in corporate decision-making and practices.	
Corporate governance	Effective mechanisms primarily implemented to protect shareholder interests.	Implementation of effective mechanisms oriented on shareholders' and stakeholders' interests.
Integration of sustainability	Substitutability, optimisation of resource use, economic growth, technological innovation.	Non-substitutability, irreversibility, the interconnections between the economy, the environment, society, and future generations, and limits to growth.

Based on Table 1, the stakeholder-agency theory (Hill & Jones, 1992) appears to be a good candidate to integrate sustainability into corporate governance as it combines the agency theory and the stakeholder theory to establish a new paradigm based on a strong form of sustainability whereby CEOs (the agent) should act in the best interests of all legitimate stakeholders (the principals). The stakeholder-agency theory extends the traditional contractual relationships between CEOs and shareholders, as proposed by the economic perspective of the agency theory (Jensen & Meckling, 1976), to a series of explicit and implicit contractual relationships between CEOs and legitimate stakeholders (Coombs & Gilley, 2005). It includes numerous legitimate stakeholders, such as customers, employees, suppliers, local communities, and the environment. This collection of contractual relationships is assumed to minimise the utility loss of all legitimate stakeholders by correcting potential divergences of interests with CEOs (Kock, Santaló, & Diestre, 2012). Consequently, CEOs are pushed to make strategic decisions and allocate corporate resources to consider the welfare of all legitimate stakeholders (Winschel & Stawinoga, 2019). Overall, the stakeholder-agency theory posits that the interests of CEOs should align with those of all legitimate stakeholders.

From the stakeholder-agency theory perspective, corporations are seen as a 'nexus of contracts between different resource holders' (Kock, Santaló, & Diestre, 2012, p. 493). The legitimacy of stakeholders is established through an exchange relationship where resource providers (stakeholders) have a claim over resource users' (the corporation) operations (Hill & Jones, 1992). Consequently, each resource provider who supplies the corporation with critical resources can expect their interests to be satisfied by the resource user (Hill & Jones, 1992). For example, shareholders who bring financial capital to the corporation can expect profit in return, and workers who bring human capital, such as time and skills, can expect decent pay and good working conditions in return. The same logic applies to all other stakeholders bringing resources to the corporation. Rambaud and Richard (2015, p. 96) argue that there must be a distinction between resource and capital: 'a resource is a capacity (or set of capacities) directly available for use, while a capital is a capacity (or set of capacities) recognised as having to be maintained over a predetermined time'. In this context, resources brought by stakeholders represent credits that must be treated as liabilities (or debts) and reimbursed. Thus, resources can be seen as different forms

of capital (not only economic but also environmental and social), as they must be maintained and preserved to accommodate stakeholders' interests (Kock, Santaló, & Diestre, 2012). In sum, this vision is consistent with the original concept of capital in accounting (Nobes, 2015).

The resources provided to the corporation by stakeholders give responsibilities to CEOs for their preservation and enhancement over time (Hill & Jones, 1992). The extent to which these responsibilities are met determines the level of accountability of CEOs towards stakeholders (Gray, Adams, & Owen, 2014). The determination of CEOs' accountability can occur only through the development of information flows informing stakeholders about the use of their resources. In this way, corporate governance systems must be redesigned to guarantee good information flow to all stakeholders. Corporate governance systems thereby become more inclusive, as all stakeholders are considered, strengthening corporate democracy. From the perspective of the stakeholder-agency theory, corporate governance systems must evolve to ensure that all legitimate stakeholders who supplied the corporation with critical resources are informed and empowered to hold CEOs accountable for using their resources.

The use of the stakeholder-agency theory as a theoretical foundation for sustainable corporate governance is compatible with a strong form of sustainability for the following reasons: First, in strong sustainability, forms of capital, such as natural resources, cannot substitute one another (Costanza & Daly, 1992). The stakeholder-agency theory aligns with this principle of non-substitutability by pushing corporations to recognise the long-term consequences of their activities on these different forms of capital. The consideration of stakeholders' needs and concerns enables corporations to better protect and preserve these non-substitutable forms of capital. Second, strong sustainability promotes the irreversibility of certain forms of capital, such as natural resources (Georgescu-Roegen, 1971). The stakeholder-agency theory considers the interests of all legitimate stakeholders and the long-term consequences of corporate activities. Accordingly, the application of the stakeholder-agency theory to sustainable corporate governance reduces the likelihood of corporate activities producing irreversible negative impacts. Third, strong sustainability acknowledges the interdependence between the economy, the environment, society, and future generations (World Commission for Environment and Development, 1987). By balancing the interests of all legitimate stakeholders, including those representing environmental and social concerns, the stakeholder-agency theory enables corporations to navigate these complex interconnections

through the considerations of different stakeholders' perspectives. Lastly, strong sustainability recognises ecological limits to economic growth (Meadows et al., 1972; Meadows, Meadows, & Randers, 1992). The stakeholder-agency theory is compatible with the principle of non-substitutability given the encouragement of corporations to operate within these limits to achieve sustainable growth. For example, the concept of minimisation of utility loss could integrate the good ecological states based on scientific thresholds to respect this principle and those of non-substitutability, irreversibility, and limits to growth. In summary, the stakeholder-agency theory seems compatible with strong sustainability, considering the non-substitutability of certain forms of capital; their irreversibility; recognises the interconnections between the economy, the environment, society, and future generations; and it pushes corporations to operate within the limits of growth and good ecological states.

Overall, the contractual relationships of the stakeholder-agency theory cover all areas of sustainable development, from economic activities to environmental and social activities and from short-term to medium- and long-term considerations (Winschel & Stawinoga, 2019). The resources supplied by stakeholders are considered different forms of capital that must be protected and preserved to guarantee the prosperity, integrity, and equity of all resource providers. These different forms of capital are complementary, and potential trade-offs might exist as long as all CEOs have tried to minimise utility loss to all legitimate stakeholders (Hill & Jones, 1992). However, its application to corporate governance requires a fundamental redesign of current systems to ensure all legitimate stakeholders who supplied the corporation with critical resources are informed and empowered to hold CEOs accountable for the use of their resources. As the power shifts from ownership to contribution, the redesign of corporate governance systems must be more participatory to ensure that all resource providers are represented and have a voice in strategic decisions and resource allocation. In this way, the stakeholder-agency theory promotes a corporate governance model more aligned with a strong form of sustainability. Adopting this lens for sustainable corporate governance is more likely to incentivise CEOs to consider the interests of all legitimate stakeholders across different time frames and for different sustainability-related matters.

3.4. Mechanisms of sustainable corporate governance

The main challenge for sustainable corporate governance is the implementation of control and monitoring mechanisms that incentivise, guide, and reward CEOs to act on different temporalities, consider all stakeholders, and mitigate sustainability-related issues. This thesis focuses on three types of corporate governance mechanisms widely researched in the academic literature: regulation, CEO compensation, and the board of directors (Edmans, Gabaix, & Jenter, 2017). These three mechanisms of corporate governance have evolved due to increased social pressures to consider sustainability. For example, recent regulation in the US has been concerned with increased transparency and the protection of shareholders, employees, and consumers' interests (SEC, 2015). CEO compensation packages have been increasingly tied to ESG targets (Flammer, Hong, & Minor, 2019), and the board of directors has started to delegate CSR tasks to a specific committee (Orazalin, 2020). This section briefly explains these three mechanisms and how they contribute to corporate sustainable development.

3.4.1. Regulation: CEO-to-worker pay ratio and say on pay votes

The first examined mechanism of sustainable corporate governance is regulation, in the form of the CEO-to-worker pay ratio and say on pay votes. After the financial crisis of 2007-2009, several political movements and social initiatives urged more socioeconomic justice (Schoen, 2017). Subsequently, the US financial regulator implemented a series of rules under the Dodd-Franck Act of 2011 to restore confidence in capital markets and protect economic actors from corporate misbehaviour (SEC, 2015). First, in 2011, the SEC enforced Section 951 of the Dodd-Franck Act to give shareholders a say on pay votes concerning CEO compensation. This rule, anchored in the agency theory, tried to mitigate the potential conflict of interests between shareholders and CEOs by giving shareholders a place to express their opinions about the level and structure of CEO compensation packages (Obermann & Velte, 2018). Then, in 2017, Section 953 (b) was implemented to make the disclosure of the CEO-to-worker pay ratio mandatory. Rooted in the relative deprivation theory, this rule was implemented to give shareholders more transparency around compensation practises within corporations to motivate their say on pay votes (Benedetti & Chen, 2018). Despite their theoretical underpinnings, the two rules share the same objective: to give more control to shareholders by increasing transparency over compensation practises.

Together, they can help promote accountability, transparency, and fairness around compensation practises by pushing companies to foster a culture of trust and collaboration, better aligning corporate governance systems with sustainable development.

However, the ability of these two recent initiatives to mobilise shareholders and reduce excessive CEO compensation has created a vivid debate (Edmans, 2017; Loh, 2017; Benedetti & Chen, 2018; Murphy & Jensen, 2018; Mishel & Wolfe, 2019). As the two regulations have different theoretical underpinnings, practitioners and academics have questioned the usefulness of the CEO-to-worker pay ratio disclosure for shareholders, its impact on say on pay vote practises, and its ability to curb excessive CEO compensation (Bank & Georgiev, 2019). Unfortunately, the related academic literature is scarce, reporting mixed results. Table 2 provides a selected literature review on the link between CEO-to-worker pay disparities and CEO compensation, CEO-to-worker pay disparities and say on pay votes, and say on pay votes and CEO compensation. This review reports conflicting findings for each relationship, highlighting the need to better understand the complex role that CEO-to-worker pay disparities exercise on CEO compensation through shareholder say on pay votes.

Table 2: Selected literature reviews for Chapter 5

Author (Year)	Findings
Evidence on the link between the CEO-to-worker pay ratio and CEO compensation	
Irlbeck (2019)	The CEO-to-worker pay ratio disclosure rule incentivises corporations to shift towards more performance-based compensation through greater equity pay and lower salaries. This shift is accompanied by higher debt ratios and research and development investments.
Knust & Oesch (2020)	There is no significant effect between companies affected by the CEO-to-worker pay ratio disclosure and total CEO compensation. The same result is reported for changes in performance pay. In sum, the authors argue that the disclosure of the CEO-to-worker pay ratio does not reduce CEO compensation.
Chang et al. (2022)	There is little association between the CEO-to-worker pay ratio rule and CEO compensation. Nevertheless, the researchers report a strong negative association between the CEO-to-worker pay ratio rule and the CEO compensation mix (captured by the sensitivity of CEO compensation to equity price changes). The effect is particularly significant when corporations are under close media scrutiny.
Johnson (2022)	The proposal of the SEC concerning the CEO-to-worker pay ratio disclosure rule did not reduce residual CEO pay (the proportion of pay not predicted by economic determinants). However, the proposal has reduced CEO pay only for companies susceptible to experiencing more public scrutiny and adverse reactions from different stakeholders due to large pay gaps. The researcher concludes that corporations with high CEO-to-worker pay ratios reduce CEO compensation to avoid their detrimental reputational effects.
Evidence on the link between the CEO-to-worker pay ratio and say on pay votes	
Knust & Oesch (2020)	There is no significant effect between companies affected by the CEO-to-worker pay ratio disclosure and investors' attention (captured by the change in abnormal search). Additionally, there is no significant effect between companies affected by the CEO-to-worker pay ratio disclosure and shareholder say on pay votes (measured using 'for' votes divided by the sum of total votes). In sum, the researchers report that the disclosure of the CEO-to-worker pay ratio does not change investors' behaviours.
Crawford, Nelson, & Rountree (2021)	There is a positive association between high CEO-to-worker pay ratios (in the 10^{th} decile) and shareholder dissent in say on pay votes. Companies with high CEO-to-worker pay ratios also experience high shareholder dissent say on pay votes even if the proxy advisor has issued a positive voting recommendation. The researchers report that the information given by the CEO-to-worker pay ratio is used by proxy advisors and institutional investors to determine their voting decisions.
Chang et al. (2022)	There is a positive relationship between the CEO-to-worker pay ratio disclosure and shareholder dissent say on pay votes. The effect of this relationship is stronger for companies experiencing higher levels of media sensationalism. Overall, the researchers conclude that media sensationalism is elevating higher public awareness and scrutiny, raising shareholder opposition to excessive CEO compensation.

Table 2: Selected literature reviews for Chapter 5 (continuation)

Evidence on the link between say on pay votes and CEO compensation	
Burns & Minnick (2013)	The proposal of shareholder say on pay votes does not significantly affect total CEO compensation. However, it influences the mix of CEO compensation, shifting from more cash-based compensation to more performance-based compensation. These changes are similar for CEOs and other top executives. Finally, the authors found that companies with higher CEO compensation are more likely to receive say on pay vote proposals.
Gregory-Smith, Thompson, & Wright (2014)	There is a positive correlation between CEO compensation and say on pay votes. However, the magnitude of the effect is small. Additionally, low levels of shareholder dissent say on pay votes (<10%) are positively associated with CEO compensation, while high levels (>10%) are negatively associated with CEO compensation (only for the 50 quantiles and above).
Faghani, Monem, & Ng (2015)	Corporations that experienced a first strike (high level of say on pay votes in Australia) and avoided the second-strike experience a higher proportion of CEO performance-based pay the following year. Treatment corporations are found to increase the performance-based pay of CEOs after the first strike, which is negatively associated with shareholder dissent say on pay vote levels. Overall, descriptive statistics reveal that companies under a first strike experience a more frequent and larger reduction in CEO pay.
Balsam et al. (2016)	Companies affected by the shareholder say on pay rule of 2010 have reduced CEO compensation to win shareholder approval. The effect is larger for companies having overpaid their CEOs. Then, companies affected by the shareholder say on pay rule have shifted the CEO compensation mix to more performance-based compensation. Next, shareholder dissent say on pay votes are lower when companies have reduced CEO compensation in advance. However, shareholder dissent say on pay votes are greater when companies have a higher total CEO compensation, a higher increase of CEO compensation, a larger amount of CEO compensation not explained by economic factors, or a higher other compensation, including perks. Finally, shareholders seem to vote following the recommendations of proxy advisors. In sum, the study reveals that say on pay votes represent a form of shareholder activism, enabling shareholders to have a voice influencing CEO compensation practices.
Kimbro & Xu (2016)	Shareholder dissent say on pay votes are associated with high or excessive CEO compensation. Moreover, shareholder dissent say on pay votes are found to be more sensitive to performance-based compensation. In reaction, companies respond to these dissent say on pay votes by lowering the growth of CEO compensation.
Grosse, Kean, & Scott (2017)	Shareholder dissent say on pay votes are not significantly associated with all the components of CEO compensation and total CEO compensation. Moreover, the remuneration vote seems to not be used to target excessive CEO compensation as strike corporation experience higher book-to-market and leverage ratios. Finally, companies respond to a strike by reducing the CEO bonus and increasing compensation disclosure.
Hadley (2017)	The provision of additional information about CEO compensation helps enhance shareholder approval during say on pay votes. Certain companies disclose information regarding CEO pay to affect shareholder say on pay voting outcomes and influence shareholders in accepting the compensation structures in place. However, the researchers advocate for standardising CEO pay-for-performance disclosures to improve the informativeness and comparability of these disclosures.

3.4.2. CEO compensation: CSR contracting

The second mechanism of sustainable corporate governance investigated is CSR contracting. It consists of tying environmental, social, and governance (ESG) performance targets to CEO compensation contracts (e.g., targets related to greenhouse gas, or GHG, emissions, safety measures, employee engagement, and other ESG-related issues). This corporate initiative aims to attract CEOs' attention to non-financial objectives that are in the interests of different groups of stakeholders and will benefit the corporation in the long run (Hong, Li, & Minor, 2016; Maas, 2018). Unlike the 'pay for financial performance' dominant since the 1970s, CSR contracting could be considered a 'pay for ESG performance' (Flammer, Hong, & Minor, 2019, p. 1098). It is intrinsically rooted in the stakeholder-agency theory as it extends the contractual relationships between shareholders and CEOs to a series of contractual relationships between legitimate stakeholders and CEOs, hence accounting for the multiplicity of stakeholders' interests (Winschel & Stawinoga, 2019). Firms are increasingly taking the plunge as corporate leaders start to appreciate the benefits of this approach to their corporations (Maas & Rosendaal, 2016). A notable example from the United States is Apple which implemented CSR contracting in response to shareholder pressures (Apple, 2021, p. 66). Since the beginning of 2021, the technology company has applied a 10% annual bonus modifier based on ESG targets related to labour practises in its supply chain and employee diversity (Rosenbaum, 2021). Other examples of high-profile companies having implemented CSR contracting include Bank of America, Deutsche Bank, and Volkswagen. In sum, CSR contracting helps to better align corporate governance systems with sustainable development by incentivising CEOs to consider all stakeholders, different time frames, and non-financial issues.

Although CSR contracting is mainstreaming in the US and worldwide, its implementation raises questions about the prioritisation of ESG issues and the balance of stakeholders' interests. Some researchers are concerned that CSR contracting could disconnect CEOs' incentive structures from the financial and non-financial objectives of corporations by giving too much attention to less salient stakeholders (Banker, Potter, & Srinivasan, 2000; Emerton & Jones, 2019; Ittner & Larcker, 2001). Accordingly, a growing number of researchers advocate for the use the concept of materiality to identify stakeholders' salience based on their financial significance or materiality (Eccles, Krzus, & Ribot, 2014; Khan, Serafeim, & Yoon, 2016; Whitehead, 2017; Freiberg, Rogers, & Serafeim, 2020). As applied to CSR contracting, materiality could be employed as a strategic

business tool to prioritise stakeholder interests and to facilitate the inclusion of ESG targets in compensation contracts based on their financial significance and potential repercussions (positive or negative) on the corporation. Table 3 glosses select literature on the relationships between CSR contracting and corporate performance and on materiality and corporate performance. This review demonstrates that CSR contracting mainly improves corporate non-financial performance, but its effects on corporate financial performance are mixed. Moreover, the literature on materiality reveals that corporations focusing on addressing material ESG issues experience higher corporate non-financial and financial performance. Given the potential unintended consequences of CSR contracting on CEOs' incentives and corporate performance, there is a need to understand whether the inclusion of material ESG targets in CEO compensation contracts improves corporate financial and non-financial performance.

Table 3: Selected literature reviews for Chapter 6

Author (Year)	Findings
Evidence on the link between CSR contracting and performance	
Ibrahim & Lloyd (2011)	Companies include ESG targets and financial targets in CEO compensation experience lower discretionary accruals compared to corporations using only financial targets. However, other proxies, such as the incidence of meeting or beating analyst earning benchmarks, are not significantly associated. The findings are robust to additional tests. Overall, the authors suggest that the use of ESG targets in CEO compensation can reduce earnings management.
Brown-Liburd & Zamora (2015)	The initiative of tying ESG targets to CEO compensation makes investors sceptical about the information reported by the company. Such pay might incentivise CEO to overinvest in CSR and report greater CSR performance. However, their concerns seem to be mitigated when CSR assurance is present.
Haque (2017)	About 35% of companies in the sample of 256 non-financial companies part of the FTSE All share have adopted CSR contracting. There is a positive association between CSR contracting and carbon reduction initiatives (CRI). However, there is no significant association with GHG emissions. The results suggest that the decision to adopt CSR contracting might only be symbolic because it neutralises criticisms over excessive CEO compensation without forcing them to undertake substantive actions on the reduction of carbon emissions.
Maas (2018)	The inclusion of ESG targets in CEO compensation does not automatically improve ESG performance. After disaggregating the types of ESG targets into hard (quantitative) and soft (qualitative) ESG targets, the author finds that the use of hard ESG targets improves ESG performance and lower ESG weaknesses (i.e., violations of social responsibility such as corruption, fraud, or pollution). However, the use of soft targets does not significantly affect ESG performance, suggesting that such targets might only be used for symbolic reasons. The use of soft targets can still be helpful to signal power, raise awareness, and motivate the actors involved.
Flammer, Hong, & Minor (2019)	The inclusion of ESG targets in CEO compensation relates to an increase in long-term orientation, firm value, environmental and social initiatives, green innovations, and a reduction in toxic emissions. Moreover, the provision of CSR contracting (i.e., the inclusion of targets for a specific group of stakeholders) is significant only for provisions pertaining to the environment and local communities. Finally, the share of CSR contracting (i.e., the proportion in total CEO compensation) is associated with an increase in long-term orientation, firm value, CSR score for the environment and communities, green patenting, and a reduction in toxic emissions.
Li & Thibodeau (2019)	CSR contracting increases CSR performance and decreases the need to manipulate earnings. The authors argue that CSR contracting effectively mitigates agency problems because it not only encourages CEOs to meet ESG goals but also implicitly incentivises them to reduce earnings manipulation and engage in CSR activities to boost their remuneration. These findings have important implications for investors who rely on earnings management to evaluate corporations and motivate their investment decisions.

Table 3: Selected literature reviews for Chapter 6 (continuation)

Cavaco, Crifo, & Guidoux (2020)	CSR contracting negatively impacts corporate financial performance (captured by using ROA, ROE, and price-to-book ratio). However, CSR contracting positively impacts on corporate non-financial performance (proxied with human resources, environment, customers and suppliers, human rights, and corporate governance). Only community involvement is not significant. The disaggregation of corporations in function of their corporate governance models (either shareholder-oriented or stakeholder-oriented) reveals that companies with a shareholder model and CSR contracting experience a negative effect on their financial performance and a positive effect on only customer and supplier performance (other proxies are not significant). By contrast, corporations having a stakeholder-oriented model and CSR contracting do not significantly affect corporate financial performance but strengthen corporate non-financial performance.
Haque & Ntim (2020)	CSR contracting is initially considered a symbolic CSR initiative. The results show that the relationship between CEO compensation and carbon performance is moderated by CSR contracting. However, CEO compensation and CSR contracting do not have a significant association with the reduction of GHG emissions. The authors conclude by arguing that the adoption of CSR contracting is unlikely to improve carbon performance. For this reason, the authors advise regulators to impose mandatory GHG emission reduction targets.
Adu, Flynn & Grey (2022)	The inclusion of ESG targets in CEO compensation positively moderates the CEO pay – ESG performance and environmental performance sensitivity. The authors argue that the remuneration committee uses CSR contracting as a substantive management strategy to enhance corporations' legitimacy. Moreover, CSR contracting has a positive moderating effect on the association between CEO compensation and sustainable business practices. However, these associations are enhanced more in the context of symbolic emissions (proxied with GHG reduction initiatives) than in that of actual ones (proxied with GHG emissions and CEO2 emissions).
Derchi, Zoni, & Dossi (2021)	The use of CSR contracting promotes corporate non-financial performance. The effect is positive after the 3rd year of implementation. The adoption of CSR contracting increases over the studied period, suggesting that corporations accumulate experience over time. This knowledge allows corporations to reduce the environmental and social concerns associated with their activities and to increase their environmental CSR strengths. The use of other sustainability governance mechanisms moderates the corporations' accumulation of experience in using CSR contracting on corporate non-financial performance. More precisely, the presence of a CSR committee and the use of CSR reports have a positive moderating effect, while the use of CSR assurance has no moderating effect.
Tsang et al. (2021)	The inclusion of ESG targets in CEO compensation corresponds with greater innovation output for a sample of 30 countries. This association is stronger for countries without mandatory ESG reporting requirements. The authors also suggest that CSR contracting compensates institutional voids and high stakeholder demand for CSR, subsequently increasing corporate innovation.
Cho & Ibrahim (2022)	Corporations implementing ESG targets in CEO compensation experience higher pay-for-performance relationships than other corporations using only financial targets measuring shareholder wealth. The authors argue that such initiatives signal to shareholders that CEOs will be more motivated to engage in activities increasing corporate financial performance. Nevertheless, the results hold only for accounting performance. In addition, corporations using CSR contracting have higher pay sensitivity to shareholder wealth (captured using TSR), and those with higher risks also experience higher pay-for-performance sensitivity.
Khenissi, Jahmane, & Hofaidhllaoui (2022)	The inclusion of ESG targets in CEO compensation reduces the extent of earnings management (proxied by discretionary accruals and real earnings management). The authors argue that the use of this corporate initiative can limit accounting manipulations from CEOs.
Khenissi, Hamrouni, & Ben Farhat (2022)	Relative to total targets in CEO compensation, the share of ESG targets positively affects on environmental, social, governance, and overall ESG performance. However, the corporate initiative has no significant effect on accounting-based performance (captured using the return on equity) and a negative effect on market-based performance (captured using Tobin's Q).

Table 3: Selected literature reviews for Chapter 6 (continuation bis)

	Evidence on the link between materiality and corporate performance
Khan, Serafeim, & Yoon (2016)	Corporations with higher ratings on materiality issues and lower ratings on immaterial issues have greater future financial performance. However, corporations with higher ratings on immaterial issues do not experience greater performance than those with lower ratings on the same issues.
Giorgino, Supino, & Barnabè (2017)	The disclosure of financially material information about a corporation in its integrated reporting has a significant effect on the share price. Investors respond to the corporation's decision to adopt this disclosure tool, which modifies their investment perception.
Maniora (2018)	The mismanagement of ESG issues can encourage unethical behaviours. Certain corporations with a more 'prospector-type' strategy (i.e., oriented on market innovation and who risk lower profitability and overuse of resources) might intentionally perform better on immaterial ESG issues than on the material ones, to divert stakeholders' attention from their lower sustainability performance.
Kotsantonis & Bufalari (2019)	Commercial banks with good performance on material ESG issues outperform banks with lower performance on these issues. Moreover, high performance on immaterial ESG issues is not associated with the destruction of firm value.
Kaiser (2020)	The integration of ESG factors into investment strategies improves financial outcomes and improved risk management. Moreover, the consideration of materiality can improve investment decisions and, ultimately, financial outcomes.
Kim & Lee (2020)	This study focuses on restaurant companies in the hospitality sector. The authors report that engaging in material ESG activities does not increase firm performance. Furthermore, restaurant companies with high scores on immaterial ESG activities do not perform better than other companies with lower scores on these activities. Finally, franchising positively moderates the relationship between immaterial ESG activities and corporate performance.
Grewal, Hauptmann, & Serafeim (2021)	Corporations reporting material information experience higher stock-price informativeness (captured by stock price synchronicity). The authors argue that such disclosure contains financially-relevant and firm-specific information.
Jadoon et al. (2021)	Investors value the social, governance, and economic dimensions of sustainability performance. Moreover, they are also sensitive to the quality of ESG reporting. However, the authors find that the environmental dimension of ESG performance lacks financial materiality for investors.
Madison & Schiehll (2021)	The use of financial materiality for the assessment of ESG performance result in significant differences in ESG scores, allowing a distinction between corporations addressing substantial ESG issues and other addressing symbolic ESG issues that are not financially material to the corporation. The authors argue that financial materiality allows better investment decisions by improving the informative value of ESG scores.
Schiehll & Kolahgar (2021)	Findings show that ESG disclosure is value-relevant for investors. Moreover, the disclosure of material ESG information increases stock price informativeness. Nevertheless, these results depend on the ESG component considered (the social component is more sensitive).
Consolandi, Eccles, & Gabbi (2022)	This paper examines the role of the intensity and relevance of ESG materiality in stock price return. ESG performance is found to positively affect stock return. Moreover, companies operating in industries with a high concentration of ESG materiality are rewarded by the market when the intensity and relevance of ESG materiality are considered.

3.4.3. Board of directors: CSR committees

The third mechanism of sustainable corporate governance studied is the CSR committee. Since the board of directors has an increasing role in the governance of sustainability (Elkington, 2006; Ayuso & Argandoña, 2009), companies have begun to delegate CSR tasks to an expert sub-committee. This committee, named the CSR committee, monitors, guides, and rewards CSR activities (Berrone & Gomez-Mejia, 2009; Al-Shaer & Zaman, 2019). It centralises and coordinates various isolated CSR initiatives, such as the commitment of a CEO or the creation of a chief sustainability officer (CSO) position, within one structure to guarantee the successful enforcement of the sustainability strategy within the corporation's processes, policies, and practises (Elmaghrabi, 2021). This governance mechanism improves a corporation's relationship with its stakeholders by promoting and coordinating CSR practises (Mallin & Michelon, 2011; Gennari & Salvioni, 2019). The CSR committee's key functions are to make recommendations and assist board members in their CSR functions (Dixon-Fowler, Ellstrand, & Johnson, 2017; Orazalin, 2020). The CSR committee is anchored in the stakeholder-agency theory, as it has the dual role to reduce information asymmetries between CEOs and all stakeholders and improving relationships with all stakeholders. In sum, the CSR committee helps to align corporate governance systems with sustainable development by promoting responsible practises that consider all stakeholders, different temporalities, and non-financial issues.

Nevertheless, the effectiveness of the CSR committee influences its ability to oversee CSR activities (Chapple, Chen, & Zhang, 2017). Mainly through its structural characteristics, the CSR committee is more effective in gathering and analysing CSR information (Bradbury, Jia, & Li, 2022). As such, concerns have been raised as to whether these structural characteristics are ineffective, the CSR committee might not be able to oversee CEOs' activities on CSR appropriately (Rodrigue, Magnan, & Cho, 2013; World Bank-IFC, 2021). The effectiveness of the CSR committee, in terms of structural characteristics, therefore, might notably drive corporations to opt for CSR contracting, since such third parties can better monitor CEOs' actions and protect the interests of all stakeholders (Radu & Smaili, 2022). Table 4 provides a selected literature review on the link between the presence of a CSR committee and CSR contracting and the CSR committee's structure and effectiveness on corporate outcomes. This review shows that the presence of a CSR committee positively influences the inclusion of ESG targets in CEO

compensation contracts. However, the literature on the CSR committee's structural components and effectiveness is mixed, with conflicting effects for each component. In sum, more empirical evidence is necessary to better understand whether CSR committees' characteristics and effectiveness influence corporations' decisions to include ESG targets in CEO compensation.

Table 4: Selected literature reviews for Chapter 7

Author (Year)	Findings
Evidence on the link between the presence of CSR committees and CSR contracting	
Abdelmotaal & Abdel-Kader (2016)	The presence of CSR committees (measured using a dummy variable) positively influences CSR contracting. Moreover, other variables – e.g., firm size, compensation committee independence, presence in a CSR index, and shareholder returns are also positively associated with CSR contracting. In sum, the authors report that a policy for sustainable packaging is negatively associated with CSR contracting.
Al-Shaer & Zaman (2019)	The presence of CSR committees (captured using a dummy variable) is positively associated with the inclusion of CSR targets in CEO compensation contracts. Additionally, CSR assurance, board independence, board expertise, CEO ownership, firm size, leverage, and beta are also positively associated with CSR contracting.
Radu & Smaili (2022)	The presence of CSR committees (proxied with a dummy variable) positively influences CSR contracting. The inclusion of ESG targets in CEO compensation is also found to positively affect corporate non-financial performance. Overall, the authors report that CSR contracting mediates the relationship between CSR committees and corporate non-financial performance. However, both direct and indirect paths are significant in the case of environmental performance, while for social performance, only the indirect effect is significant.
Evidence on CSR committee structure and effectiveness on corporate outcomes	
Liao, Luo, & Tang (2015)	The authors find that the presence of environmental committees increases the disclosure of carbon-related information following CDP standards. Environmental committees are identified as more effective, based on their ability to disclose carbon-related information following CDP standards, when they have a larger size, a larger proportion of independent directors, and a greater meeting frequency.
Peters & Romi (2015)	This study examines the effects of several structural characteristics of CSR committees on corporations' likelihood to opt for CSR assurance. CSR committees' expertise and the CSR officer's expertise are found to positively affect the initiative of providing assurance to CSR reports. However, CSR committees' size, meeting frequency, overlap with the audit committee, and proportion of independent directors are not associated with CSR assurance.
Chapple, Chen, & Zhang (2017)	The results suggest that effective CSR committees (proxied by a set of structural characteristics) are not associated with the decision to obtain CSR assurance. Nevertheless, effective CSR committees influence the details of engagements. They were found to have a positive relationship with the type of provider (assurance from an accountancy firm), the criteria (use of ISAE 3000), and the assurance level. However, effective CSR committees have a negative association with scope (the whole report assured).
Eberhardt-Toth (2017)	This study examines the effects of structural components of CSR committees on corporate social performance (captured by the inclusion in the Dow Jones Sustainability World Index). A higher CSR committee independence, a higher average age of directors, and the presence of a chairwoman are positively associated with higher corporate social performance. Additionally, the absence of the CEO in the CSR committee and a smaller size are positively associated with higher corporate social performance. Overall, this study provides empirical evidence on several structural characteristics of CSR committees useful to improve their effectiveness.
Burke, Hoitash, & Hoitash (2019)	CSR committees positively impact CSR strengths but not CSR concerns. Moreover, CSR committees with a specific stakeholder group focus perform better on matters related to these stakeholders. Finally, effective CSR committees, based on their CSR strengths, are larger size, have more independent directors, and meet at higher frequency than inefficient CSR committees.

Table 4: Selected literature reviews for Chapter 7 (continuation)

Elmaghrabi (2021)	The findings show that CSR committees' independence, chair independence, female chairperson, and meeting frequency are positively associated with CSR performance. Moreover, CSR committees' independence and expertise are negatively associated with CSR controversies. Finally, CSR committees' size is positively associated with CSR strategy. The paper provides insights into the structural characteristics of CSR committees promoting better CSR performance, CSR strategy formulation, and the reduction of CSR controversies.
Bradbury, Jia, & Li (2022)	This study investigates whether CSR committees influence companies to opt for the external assurance of CSR reports. The results show that the presence of CSR committees is not related to external assurance of CSR reports. However, companies with more effective CSR committees are more likely to (1) opt for external assurance on CSR, (2) seek assurance from a Big4 accountancy company, (3) and receive financial audits by the same provider as the CSR assurance.
Jarboui, Ben Hlima, & Bouaziz (2022)	The authors examine whether the structural characteristics of CSR committees impact CSR performance in an Indian context. CSR committees' expertise, independence, and size are found to have a positive influence on CSR performance. Nevertheless, CSR committee meeting frequency is not associated with greater CSR performance.

3.5. Conclusion

Despite the increasing interests in corporate governance, CEO compensation, and sustainable development, the three literature streams have rarely been combined. This chapter fills this gap by providing an extensive discussion of these concepts. Specifically, it has presented the definitions, the theoretical background, the main literature streams, and the controversies for each concept. Sustainable corporate governance attempts to align corporate governance systems with the principles of sustainable development. This concept recognises that companies have a responsibility not only to generate profits but also to operate in a socially responsible manner by implementing corporate governance systems aligned with sustainability to ensure the preservation and enhancement of a corporation's economic, environmental, and social ecosystems. Finally, this chapter reviewed three mechanisms of sustainable corporate governance, one being external (regulation) and the other two being internal (CSR contracting and CSR committee). The literature for each mechanism is discussed, as well as their empirical gaps.

Chapter 4

Methodology

4.1. Introduction

This chapter introduces the research methods of this thesis by providing a discussion on the research philosophy, approach, and strategy. It then presents the data, sample, and analysis techniques employed. Finally, the chapter tackles data management and ethical considerations.

4.2. Research philosophy, approach, and strategy

Research philosophy consists of 'a system of beliefs and assumptions about the development of knowledge' (Saunders, Lewis, & Thornhill, 2019, p. 130). There are two main philosophical underpinnings to a research philosophy: epistemology and ontology. While epistemology refers to the study of knowledge, ontology concerns the nature of reality (Saunders, Lewis, & Thornhill, 2019). Both are essential because the understanding of reality (ontology) is conditioned by the ability to develop knowledge (epistemology). In corporate governance research, the ontological debate is dominated by positivism, although numerous alternatives exist, such as critical realism, interpretivism, postmodernism, and pragmatism, among others. This thesis adopts a positivist approach, as it emphasises the use of empirical evidence and scientific methods to understand a phenomenon by assuming that reality is objective and independent of individuals (Saunders, Lewis, & Thornhill, 2019). Through this lens, the alignment of corporate governance systems with sustainable development is a rational initiative aimed to achieve optimal outcomes both for corporations and society. Furthermore, sustainable development is based on scientific evidence proving the interconnectedness between the economy, the environment, and society. Thus, it is in the interest of corporations to build effective corporate governance mechanisms oriented towards all stakeholders to ensure their long-term viability.

Research philosophies inform and guide the election of a research approach to design theory and achieve research objectives. Thus, this thesis adopts a deductive approach to theory development, starting by developing theory from readings of the related academic literature and following with the design of a research strategy to test the theory (Saunders, Lewis, & Thornhill, 2019). Finally, this thesis comprises three exploratory studies using quantitative methods to test the relationships between sustainable governance mechanisms and CEOs' incentives. This research design motivates the adoption of an experimental research strategy, as it provides objective and quantifiable measures that can be statistically examined to test hypotheses and identify patterns

(Saunders, Lewis, & Thornhill, 2019). Additionally, it is helpful to establish causal effects. For example, the quantitative methods used to test the relationships between sustainable corporate governance mechanisms and CEOs' incentives can help determine the effectiveness of these mechanisms in promoting the principles of sustainable development at the corporate level to ensure the long-term viability of their operations.

4.3. Data and sample

This study focuses on a large sample of Russell 3,000 companies, covering 98% of publicly traded equities in the US (FTSE, 2022). While most studies in corporate governance and corporate sustainability have focused on large-cap companies listed on the Standard and Poor's (S&P) 500 index (Eberhardt-Toth, 2017; Flammer, Hong, & Minor, 2019; Crawford, Nelson, & Rountree, 2021), the Russell 3,000 index is chosen, since it extends knowledge to mid- and small-cap companies. In addition, the choice of the US as the country of focus has three motivations: size and influence, legal framework, and data accessibility. First, the US is the world's largest economy and is home to numerous large and influential corporations (Kose et al., 2017). These corporations have a global impact and influence corporate governance and sustainability practises both nationally and internationally (Hashmi, Damanhouri, & Rana, 2015). Second, the US has an established regulatory framework for corporate governance and sustainability (Conyon, 2014; MSCI, 2023). Although less developed than European or Nordic regulatory frameworks, the Security and Exchange Commission (SEC) has passed a set of rules under the Dodd-Franck Act of 2010, as well as more recent ESG regulations obligating corporations to disclose information regarding their corporate governance practises and other ESG-related issues (Aguiar, Bandy, & Woan, 2022). The US also has a strong history of shareholder engagement and activism, which has pressured corporations to adopt sound corporate governance practises and engage in corporate sustainability (Gillan & Starks, 2007; Grewal, Serafeim, & Yoon, 2016). Finally, the SEC's online platform — named the Electronic Data Gathering, Analysis, and Retrieval System (EDGAR) database — publishes all reports that corporations are required to fill out by law (SEC, 2022). This database is publicly accessible, making data collection on US publicly listed companies economical and time-efficient.

The sample size varies from chapter to chapter due to data availability and statistical requirements. For example, in Chapter 5, the sample includes 1,594 non-financial companies. In Chapter 6, the sample comprises 1,577 non-financial companies, and in Chapter 7, the sample is composed of 575 financial and non-financial companies. These different sample sizes are consistent with previous empirical research (Eberhardt-Toth, 2017; Flammer, Hong, & Minor, 2019; Crawford, Nelson, & Rountree, 2021) and reflect the marginal but still growing trend of each mechanism of sustainable corporate governance examined. Additionally, the distinction between financial and non-financial companies is made to account for the specificities of financial companies in terms of reporting policies, regulatory requirements, and business models, as suggested by Fama and French (1992). In contrast to Chapters 5 and 6, where financial companies have been excluded from the baseline model, their inclusion in Chapter 7 offers a broader and more comprehensive understanding of CSR committees' structures and effectiveness. This inclusion is significant because, despite their limited presence in the United States during the study, it aligns with the industry-agnostic recommendations provided by the World Bank-IFC (2021), highlighting their relevance in examining the overarching corporate practices related to CSR committees' structures and effectiveness. Nevertheless, financial companies have been excluded in additional tests to ensure their inclusion did not bias the results.

The sample period starts in 2011 and ends in 2019. This period corresponds to the first year of implementation of the Dodd-Franck Act, which had modified the US corporate governance regulatory landscape (Conyon, 2014; Murphy & Jensen, 2018), and the last year before the coronavirus disease (COVID) pandemic, which greatly affected corporate governance practises (Zattoni & Pugliese, 2021). The sample period is adjusted for every study due to data availability and statistical requirements. For example, in Chapter 5, the sample period starts in 2013 and ends in 2019 because it corresponds to the first year of the adoption of the CEO-to-worker pay ratio disclosure rule. In Chapter 6, there are no changes, and in Chapter 7, the sample period starts in 2015 and ends in 2019 due to data availability concerning CSR committees' characteristics.

This study relies on different sources of secondary data. Secondary data are 'data that have been collected initially for some other purpose' than the present study (Saunders, Lewis, & Thornhill, 2019, p. 338). First, it uses the Bloomberg database for financial and non-financial data. Bloomberg is a well-known and popular data provider in academic research due to the reliability

of its data (Park & Ravenel, 2013; Eberhardt-Toth, 2017). Second, as a proxy for non-financial performance, it uses the ESG scores of the Thomson Reuters Asset 4 database. Temporary access to this database was obtained in November 2021. The database has been accessed through Refinitiv. The ESG scores are the addition of environmental scores, composed of 68 data points related to resource use, emissions, and innovation; social scores, comprised of 62 data points dealing with workforce, human rights, community, and product responsibility; and governance scores, constituted of 56 data points on management, shareholders, and CSR strategy (Refinitiv, 2022). This database is also renowned in academic research for its reliability (Ribando & Bonne, 2010). Finally, data has been manually collected from the annual reports, or more precisely, from the definitive proxy statement (DEF) 14A filings publicly available on the Edgar database. The methodology section of each study provides further discussion regarding the data and the sample selection processes.

4.4. Analysis techniques

A panel dataset is used because the sample of corporations varies across time, such as there are time series for each cross-section (Wooldridge, 2015). Moreover, this panel dataset is unbalanced because the observations are not evenly distributed over time (Wooldridge, 2015). The reason for this type of panel dataset is data availability. Based on the characteristics of the dataset, specific statistical analysis techniques have been applied. First, descriptive statistics are conducted to summarise each variable employed in the different studies (Saunders, Lewis, & Thornhill, 2019). The mean, first quartile, median, third quartile, and standard deviation are reported for each study to provide information about the central tendency of a given dataset and the dispersion around the central tendency. Second, correlations between each variable are computed to determine the strengths of their relationships and whether multicollinearity is an issue (Saunders, Lewis, & Thornhill, 2019). Pearson's correlation coefficients are reported in a correlation matrix for each study. In the absence of a recommendation from Wooldridge (2015) about a specific benchmark above which the correlation between variables is too strong and seen as problematic, the limit is set at 0.8. Above this threshold, Liu (2019) argues that the likelihood of observing concordance between two variables prevails over the likelihood of observing discordance, and the degree of agreement between the two variables is large. Additionally, a variance inflation factor (VIF)

analysis is conducted to further control for potential multicollinearity. The VIFs determine the severity of multicollinearity among explanatory variables (Wooldridge, 2015). They are reported in the appendix of each study. The rule of thumb adopted in this thesis is that if the VIF is superior to 10, multicollinearity becomes an issue and requires specific analysis techniques (Hair et al., 2018).

The relationships between the variables of interest are examined using multivariate regression models. Such models are chosen because they allow the study of the effect of an independent variable on a dependent variable while controlling for many other factors (Wooldridge, 2015). The estimation techniques employed for each study are now briefly discussed. In the first study on the CEO-to-worker pay ratio, shareholder say on pay votes, and CEO compensation, a regression-based mediation analysis is conducted. Based on the procedure of Baron and Kenny (1986), three sets of OLS (ordinary least square) regressions are used to examine the mediation effect of shareholder say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation. This estimation technique is employed to examine the relationship between two variables, where a third variable (the mediator) explains the relationship with the two other variables (the independent and the dependent variables). In this case, a mediation analysis is preferred over a moderation analysis because the study focuses, not only on the direction and magnitude of the relationship between CEO-to-worker pay disparities and CEO compensation but also on the process through which a third variable, say on pay votes, influences the relationship between CEO-to-worker pay disparities and CEO compensation (Hayes, 2017).

In the second study, OLS regressions are employed to investigate the effect of material CSR contracting on corporate financial and non-financial performance. This estimation technique examines the relationship between two or more variables where one variable (the dependent variable) is explained by other variables (independent variables). More specifically, it estimates the relationship between the dependent and independent variables by minimising the sum of the squared differences between the predicted and actual values of the dependent variable (Wooldridge, 2015). OLS regressions have been chosen because they help explain the causal link between material CSR contracting and corporate financial and non-financial performance. Finally, in the third study, logistic regressions are used to examine the relationship between CSR committees' characteristics and effectiveness on CSR contracting. This estimation technique is

used to study the relationship between one or more independent variables and a categorical dependent variable. It models the likelihood of an outcome occurring based on the values of the independent variables (Wooldridge, 2015). In this case, logistic regressions are recommended due to the binary nature of CSR contracting, the dependent variable (Wooldridge, 2015). Logit regressions are preferred over probit regressions because the logarithmic transformation better accounts for the effects of outliers.

Finally, the statistical parameters employed in all models are discussed. Specifically, they include fixed effects, transformations, heteroskedasticity tests, and a number of additional metrics to further test the assumptions of regression models and better understand the examined relationships. First, a set of sector and year dummy variables is included in each regression model. This practice, named fixed effects regression models, improves the reliability of estimates by controlling for time-specific and sector-specific factors that could influence the dependent variables but are not captured by independent variables, avoiding potential unobserved heterogeneity (Wooldridge, 2015). Second, certain transformations of variables are realised to remove the effect of outliers. Outliers are defined as 'observations in a data set that are substantially different from the bulk of the data' (Wooldridge, 2015, p. 806). Their presence was identified through visual inspections (such as scatter plots) to identify extreme values or irregular patterns and was completed by the computing of summary statistics for each variable to identify the values that significantly deviate from the central tendency or exhibit high variability. Once identified, several techniques have been employed to reduce their effects, such as logarithmic transformation or data winsorising for ratios, as recommended by Flammer, Hong, and Minor (2019). Third, potential heteroskedasticity is addressed using robust standard errors in every model. Heteroskedasticity is present when the variance of the errors is not constant across all observations, violating the assumption of homogeneity of variance in regression models (Wooldridge, 2015). Thus, potential heteroskedasticity is controlled to avoid biased estimates. Fourth, a number of additional analyses have been conducted to assess the robustness of the results. Different techniques are used, such as alternative measures for the dependent variable, structural equation modelling (SEM), lagged variables, endogeneity tests (2SLS, GMM), different measures of the independent variable, and sub-sample comparisons. These different methods and techniques have been widely used in empirical corporate governance and sustainability research. The methodology section of each empirical study provides further explanations about the data analysis techniques.

4.5. Data management and research ethics

This thesis employs secondary data collected manually and through specialist databases (Bloomberg, Asset4). The types of data collected are both financial and non-financial and concern corporations' financial, environmental, social, and governance characteristics. These various datasets originate from annual reports and are publicly available. However, certain variables have been created for this thesis, and their calculation methodologies are disclosed in each methodology section of the given study for the sake of replicability and transparency. This is, for example, the case of the CEO-to-worker pay ratio, material CSR contracting, and the composite score measuring the effectiveness of CSR committees. This thesis does not have particular ethical concerns regarding the anonymity and privacy of the corporations examined, as they are all publicly listed. Accordingly, the various data collected are not sensitive and do not present particular risks associated with their storage. For the sake of data preservation, several backups of the datasets have been generated and stored in different places. In sum, no data-sharing agreements have been made for this thesis due to the unrestricted access and the presence of data in the public domain.

4.6. Conclusion

This chapter has discussed this study's research philosophy, approach, and strategy. It also presented the data and sample, the analysis techniques, and the data management and ethical considerations. Throughout this thesis, a positivist research philosophy is adopted to examine the extent to which the components of sustainable corporate governance influence CEOs' incentives. More precisely, it focuses on the effects of three sustainable corporate governance mechanisms (regulation, CEO compensation, and the board of directors) on CEOs' incentives. Specific explanations concerning methodology will be provided in the following chapters.

Chapter 5 examines the mediation role of shareholder dissent say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation. The main variables of interest are CEO-to-Worker pay ratios, shareholder dissent say on pay votes, and CEO compensation, all continuous variables. The CEO-to-Worker pay ratio (*CTW*) is calculated by dividing total CEO compensation by the average employee pay; shareholder dissent say on pay

votes (*SNOVotes*) is the proportion of voting against the CEO compensation package; and finally, CEO compensation (*CEOTot*) is the total amount of compensation the company paid to the CEO.

Chapter 6 examines whether the inclusion of material ESG targets in CEO compensation contracts influences corporate financial and non-financial performance. The main variables of interest are general and material CSR contracting and different financial and non-financial performance proxies. General and material CSR contracting (respectively *GeneralC* and *MatC*) are dummy variables indicating whether CEO compensation contracts are linked to general or material ESG goals. The proxy for financial performance is the total shareholder returns (TSR), a continuous variable calculated by adding the current share price minus the last share price plus the dividends divided by the last share price. The proxy for non-financial performance is the ESG performance score (*RefESGscore*) of Refinitiv, also a continuous variable.

Chapter 7 examines whether the structural components and effectiveness of CSR committees influence corporations' choice to opt for CSR contracting. The main variables of interest are the structural components of CSR committees, a composite score measuring their effectiveness, and CSR contracting. Specifically, the structural characteristics of CSR committees concern their size (*CSRCSize*), the independence of their directors (*CSRCDirInd*), the independence of their chair (*CSRCChairInd*), and meeting frequency (*CSRCMeet*). The composite score measuring CSR committee effectiveness (*EffeCSRC*) is composed of four dummy variables capturing whether these four structural characteristics are below or above the sample median. Finally, CSR contracting (*CEOCESG*) is a dummy variable indicating whether CEO compensation is linked to ESG targets or not.

Chapter 5
Regulation: CEO-to-worker pay ratio and say on pay votes

5.1. Brief summary

In response to large pay disparities caused by rising CEO compensation and stagnant employee pay, US financial regulators have taken several initiatives to mobilise shareholders. However, the ability of these initiatives to enhance shareholder engagement and reduce excessive CEO compensation has been questioned. Using a large sample of 1,594 non-financial firms from the Russell 3,000 index over 2013 to 2019, this study disentangles the complex role that shareholder engagement towards CEO-to-worker pay disparities plays on CEO compensation. Higher CEO-to-worker pay disparities are found to increase shareholder dissent say on pay votes, and that, paradoxically, shareholder dissent say on pay votes increase CEO compensation. Furthermore, shareholder engagement is found to mediate the relationship between CEO-to-worker pay disparities and CEO compensation through their say on pay votes. These findings align with the relative deprivation theory, as shareholders react to large pay disparities to avoid the negative consequences of a feeling of deprivation on employees. They also align with the agency theory, as shareholder reactions to large CEO-to-worker pay disparities trigger reactions from the remuneration committee to better align CEO pay with their interests. Overall, these findings support the existence of a shareholder engagement channel driven by social comparison mechanisms and agency responses. This study has important implications for regulators, unpacking the usefulness of these regulatory initiatives to shareholders and also documenting their unintended consequences for CEO compensation.

5.2. Introduction

The US Security and Exchange Commission (SEC) was formed after the financial crisis of 1929 to serve two purposes, namely to protect investors and to influence corporate behaviour (Avakian, 2020). Consequently, after the global financial crisis of 2007-2009, the lack of transparency over CEO compensation practises and the rise of CEO-to-worker pay disparities triggered a number of responses from US financial regulators (Schoen, 2017). In 2011, for example, the SEC enforced Section 951 of the Dodd-Franck Act to give shareholders a 'say on pay' vote on CEO compensation. More recently, in 2017, Section 953 (b) was implemented to make the disclosure of the CEO-to-worker pay ratio mandatory. These two regulations have profoundly modified the US corporate governance regulatory landscape by giving more control to shareholders over CEO

compensation practises and intensifying controversies over large CEO-to-worker pay disparities (Murphy & Jensen, 2018).

The adoption of these two regulations has generated a vivid debate about the usefulness of the CEO-to-worker pay ratio for shareholders, its impact on say on pay vote practises, and its ability to tackle excessive CEO compensation (Bank & Georgiev, 2019). On the one hand, supporters argue that the CEO-to-worker pay ratio increases transparency by better attending to who contributed to corporate value creation and by detecting unfair compensation practises (Benedetti & Chen, 2018; Mishel & Wolfe, 2019). This approach sees the CEO-to-worker pay ratio as beneficial in informing shareholders about a potential risk affecting their interests and decreasing excessive CEO compensation. On the other hand, critics are sceptical about the rule's usefulness due to methodological flaws, high implementation costs, and potential unintended consequences for corporations and their stakeholders (Edmans, 2017; Loh, 2017; Murphy & Jensen, 2018). This more conservative approach questions the merits of the CEO-to-worker pay ratio for shareholders and its ability to curb excessive CEO compensation.

The existing literature on the effect of the CEO-to-worker pay ratio on CEO compensation is scarce and conflicting. For example, Chang et al. (2022) and Johnson (2022) find that remuneration committees are modifying the CEO compensation structure and reducing the pay components at risk when firms are under public scrutiny due to large CEO-to-worker pay disparities. However, Irlbeck (2019) documents an increase in CEO compensation (total pay and equity pay), and Knust and Oesch (2020) report no significant results. In addition, empirical studies are mixed concerning the effect of the CEO-to-worker pay ratio on say on pay votes (Knust & Oesch, 2020; Crawford, Nelson, & Rountree, 2021; Chang et al., 2022) and the effects of say on pay votes on CEO compensation (Burns & Minnick, 2013; Gregory-Smith, Thompson, & Wright, 2014; Faghani, Monem, & Ng, 2015; Balsam et al., 2016; Kimbro & Xu, 2016; Grosse, Kean, & Scott, 2017; Hadley, 2017). Thus, there is a need to disentangle the complex role of shareholder engagement towards CEO-to-worker pay disparities in CEO compensation. Consequently, McCahery, Sautner, and Starks (2016) and Pan et al. (2022) introduced the concept of the shareholder engagement channel to explain the complex effect of shareholders' reactions to sustainability issues on corporations' activities and outcomes. However, no studies have applied

this concept to explain the mediating role of shareholder say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation.

Hence, this study examines the effect of CEO-to-worker pay disparities on shareholder dissent say on pay votes and their joint effects on CEO compensation. Relying on the relative deprivation and agency theories, CEO-to-worker pay disparities are supposed to affect CEO compensation through shareholder dissent say on pay votes. This is because the adverse consequences of CEO-to-worker pay disparities caused by social comparisons are likely to create a negative feeling of deprivation among employees, triggering reactions from shareholders and the remuneration committee. Therefore, CEO-to-worker pay disparities may indirectly influence CEO compensation via shareholder say on pay votes. This indirect path is referred to as the shareholder engagement channel, and shareholder say on pay votes are expected to partially mediate the relationship between CEO-to-worker pay disparities and CEO compensation. Using a sample of 1,594 non-financial companies in the Russell 3,000 index from 2013 to 2019, for a total of 9,075 observations, the results show that the CEO-to-worker pay ratio positively impacts shareholder dissent say on pay votes, and shareholder dissent say on pay votes positively impact CEO compensation after controlling for the CEO-to-worker pay ratio. Finally, shareholder dissent say on pay votes are found to partially mediate the relationship between the CEO-to-worker pay ratio and CEO compensation.

The contribution of this study is twofold. First, prior studies have yielded mixed results in documenting the effect of the CEO-to-worker pay ratio on say on pay votes (Knust & Oesch, 2020; Crawford, Nelson, & Rountree, 2021; Chang et al., 2022) and the effect of say on pay votes on CEO compensation (Burns & Minnick, 2013; Gregory-Smith, Thompson, & Wright, 2014; Faghani, Monem, & Ng, 2015; Balsam et al., 2016; Kimbro & Xu, 2016; Grosse, Kean, & Scott, 2017; Hadley, 2017). Additionally, studies on the direct effect between the CEO-to-worker pay ratio and CEO compensation are also conflicting (Irlbeck, 2019; Knust & Oesch, 2020; Chang et al., 2022). Thus, this study contributes to and extends prior studies by proposing and documenting the mediating role of shareholder say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation.

Second, this study demonstrates that shareholder engagement partially mediates the relationship between CEO-to-worker pay disparities and CEO compensation through their say on

pay votes. Drawing on the relative deprivation theory (Martin, 1981; Crosby, 1984; Fehr & Schmidt, 1999; Bolton & Ockenfels, 2000) one possible reason for this finding might be the reaction of shareholders to large CEO-to-worker pay disparities due to their adverse effects on employees. These adverse effects increase shareholders' engagement during say on pay votes, and, in turn, the remuneration committee reacts to these shareholder dissent say on pay votes by modifying CEO compensation. The response of the remuneration committee is consistent with the agency theory. Overall, these results support the existence of a shareholder engagement channel (McCahery, Sautner, & Starks, 2016; Pan et al., 2022) driven by the presence of social comparison mechanisms and agency responses. This study unpacks the usefulness of shareholder say on pay votes and CEO-to-worker pay ratio rules to increase shareholder engagement but also documents their unintended consequences on CEO compensation.

The remainder of this study is organised as follows: Section 2 reviews the literature and develops the hypotheses. Section 3 describes the data and methodology. Section 4 presents the results of the empirical analysis. Finally, Section 5 concludes this study.

5.3. Literature review and hypotheses development

5.3.1. The background of the 'Say on Pay' and 'Pay Ratio Disclosure' regulations

In response to the global financial crisis of 2007-2009 and the rise of political movements asking for more social and economic justice (i.e., Occupy Wall Street), US financial regulators implemented the Dodd-Franck Act in 2010 to restore confidence in capital markets by giving more information and rights to shareholders. This section focuses on two recent regulations (i.e., the say on pay rule and the CEO-to-worker pay ratio disclosure rule) that have fuelled the debate on shareholder engagement towards CEOs' increasing level of compensation and, more recently, on CEO-to-worker pay disparities (Bank & Georgiev, 2019).

In 2011, the SEC implemented Section 951 of the Dodd-Franck Act, also known as the Say on Pay Regulation. This regulation requires publicly listed companies to vote on CEO compensation packages at least every three years or more frequently (i.e., every one or two years). Consequently, shareholders can express their opinions on CEO compensation programmes during the annual meeting of a given year. The SEC designed this rule to give timely and relevant

information to shareholders to enhance their engagement in CEO remuneration practises (SEC, 2015). However, the say on pay regulation is not binding, meaning that companies are not legally obliged to follow voting outcomes.

In 2013, the SEC adopted Section 953 (b) of the Dodd-Franck Act to reinforce the accountability of publicly listed companies by requiring the disclosure of the pay ratio between the CEO and the median of all other employees. Enforced in 2017, the rule requires targeted companies to disclose (under item 402 (c)(2)(x) of Regulation S-K) the following information:

(A) The median of the annual total compensation of all employees

(B) The annual total compensation of the CEO

(C) The ratio of the two

Although directed by the US Congress in July 2010, the pay ratio disclosure rulemaking process has been delayed due to unprecedented engagement from academics, practitioners, and the general public (Crawford, Nelson, & Rountree, 2021; Johnson, 2022). For example, the SEC received more than 287,400 comment letters and 1,540 individual letters after proposing the rule and inviting public comments (SEC, 2015). The SEC argues that the information provided by the CEO-to-worker pay ratio disclosure is useful for investors as it provides important information on the labour practises and incentive structures of a given corporation (SEC, 2015).

In sum, these two rules of the Dodd-Franck Act of 2010 have modified the US regulatory landscape by granting more control to shareholders, increasing transparency over CEO compensation practises, and promoting accountability in the financial system. However, their implementation has been subject to a heated debate. Supporters argue that the CEO-to-worker pay ratio is useful for shareholders and can reduce excessive CEO compensation, while critics assert the opposite (Bank & Georgiev, 2019).

5.3.2. Pay disparities

Pay is a highly controversial topic, symbolising one's efforts and accomplishments, and reflecting one's status (O'Reilly, Main, & Crystal, 1988; Cowherd & Levine, 1992). As most individuals' income comes from their employment, pay disparities greatly influence income distribution and fuel broader economic inequality (Wang, Zhao, & Thornhill, 2015; Song & Whang, 2020). Thus,

pay is a vehicle for broader societal questions related to social inequity and economic inequality (Bank & Georgiev, 2019). The socially constructed symbolic representation of pay appears a significant root of the controversy surrounding the usefulness of the CEO-to-worker pay ratio disclosure for shareholders and its ability to curb excessive CEO compensation (Bank & Georgiev, 2019).

The relative deprivation theory (Martin, 1981; Crosby, 1984; Fehr & Schmidt, 1999; Bolton & Ockenfels, 2000) explains the socially determined symbolic value that pay could represent through social comparisons.[2] It posits that a feeling of deprivation perceived by individuals originates from the effects of comparing their rewards to the rewards of a reference individual or group of individuals (Folger & Martin, 1986). This feeling of deprivation alters their impressions of fairness and lowers their morale and productivity, having detrimental consequences on corporations and their stakeholders (Trevor, Reilly, & Gerhart, 2012). Empirical evidence has demonstrated that a feeling of deprivation derived from the social comparisons of pay disparities could cause inequity perceptions corrosive to cooperation and, ultimately, firm performance (Cowherd & Levine, 1992; Trevor, Reilly, & Gerhart, 2012; Breza, Kaur, & Shamdasani, 2018). Furthermore, perceived inequity could also affect productivity (Pfeffer & Langton, 1993; Beaumont & Harris, 2003), product quality (Cowherd & Levine, 1992; Shaw, Gupta, & Delery, 2002), job satisfaction (Card et al., 2012; Green & Zhou, 2019), attendance (Cornelissen, Himmler, & Koenig, 2011) and employees' turnover (Wade, O'Reilly, & Pollock, 2006; Shin et al., 2015). Thus, the relative deprivation theory is relevant for this study due to its long-standing application in empirical research focusing on the disadvantages of vertical pay disparities comparisons (Cowherd & Levine, 1992; Henderson & Fredrickson, 2001).

[2] An alternative to the relative deprivation theory is the tournament theory (Lazear & Rosen, 1981). Under this approach, large pay gaps are seen as beneficial for shareholders because they enhance employees' motivation and productivity as the value of rewards increases with job levels (Rouen, 2020). Therefore, the tournament theory predicts no reactions from shareholders and no mediation relationship between CEO-to-worker pay disparities and CEO compensation through shareholder say on pay votes.

5.3.3. Hypothesis development

5.3.3.1. The CEO-to-worker pay ratio and shareholder say on pay votes

The relative deprivation theory suggests that individuals may feel dissatisfied or resentful when they compare their situation to that of a reference individual or group of individuals. The CEO-to-worker pay ratio might create a feeling of relative deprivation among employees, as the pay ratio reveals the size of the gap between their compensation and that of their CEOs (Przychodzen & Gómez-Bezares, 2021). Employees wonder whether their CEOs deserve the pay received and whether the CEO compensation package rewards their actual performance. Their morale and productivity might be affected due to the perception of unfairness, as their efforts are not rewarded appropriately compared to their CEOs (Cowherd & Levine, 1992; Trevor, Reilly, & Gerhart, 2012; Breza, Kaur, & Shamdasani, 2018). This 'pay for performance' motive of relative deprivation might affect employees and detrimentally impact the corporation. In sum, the relative deprivation theory suggests that employees might experience negative feelings of relative deprivation due to vertical pay comparisons with their CEOs.

Prior studies examining the relationship between the CEO-to-worker pay ratio and shareholder say on pay votes are mixed. For example, Crawford, Nelson, and Rountree (2021) demonstrate that shareholders react to large CEO-to-worker pay ratios by voting against CEO compensation packages during their say-on-pay proposals. Their study focuses on a sample of US commercial banks from 2010 to 2017 and a sample of ExecuComp firms for 2017. Similar results have been reported by Chang et al. (2022) for a sample of 2,704 US firm-year observations from 2014 to 2018. However, Knust and Oesch (2020) find no relationship between the CEO-to-worker pay ratio and say on pay votes for a sample of 354 US firms from 2015 to 2017. Arguably, shareholders react to large CEO-to-worker pay ratios because they may affect corporate performance. Nevertheless, studies on the CEO-to-worker pay ratio and corporate performance are also inconclusive, with some reporting a positive association (Faleye, Reis, & Venkateswaran, 2013; Banker, Bu, & Mehta, 2016; Cheng, Ranasinghe, & Zhao, 2017), a negative association (Pan et al., 2022) and a mixed association after disaggregating the CEO-to-worker pay ratio (Rouen, 2020). Kaplan and Zamora (2018) suggest that shareholders not only review corporate profits during their say on pay votes but also consider income attributes, such as income and performance against analysts' expectations, and make comparisons to past performance and the performance of

peer companies. Their results show that the perception of fairness about CEO compensation significantly determines shareholder say on pay votes.

In sum, the relative deprivation theory and previous studies suggest that shareholders are likely to react to large CEO-to-worker pay disparities to prevent the adverse effects of a negative feeling of deprivation on employees. Thus, the following hypothesis is proposed:

H1: The CEO-to-worker pay ratio increases the proportion of shareholder dissent say on pay votes.

5.3.3.2. Say on pay votes and CEO compensation

The agency theory posits a potential conflict of interest between shareholders and managers (Jensen & Meckling, 1976). This possibility arises because managers may leverage their positions to prioritise their own interests at the expense of shareholders, leading to decisions not in the best interests of shareholders. The design of CEO compensation is supposed to address this agency problem by incentivising and rewarding CEOs for their performance (Bebchuk & Fried, 2004). However, shareholders express concerns about the overpayment of CEOs and the lack of alignment with corporations' performance (Grewal, Serafeim, & Yoon, 2016). This concern has led to the introduction of the shareholder say on pay votes, which allow shareholders to express their opinions on CEO compensation packages (SEC, 2015).

The agency theory assumes that the proportion of shareholder dissent votes can negatively affect CEO compensation because it signals to the remuneration committee[3] that shareholders lack confidence in the CEO's performance or compensation package (Conyon, 2016). In turn, the remuneration committee might review and reduce the CEO compensation package to better align it with the interests of shareholders. In other words, the threat of shareholder dissent say on pay votes serves as a monitoring mechanism that triggers a reaction from the remuneration committee to act in the best interests of shareholders. Thus, the remuneration committee might reduce CEO compensation to respond to shareholder dissent say on pay votes because it demonstrates its

[3] The remuneration committee represents the interests of shareholders. Accordingly, it plays a crucial role in the contracting process because it is responsible for designing the CEO compensation package and ensuring its alignment with corporate performance.

willingness to address shareholder concerns and ensures that CEO compensation is aligned with corporate performance.

Empirical evidence on the relationship between shareholder say on pay votes and CEO compensation is largely mixed. While some studies report a negative association between say on pay votes and CEO compensation (Balsam et al., 2016; Kimbro & Xu, 2016), others find no association (Burns & Minnick, 2013; Grosse, Kean, & Scott, 2017) and a positive association (Gregory-Smith, Thompson, & Wright, 2014). Beyond these conflicting results, some studies find that shareholder dissent say on pay votes affects the CEO compensation mix. For example, Burns and Minnick (2013) and Faghani, Monem, and Ng (2015) argue that corporations with experience of high shareholder dissent say on pay votes more often apply performance-based compensation. Moreover, Hadley (2017) finds the voluntary use of additional or complementary performance-based compensation.

Overall, the agency theory suggests that the remuneration committee is likely to consider shareholder dissent say on pay votes because they signal the lack of confidence of shareholders in the CEO compensation package. Consequently, the remuneration committee will adjust CEO compensation to respond to shareholder concerns and to better align the CEO compensation package with corporate performance. The following hypothesis is thus proposed:

H2: The proportion of shareholder dissent say on pay votes has a negative effect on CEO compensation.

5.3.3.3. The mediating effect of say on pay votes

According to the relative deprivation theory, large CEO-to-worker pay disparities detrimentally impact corporate performance because they create a negative feeling of deprivation affecting employees. Perceiving this problem, the remuneration committee can directly affect CEO compensation by modifying its level and structure. Moreover, the agency theory posits that shareholders can indirectly affect CEO compensation by issuing dissent say on pay votes to be considered by the remuneration committee. In the latter case, shareholders' reactions are expected to trigger action from the remuneration committee to change CEO compensation. This indirect path

is referred to as the 'shareholder engagement channel', and the combined effect of the (direct and indirect) paths explains the total effect of the CEO-to-worker pay ratio on CEO compensation.

The concept of shareholder engagement channel, introduced by McCahery, Sautner, and Starks (2016) and Pan et al. (2022), might help explain the indirect effect of shareholder say on pay votes on the relationship between CEO-to-worker pay disparities and CEO compensation. According to this concept, shareholder engagement towards a specific sustainability issue, such as income inequality, generates a reaction affecting corporate activities and outcomes through a complex channel of impacts on different corporate systems. This channel starts with the sustainability issue of interest, then provokes a reaction from shareholders, and subsequently affects a corporation's activities and outcomes (Pan et al., 2022). Applied in this case, the shareholder engagement channel begins with the disclosure of the CEO-to-worker pay ratio, which triggers a reaction from shareholders that is expressed through their say on pay votes, and subsequently affects CEO compensation.

Prior research on shareholder engagement in the US focused mostly on its effects on corporate outcomes (Gillan & Starks, 2007). For example, in a review of 73 empirical studies, Denes, Karpoff, and McWilliams (2017) find that shareholder engagement corresponds with improved shareholder value and corporate operations. More narrowly, some research has focused on the effect of shareholder engagement on CEO compensation. Ertimur, Ferri, and Muslu (2011) find that shareholder engagement, expressed through vote-no campaigns, reduces CEO compensation by 38% in corporations with excess CEO compensation. Conyon (2016) documents a reduction in the growth of CEO pay in the US context, while Ferri and Maber (2013) report an increase in the sensitivity of CEO pay to poor performance in the UK context. Additionally, shareholder engagement on sustainability issues has become prevalent in recent years. Grewal, Serafeim, and Yoon (2016) report that shareholder engagement went from 8% in 1999 to 21% in 2013. The authors also find that shareholder engagement on sustainability issues correlates with improved performance on environmental, social, and governance issues and firm value if the proposals are on material (i.e., financially significant) sustainability issues (Grewal, Serafeim, & Yoon, 2016).

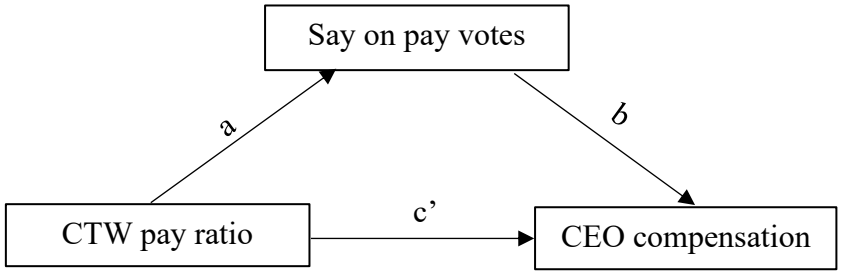
Consequently, the concept of the shareholder engagement channel can be applied to examine the role of shareholder dissent say on pay votes in mediating the relationship between the

CEO-to-worker pay ratio and CEO compensation. Based on the relative deprivation and agency theories, shareholder dissent say on pay votes are expected to mediate the relationship between the CEO-to-worker pay ratio and CEO compensation. Thus, the following hypothesis is advanced:

H3: The proportion of shareholder dissent say on pay votes mediates the relationship between the CEO-to-worker pay ratio and CEO compensation.

Figure 6 presents the conceptual model.

Figure 6: Mediation model



Postestimation calculations:

direct effect = c'

indirect effect = a*b

Sobel test = $a*b/SQRT(b^2*s_a^2 + a^2*s_b^2 + s_a^2*s_b^2)$

RIT = indirect effect / total effect (direct + indirect effects)

RID = indirect effect / direct effect

5.4. Data and methodology

5.4.1. Data and sample

This study focuses on a large sample of non-financial US firms in the Russell 3,000 index from 2013 to 2019, covering 98% of publicly traded equities in this country. Due to the mixed results

from the literature on CEO-to-worker pay ratio, say on pay votes, and CEO compensation (Knust & Oesch, 2020; Crawford, Nelson, & Rountree, 2021; Chang et al., 2022), this extension of the knowledge to small and mid-cap companies might provide new insights on the level of pay disparities, shareholder voting, and CEO compensation practises for this group of companies. The sample period starts in 2013 with the adoption of the CEO-to-worker pay ratio rule by the SEC and ends in 2019, the last year before the coronavirus disease (COVID) pandemic, which greatly affected corporate governance practises (Zattoni & Pugliese, 2021). The data comes from Bloomberg Terminal, a well-known and popular financial data provider widely used in academic research (Park & Ravenel, 2013). Finally, the final sample consists of an unbalanced panel with 1,594 firms and 9,075 firm-year observations. Table 5 reports the sample selection process and the sector classification.

Table 5: Final sample and sector classification

Panel A: Sample selection	**Frequency**	**Percentage**
Initial sample	2,992	100%
Less: Financial companies	745	24.90%
Less: Missing CEO-to-worker pay ratios	332	11.10%
Less: Missing say on pay votes	321	10.72%
Final Sample	**1,594**	**53.28%**

Panel B: Sector classification	**Frequency**	**Percentage**
Energy	120	7.53%
Materials	119	7.47%
Industrials	332	20.83%
Consumer Discretionary	291	18.26%
Consumer Staples	91	5.71%
Healthcare	223	13.99%
IT	301	18.88%
Communications	99	6.21%
Utilities	18	1.12%
Total	**1,594**	**100%**

Note: The final sample is unbalanced and composed of 1,594 firms with 9,075 observations from 2013 to 2019.

5.4.2. Variable definitions and regression models

5.4.2.1. CEO compensation, shareholder dissent say on pay votes, CEO-to-worker pay ratios

Consistent with previous studies on CEO compensation (Shaw & Zhang, 2010; Ertimur, Ferri, & Oesch, 2013), *CEOTot* is the natural logarithm of total CEO compensation. It measures the benefits received by CEOs in return for their services. Then, Obermann and Velte (2018) suggest that shareholder dissent say on pay votes are mainly triggered by total CEO compensation. Thus, *SNO Votes* is measured by the proportion of shareholders voting against the CEO compensation package. Following previous literature on say on pay votes (Ertimur, Ferri, & Oesch, 2013; Conyon, 2016), this variable is computed by the number of shareholder dissent votes divided by the total votes (addition of 'for', 'against', and 'abstention' votes). Finally, following a prior study (Crawford, Nelson, & Rountree, 2021), the CEO-to-worker pay ratio (*CTW*) is calculated by the total compensation of the CEO divided by the average employee pay, where the average employee pay is measured by the total selling, general, and administrative (SG&A) expenses divided by the total number of employees.

5.4.2.2. Control variables

Based on previous studies on corporate governance (Cadman & Carter, 2014; Liu, Padgett, & Varotto, 2017; Sarhan, Ntim, & Al-Najjar, 2019), a set of control variables that may impact shareholder dissent votes and CEO compensation is included. *Peers* is a proxy that accounts for potential social comparison effects between CEO remunerations that may affect the dependent variables. It assesses the distance of CEO compensation relative to other CEOs in their sector (Cadman & Carter, 2014; Denis, Jochem, & Rajamani, 2020). The quality of corporate governance is also likely to affect shareholder dissent say on pay votes and CEO compensation. Consistent with previous studies by Core, Holthausen, and Larcker (1999), Bertrand and Mullainathan (2001), Ertimur, Ferri, and Oesch (2013), Conyon (2016), and Elmagrhi et al. (2020), the analysis considers the presence of compensation consultants (*CompAdv*), the total number of directors sitting on the board (*BoardSize*), the separation of the roles of chairman and CEO (*CEODual*), the presence of a founding member as having a role of CEO (*CEOFounder*), the age of the CEO (*CEOAge*), the

proportion of institutional shareholders (*InstOwn*), and the proportion of non-executive directors on the board (*NonExec*).

Prior literature (Ertimur, Ferri, & Muslu, 2011; Ferri & Maber, 2013) shows that firm performance is a key driver of shareholder dissent votes and CEO compensation. Thus, the analysis includes the return on asset (*ROA*), an accounting-based measure, and the total shareholder return (*TSR*), a market-based measure. Finally, firm characteristics are controlled by including *FirmSize,* measured by the natural logarithm of total assets, and *Leverage,* calculated by dividing total liabilities by its total equity, following Conyon (2016). Consistent with Ryan and Wiggins (2001) and Wade, O'Reilly, and Pollock (2006), *RDIntensity,* determined by dividing research and development (R&D) expenses by total assets, and *NofEmpl*, measuring the total number of employees, are included in the model. Sector and year dummies have also been included. Table 6 presents the definitions of all the variables employed in this study.

Table 6: Definitions of variables

Variables	Definition
Main Dependent and Independent Variables	
CEOTot	The total amount of compensation the company paid to the CEO.
SNOVotes	The proportion of shareholders voting against the CEO compensation package (in percentage).
CTW	The CEO-to-worker pay ratio is calculated by dividing total CEO compensation and the average employee pay. The average employee pay consists of the selling, general, and administrative (SG&A) expenses divided by the total number of employees.
Control Variables	
Peers	The *CEOTot* relative to the average CEO pay in their industry. *Peers* is calculated by subtracting the total CEO compensation and the average CEO pay of the associated industry in absolute value.
CompAdv	1, if the company appoints outside executive compensation advisors, 0 otherwise.
BoardSize	The number of directors on the company's board, as reported by the company.
CEODual	1, if the company's CEO is also chairman of the board, 0 otherwise.
CEOFounder	1, if the company's CEO is also the founder of the company, 0 otherwise.
CEOAge	The age of the CEO.
InstOwn	The proportion of institutional ownership to total company ordinary shareholdings.
NonExec	The percentage of non-executive directors on the board.
ROA	The return on assets is the ratio of net income to total assets.
TSR	The total shareholder return is the annual appreciation or depreciation of the share price plus any dividends paid for one year.
Firmsize	The natural log of total assets.
Leverage	The ratio of debt in current liabilities plus debt in long-term debt divided by the total shareholders' equity.
RDIntensity	The research and development expenses divided by total assets.
NofEmpl	The total number of employees engaged in the business for one year.

5.4.2.3. Model and analysis technique

A regression-based mediation analysis following Baron and Kenny (1986) is conducted to test the hypotheses. This approach has been employed in previous research on corporate governance (Murphy & Sandino, 2020). Mediation can be established through three regressions. A first regression examines the relationship between the independent variable and the mediator, a second regression investigates the relationship between the mediator and the dependent variable, and a third regression tests the relationship between the mediator and the dependent variable after controlling for the independent variable (Baron & Kenny, 1986). Therefore, the following models are estimated:

$$SNOVotes_{it} = \beta 0 + \beta 1\ CTW_{it-1} + \beta 2\ Controls_{it-1} + \varepsilon_{it} \quad (1)$$

$$CEOC_{it} = \beta 0 + \beta 1\ SNOVotes_{it} + \beta 2\ Controls_{\ it-1} + \varepsilon_{it} \quad (2)$$

$$CEOC_{it} = \beta 0 + \beta 1\ SNOVotes_{it} + \beta 2\ CTW_{it-1} + \beta 3\ Controls_{\ it-1} + \varepsilon_{it} \quad (3)$$

In model (1), the dependent variable is *SNOVotes*, measured by the proportion of shareholders voting against the CEO's compensation package for a firm '*i'* in the function of time '*t'*. In models (2) model (3), the dependent variable is *CEOC*, the total CEO compensation for a firm '*i*' in the function of time '*t'*. In terms of independent variables, in model (1), the main variable is the *CTW*, while in model (2), the main variable is *SNOVotes*, and finally, in model (3), the main variables are *SNOVotes* and the *CTW*. *Controls* represents control variables. Finally, a set of sector and year dummies has been included to control for their effects.

Model (1) tests the relationship between the CEO-to-worker pay ratio and the mediator, shareholder dissent say on pay votes, as predicted by hypothesis H1. The coefficient β1 of this model (coefficient a in Figure 6) estimates the first part of the indirect effect of the CEO-to-worker pay ratio on CEO compensation. Model (2) tests the relationship between shareholder dissent say on pay votes and CEO compensation, as predicted by hypothesis H2. Finally, model (3) tests hypothesis H3 regarding the mediating effect of shareholder dissent say on pay votes on the relationship between CEO-to-worker pay disparities and CEO compensation. The coefficient β1 (coefficient b in Figure 6) captures this second part of the indirect effect of the CEO-to-worker pay ratio on CEO compensation. The coefficient β2 of this model (coefficient c' in Figure 6) captures

the direct effect of the CEO-to-worker pay ratio on CEO compensation. The total effect of the CEO-to-worker pay ratio on CEO compensation is the sum of the direct and indirect effects.

Two tests are conducted to evaluate the significance of the mediation effect. First, the Sobel test is computed to determine whether the indirect effect of the predictor on the outcome variable through the mediator is statistically different from zero (Sobel, 1982; MacKinnon, Warsi, & Dwyer, 1995). The Sobel test is computed by the ratio of the product of the coefficients a and b divided by the standard errors (Preacher & Leonardelli, 2001). Second, the ratio of the indirect effect to the total effect (RIT) and the ratio of the indirect effect to the direct effect (RID) are calculated to estimate the size of the mediating effect (Mehmetoglu, 2018).

5.5. Empirical findings

5.5.1. Descriptive statistics

Table 7 presents the descriptive statistics of all the variables used in this study. The average *SNOVotes* is 7.44%, which is in line with the study of Crawford, Nelson, and Rountree (2021), who found an average of 8% for a sample of commercial banks from 2010 to 2017. The average total CEO compensation (*CEOTot*) is 15.39 (or $7,218,880), consistent with Conyon (2016). Regarding the independent variables, the average CEO-to-worker pay ratio is about 168-to-1 with a median of about 83-to-1. Moreover, these findings differ from Crawford, Nelson, and Rountree (2021), who found an average CEO-to-worker pay ratio of about 28-to-1 for US commercial banks. Finally, the descriptive statistics of other explanatory variables are consistent with prior studies (Ertimur, Ferri, & Oesch, 2013; Conyon, 2016; Crawford, Nelson, & Rountree, 2021).

Table 7: Descriptive statistics

Variable	Obs.	Mean	Q1	Median	Q3	Std. Dev.
CEOTot ($000s)	9,075	7,218.88	2,803.02	5,525.36	9,881.82	5,770.08
CEOTot (log)	9,075	15.39	14.85	15.52	16.11	1.31
SNOVotes (%)	9,075	7.44	1.69	3.72	8.30	9.20
CTW	9,075	168.17	33.00	82.90	194.54	215.90
Peers	9,075	14.98	14.47	15.16	15.60	1.10
CompAdv (1/0)	9,075	0.84	1.00	1.00	1.00	0.36
BoardSize	9,075	9.05	8.00	9.00	10.00	2.12
CEODual (1/0)	9,075	0.39	0.00	0.00	1.00	0.49
CEOFounder (1/0)	9,075	0.10	0.00	0.00	0.00	0.29
CEOAge	9,075	56.84	52.00	56.63	61.00	7.21
InstOwn (%)	9,075	87.31	81.23	95.05	100.00	18.13
NonExec (%)	9,075	84.65	81.82	87.50	90.00	8.18
ROA	9,075	5.29	1.76	5.21	9.14	6.50
TSR	9,075	0.16	-0.08	0.15	0.36	0.33
FirmSize (log)	9,075	7.74	6.59	7.67	8.79	1.64
Leverage	9,075	4.03	3.59	4.02	4.76	1.54
Rdintensity	9,075	0.03	0.00	0.00	0.03	0.06
NofEmpl	9,075	8.43	7.31	8.50	9.55	1.76

Note: This table presents the descriptive statistics for the full sample. See Table 6 for the variables' definitions.

Table 8 presents the Pearson correlation matrix. The results show that the CEO-to-worker pay ratio is positively and significantly correlated with the proportion of shareholder dissent say on pay votes, consistent with hypothesis 1. Moreover, total CEO compensation is positively and significantly correlated with the CEO-to-worker pay ratio and the proportion of shareholder dissent say on pay votes. In addition, the VIFs (see Appendix 1) are relatively low for each model, indicating no major multicollinearity problems.

Table 8: Pearson correlation matrix

	CEOTot	SNOVotes	CTW	Peers	CompAdv	BoardSize	CEODual	CEOFounder	CEOAge	InstOwn	NonExec	ROA	TSR	FirmSize	Leverage	Rdintensity	NofEmpl
CEOTot	1																
SNOVotes	.199**	1															
CTW	.385**	.154**	1														
Peers	-.008	.119**	.101**	1													
CompAdv	.349**	.032**	.157**	-.120**	1												
BoardSize	.364**	.009	.266**	.050**	.266**	1											
CEODual	.033**	.032**	.019	.037**	-.017	-.008	1										
CEOFounder	-.167**	.029**	-.059**	.037**	-.080**	-.151**	.206**	1									
CEOAge	.039**	.016	.003	.012	-.074**	.010	.262**	.060**	1								
InstOwn	.221**	.026*	.115**	-.174**	.297**	.120**	-.048**	-.036**	-.090**	1							
NonExec	.254**	.016	.148**	-.081**	.331**	.321**	-.036**	-.152**	-.109**	.243**	1						
ROA	.040**	-.123**	.055**	.012	-.068**	.052**	.027*	-.007	.071**	.001	-.028**	1					
TSR	-.013	-.074**	.001	-.001	-.030**	-.039**	.011	.020	-.035**	-.029**	-.038**	.120**	1				
FirmSize	.499**	.100**	.382**	.099**	.287**	.608**	.085**	-.080**	.009	.207**	.262**	.008	-.062**	1			
Leverage	.172**	.038**	.123**	-.034**	.123**	.193**	.003	-.070**	-.030*	.072**	.135**	-.145**	-.028**	.273**	1		
Rdintensity	-.086**	.016	-.158**	.034**	.008	-.139**	-.025*	.190**	-.124**	-.005	-.036**	-.100**	.081**	-.184**	-.114**	1	
NofEmpl	.409**	.014	.574**	.028**	.232**	.543**	.096**	-.101**	.031**	.218**	.229**	.122**	-.016	.735**	.162**	-.191**	1

Note: This table reports the Pearson correlation coefficients. **, * indicate that the correlation is significant at the 0.01 and 0.05 levels, respectively. See Table 6 for the variables' definitions.

5.5.2. Multivariate regression results

First, Column (1) of Table 9 reports the results regarding the first part of the shareholder engagement channel related to the effect of the CEO-to-worker pay ratio on shareholder dissent say on pay votes. A positive and significant association is found between the CEO-to-worker pay ratio and shareholder dissent votes ($\beta = 0.008$, $p < 0.01$). For every 10 points of the CEO-to-worker pay ratio, the proportion of dissent votes increases by 0.8%. Second, Column (2) of Table 9 shows the results regarding the second part of the shareholder engagement channel dealing with the effect of shareholder dissent say on pay votes on total CEO compensation. A positive and significant relationship is found between shareholder dissent say on pay votes and total CEO compensation ($\beta = 0.022$, $p < 0.01$). For every 10% of shareholder dissent say on pay votes, CEO compensation increases by 2.2%, which is about $137,494. Overall, the results of Column (1) of Table 9 support hypothesis H1, whereby shareholders' response to large CEO-to-worker pay ratio is likely to increase dissent say on pay votes. Nevertheless, the results of Column (2) of Table 9 do not lend support to hypothesis H2 but reveal a positive and significant association between shareholder dissent say on pay votes and CEO compensation.

Third, the mediating effect of say on pay votes is examined by estimating the direct effect between CEO-to-worker pay disparities and CEO compensation after controlling for the mediator's effect on the dependent variable. Column (3) of Table 9 reports a positive and significant association between the CEO-to-worker pay ratio and CEO compensation ($\beta = 0.001$, $p < 0.01$). Additionally, the mediator's effect (say on pay votes) on total CEO compensation is positive and significant ($\beta = 0.021$, $p < 0.01$). These results demonstrate that the relationship between the CEO-to-worker pay ratio and total CEO compensation is partially mediated by the proportion of shareholder dissent say on pay votes, as the direct and indirect paths are both significant. Overall, shareholders' responses to large CEO-to-worker pay gaps are found to affect CEO compensation, which lends support for hypothesis H3.

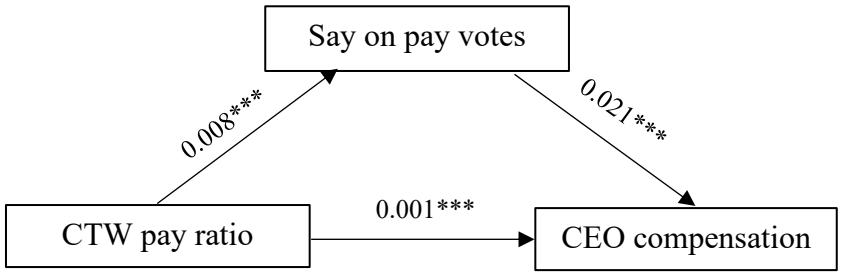
Table 9: CEO-to-worker pay disparities and the shareholder engagement channel

		1st part of the channel		2nd part of the channel	Mediation
	Exp.	Dep: *SNOVotes*	Exp.	Dep: *CEOTot*	Dep: *CEOTot*
	Sign	(1)	Sign	(2)	(3)
CTW	+	0.008***	?		0.001***
		(0.001)			(0.001)
SNOVotes			-	0.022***	0.021***
				(0.002)	(0.002)
Peers	+	0.385***	-	-0.065***	-0.077***
		(0.106)		(0.009)	(0.010)
CompAdv	+	0.084	+	0.652***	0.634***
		(0.324)		(0.064)	(0.062)
BoardSize	?	-0.236***	?	0.022***	0.024***
		(0.067)		(0.007)	(0.007)
CEODual	+	0.806***	+	0.092***	0.104***
		(0.235)		(0.029)	(0.029)
CEOFounder	+	0.534	-	-0.469***	-0.481***
		(0.430)		(0.094)	(0.094)
CEOAge	+	0.031*	+	0.013***	0.014***
		(0.016)		(0.003)	(0.003)
InstOwn	+	0.011*	+	0.004***	0.004***
		(0.006)		(0.001)	(0.001)
NonExec	-	0.022	+	0.009***	0.009***
		(0.015)		(0.002)	(0.002)
ROA	-	-0.089***	+	0.008***	0.008***
		(0.018)		(0.002)	(0.002)
TSR	-	-2.700***	+	0.250***	0.233***
		(0.405)		(0.047)	(0.047)
FirmSize	+	1.278***	+	0.272***	0.289***
		(0.127)		(0.021)	(0.020)
Leverage	+	-0.079	+	0.025*	0.021
		(0.078)		(0.014)	(0.013)
RDIntensity	?	3.633	?	0.225	0.416
		(2.540)		(0.396)	(0.381)
NofEmpl	?	-1.285***	?	0.026**	-0.027**
		(0.135)		(0.010)	(0.014)
Year effects		Yes		Yes	Yes
Sector effects		Yes		Yes	Yes
Intercept		-1.008		11.046***	11.411***
		(2.387)		(0.291)	(0.274)
Adj. R2		0.072		0.370	0.376
No. of obs.		7,280		7,280	7,280

Note: This table presents the OLS estimations for the CEO-to-worker pay ratio as a determinant of shareholder dissent votes (first part of the shareholder engagement channel), for the shareholder opposition to pay gaps and its effect on future CEO compensation (second part of the shareholder engagement channel), and for the joint effect of the CEO-to-worker pay ratio and the shareholder opposition to pay gaps on future CEO compensation (mediation relationship). In all columns, independent variables are lagged by one year, except *SNOVotes*. Robust standard errors are presented in the parenthesis, and *, **, *** indicate statistical significance at 10%, 5%, and 1%. See Table 6 for the variables' definitions.

Finally, the Sobel test is conducted to estimate the significance of the indirect effect of the CEO-to-worker pay ratio on CEO compensation via the proportion of shareholder dissent say on pay votes. The Sobel test reveals a positive and significant indirect effect of the proportion of shareholder dissent say on pay votes on CEO compensation ($Z = 6.345$, $p < 0.01$), which lends support to hypothesis H3. Following Mehmetoglu (2018), the ratio of the indirect effect to the total effect (RIT) and the ratio of the indirect effect to the direct effect (RID) are calculated to evaluate the size of the mediating effect. The RIT is equal to 0.144, meaning that about 14% of the effect of the CEO-to-worker pay ratio on total CEO compensation is mediated by shareholder dissent say on pay votes. The RID is equal to 0.168, meaning that the mediated effect is about 0.168 times as large as the direct effect of the CEO-to-worker pay ratio on total CEO compensation. Figure 7 summarises the results of the mediation test on total CEO compensation.

Figure 7: CEO-to-worker pay ratio mediated influence on total CEO compensation



Postestimation calculations:

direct effect = 0.001

indirect effect = 0.00017

Sobel test = 6.345***

RIT = 0.144

RID = 0.168

In sum, CEO-to-worker pay disparities are found to increase shareholder dissent say on pay votes. Consistent with the relative deprivation theory, shareholders may react to higher CEO-to-worker pay disparities to prevent the adverse effects of a negative feeling of deprivation caused by social comparisons between employees and CEOs. Second, shareholder

dissent say on pay votes are found to increase CEO compensation. Although unexpected, this result can be explained by the agency theory. The remuneration committee does consider shareholder dissent say on pay votes because they provide information about the potential negative consequences of large CEO-to-worker pay disparities on employees' and CEOs' performance. However, instead of decreasing the level of CEO compensation, the remuneration committee may modify the CEO compensation mix to tighten the link between pay and performance (Burns & Minnick, 2013; Faghani, Monem, & Ng, 2015; Hadley, 2017). Thus, if CEOs perform well, their remuneration is likely to increase. Finally, shareholder dissent say on pay votes are found to partially mediate the link between CEO-to-worker pay disparities and CEO compensation. This result is consistent with the relative deprivation and agency arguments, supporting the existence of a shareholder engagement channel. Through this indirect channel, the negative effects of relative deprivation experienced by employees trigger actions from shareholders and the remuneration committee to modify CEO compensation.

Prior studies examining these relationships report mixed results. Consequently, the findings must be compared and contrasted with the existing literature examining the effect of the CEO-to-worker pay ratio on shareholder say on pay votes and the effect of shareholder say on pay votes on CEO compensation. In terms of hypothesis H1 (the effect of CEO-to-worker pay disparities on CEO compensation), the result is consistent with the study of Chang et al. (2022) and Crawford, Nelson, and Rountree (2021). However, it is not in line with the findings of Knust and Oesch (2020), who report no significant relationship between the CEO-to-worker pay ratio and shareholder say on pay votes. Concerning hypothesis H2 related to the effect of say on pay votes on CEO compensation, the result is consistent with the study of Gregory-Smith, Thompson, and Wright (2014). However, it goes against the findings of Balsam et al. (2016) and Kimbro and Xu (2016), who report a negative association between shareholder dissent say on pay votes and CEO compensation, and Burns and Minnick (2013) and Grosse, Kean, and Scott (2017), who find that say on pay votes reduce CEO compensation. Finally, hypothesis H3 related to the mediation effect of shareholder dissent say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation is consistent with the arguments of McCahery, Sautner, and Starks (2016) and Pan et al. (2022) on the existence of a shareholder engagement channel triggered by sustainability issues. In sum, this study provides evidence of a positive and significant direct effect of the CEO-to-worker pay ratio on CEO compensation and a positive and significant indirect effect through shareholder dissent say on pay votes. These findings add to prior studies by documenting the mediating role of

shareholder engagement in the relationship between CEO-to-worker pay disparities and CEO compensation.

5.5.3. Robustness tests

First, a test using alternative measures is conducted for the dependent variable using the same estimation technique as for the baseline regressions. Total CEO compensation (*CEOTot*) is replaced by three alternative proxies: CEO cash compensation (*CEOCash*), CEO equity compensation (*CEOEquity*), and CEO all other compensation (*CEOAllOther*). *CEOCash* is the natural logarithm of the total salary and bonus paid to the CEO. *CEOEquity* is the natural logarithm of the total stocks and options awards paid to the CEO. *CEOAllOther* is the natural logarithm of the total non-cash and non-equity paid to the CEO. Consistent with prior studies on CEO compensation (Shaw & Zhang, 2010; Ertimur, Ferri, & Muslu, 2011), this disaggregation of CEO compensation controls for the potential effects of accounting volatility and external shocks. Table 10 reports that the indirect effect of the CEO-to-worker pay ratio on CEO compensation through the proportion of shareholder dissent say on pay votes is significant ($p < 0.05$) for all models. These results are in line with the baseline findings.

The Sobel test is performed to further test the significance of the indirect effect. A positive and significant indirect effect is found for CEO cash compensation ($Z = 3.556$, $p < 0.01$), CEO equity compensation ($Z = 5.173$, $p < 0.01$), and CEO all other compensation ($Z= 3.186$, $p < 0.01$). However, the size of the indirect effect varies depending on the component of CEO compensation. As for *CEOCash*, the RIT is 0.060 and the RID is 0.064, for *CEOEquity*, the RIT is 0.247 and the RID is 0.328, while for *CEOAllOther*, the RIT is 0.101 and the RID is 0.112. The mediation effect is greater for the equity component of CEO compensation. This result is consistent with the arguments derived from the relative deprivation and agency theories. The negative effects of large CEO-to-worker pay disparities on employees through shareholder dissent say on pay votes are perceived by remuneration committee members, which may trigger action to modify the mix of CEO compensation to tighten pay to performance. Consequently, if CEOs perform well, their remuneration is likely to increase. Overall, the results give a more granular understanding of the complex relationship between CEO-to-worker pay disparities, shareholder say on pay votes, and CEO compensation, consistent with the previous findings. Figure 8 summarises the results of the test using alternative measures for the dependent variable.

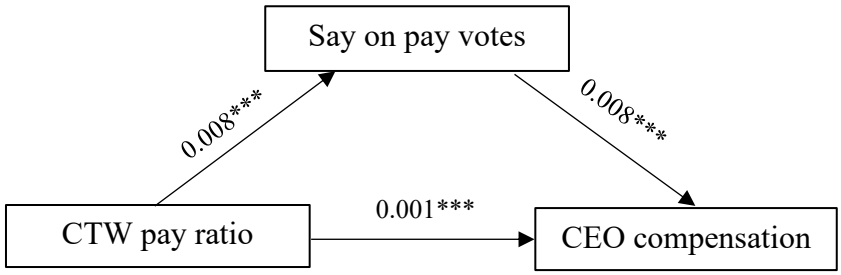
Table 10: Alternative measures for the dependent variable

	1st part of the channel	2nd part of the channel			Mediation		
	Dep: *SNO Votes*	Dep: *CEO Cash*	Dep: *CEO Equity*	Dep: *CEO AllOther*	Dep: *CEO Cash*	Dep: *CEO Equity*	Dep: *CEO AllOther*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
CTW	0.008***				0.001***	0.001***	0.001**
	(0.001)				(0.001)	(0.001)	(0.001)
SNOVotes		0.010***	0.044***	0.015***	0.008***	0.041***	0.014***
		(0.002)	(0.006)	(0.004)	(0.002)	(0.006)	(0.004)
Peers	0.385***	-0.039**	-0.310***	-0.010	-0.059***	-0.332***	-0.019
	(0.106)	(0.016)	(0.041)	(0.030)	(0.016)	(0.042)	(0.030)
CompAdv	0.084	0.612***	2.290***	0.424***	0.585***	2.258***	0.411***
	(0.324)	(0.089)	(0.205)	(0.112)	(0.088)	(0.204)	(0.111)
BoardSize	-0.236***	0.047***	0.113***	0.077***	0.049***	0.116***	0.078***
	(0.067)	(0.016)	(0.035)	(0.020)	(0.016)	(0.035)	(0.020)
CEODual	0.806***	0.072	0.053	0.276***	0.089**	0.074	0.284***
	(0.235)	(0.045)	(0.106)	(0.073)	(0.046)	(0.106)	(0.074)
CEOFounder	0.534	-1.188***	-0.842***	-1.203***	-1.207***	-0.864***	-1.212***
	(0.430)	(0.139)	(0.225)	(0.155)	(0.139)	(0.225)	(0.155)
CEOAge	0.031*	0.023***	-0.006	0.032***	0.023***	-0.006	0.032***
	(0.016)	(0.005)	(0.009)	(0.005)	(0.005)	(0.009)	(0.005)
InstOwn	0.011*	0.001	0.025***	0.004	0.001	0.025***	0.004
	(0.006)	(0.001)	(0.004)	(0.002)	(0.001)	(0.004)	(0.002)
NonExec	0.022	0.010***	0.048***	0.020***	0.009***	0.047***	0.020***
	(0.015)	(0.003)	(0.009)	(0.005)	(0.003)	(0.009)	(0.005)
ROA	-0.089***	0.001	0.009	0.024***	0.001	0.009	0.023***
	(0.018)	(0.004)	(0.009)	(0.006)	(0.004)	(0.009)	(0.006)
TSR	-2.700***	0.248***	0.207	-0.075	0.222***	0.177	-0.087
	(0.405)	(0.070)	(0.187)	(0.127)	(0.069)	(0.187)	(0.127)
FirmSize	1.278***	0.121***	0.366***	0.409***	0.148***	0.397***	0.421***
	(0.127)	(0.027)	(0.059)	(0.038)	(0.026)	(0.059)	(0.038)
Leverage	-0.079	0.031**	0.030	0.012	0.024	0.022	0.008
	(0.078)	(0.016)	(0.037)	(0.027)	(0.015)	(0.037)	(0.028)
RDIntensity	3.633	-3.252***	2.463**	-2.916***	-2.958***	2.803**	-2.781***
	(2.540)	(0.508)	(1.239)	(0.874)	(0.488)	(1.229)	(0.876)
NofEmpl	-1.285***	0.007	0.048	0.141***	-0.075***	-0.047	0.104***
	(0.135)	(0.019)	(0.049)	(0.031)	(0.024)	(0.059)	(0.036)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-1.008	10.449***	5.596***	2.117***	11.013***	6.249***	2.377***
	(2.387)	(0.474)	(1.129)	(0.704)	(0.466)	(1.148)	(0.712)
Adj. R2	0.072	0.168	0.189	0.235	0.175	0.191	0.235
No. of obs.	7,280	7,280	7,280	7,280	7,280	7,280	7,280

Note: This table presents the OLS estimations for the two parts of the shareholder engagement channel and the mediation relationship using CEO cash compensation, CEO equity compensation, and CEO all other as alternative measures of the dependent variable. In all columns, independent variables are lagged by one year, except *SNOVotes*. Robust standard errors are presented in the parenthesis, and *, **, *** indicate statistical significance at 10%, 5%, and 1%. See Table 6 for the variables' definitions.

Figure 8: Test using alternative measures for the dependent variable

Panel A: CEO-to-worker pay ratio mediated influence on CEO cash compensation



Postestimation calculations:

direct effect = 0.001

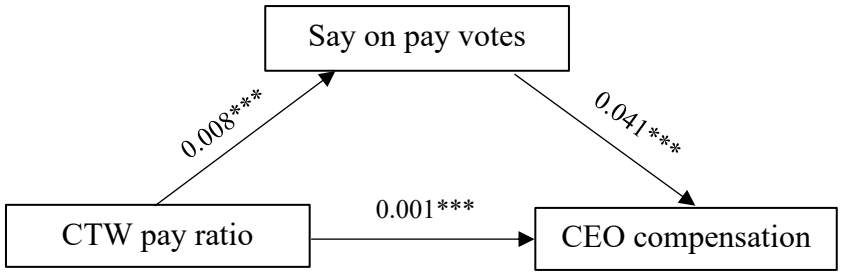
indirect effect = 0.00006

Sobel test = 3.556***

RIT = 0.060

RID = 0.064

Panel B: CEO-to-worker pay ratio mediated influence on CEO equity compensation



Postestimation calculations:

direct effect = 0.001

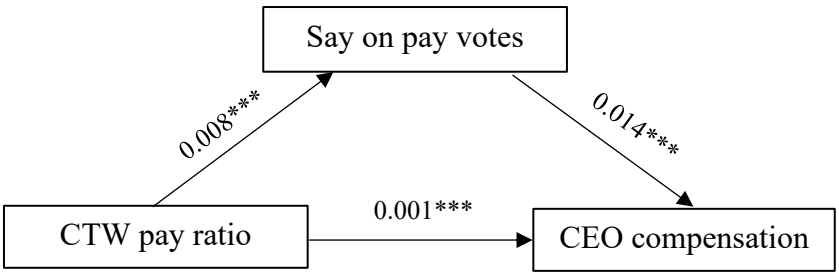
indirect effect = 0.00033

Sobel test = 5.173***

RIT = 0.247

RID = 0.328

Panel C: CEO-to-worker pay ratio mediated influence on CEO all other compensation



Postestimation calculations:

direct effect = 0.001

indirect effect = 0.00011

Sobel test = 3.186***

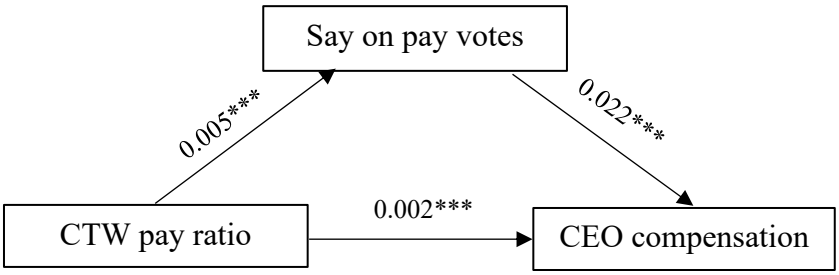
RIT = 0.101

RID = 0.112

Second, a mediation test is conducted using structural equation modelling (SEM). The sole use of a regression-based approach to establish a mediation effect has been criticised because it produces larger standard errors for the path coefficients than an SEM-based approach (Iacobucci, Saldanha, & Deng, 2007). Mehmetoglu (2018) argues that the SEM-based approach is more precise due to the simultaneous estimations of parameters. Therefore, the two-step method of Iacobucci, Saldanha, and Deng (2007) is applied and adjusts Baron and Kenny's (1986) approach to SEM. The first step of Iacobucci, Saldanha, and Deng's (2007) approach is to estimate the direct and indirect paths of the mediation model simultaneously through SEM. This step helps in the estimation of whether the mediation effect is absent, partial, or complete. The second step can be conducted if the mediation effect is either partial or complete. It consists of computing the Sobel test to estimate the significance and size of the direct and indirect paths. Finally, the results can be reported and categorised as absent, partial, or complete. Using the SEM-based approach, the results (not tabulated) show that the indirect effect of shareholder dissent say on pay votes on the relationship between CEO-to-worker pay disparities and CEO compensation is strongly significant ($p < 0.01$). Furthermore, the Sobel test is positive and significant ($Z = 4.536$, $p < 0.01$), the RIT is 0.052, and the RID is 0.055, which supports hypothesis H3, whereby the effect of the CEO-to-worker pay ratio on CEO compensation

passes through the proportion of shareholder dissent say on pay votes. Overall, the SEM-based approach results are consistent with those reported in Table 9. Figure 9 summarises the results of the mediation test using SEM on total CEO compensation.

Figure 9: Structural equation modelling (SEM)



Postestimation calculations:

direct effect = 0.002

indirect effect = 0.00011

Sobel test = 4.536***

RIT = 0.052

RID = 0.055

5.6. Discussion and conclusion

The US financial regulator has implemented numerous initiatives to better inform shareholders on labour practises and pay disparities within corporations (Murphy & Jensen, 2018; Bank & Georgiev, 2019). Nevertheless, the empirical evidence is inconclusive as to their effects on shareholders and CEO compensation (Burns & Minnick, 2013; Gregory-Smith, Thompson, & Wright, 2014; Faghani, Monem, & Ng, 2015; Balsam et al., 2016; Kimbro & Xu, 2016; Grosse, Kean, & Scott, 2017; Hadley, 2017; Knust & Oesch, 2020; Crawford, Nelson, & Rountree, 2021; Chang et al., 2022). Using a large sample of 1,594 non-financial firms from 2013 to 2019, this study investigates the influence of the CEO-to-worker pay ratio on shareholder dissent say on pay votes and the mediating effect of shareholder dissent say on pay votes on the relationship between CEO-to-worker pay ratio and CEO compensation. CEO-to-worker pay disparities are found to increase shareholder dissent say on pay votes, and shareholder dissent say on pay votes increase CEO compensation. Moreover, this study documents the mediating role of shareholder

say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation.

First, the findings are consistent with the relative deprivation theory perspective concerning the shareholders' reactions to large CEO-to-worker pay disparities. Shareholders are likely to issue dissent say on pay vote because they perceive the negative consequence of a feeling of deprivation caused by a 'pay for performance' motive among employees. Second, shareholder dissent say on pay votes are found to increase CEO compensation. This result can be explained by the agency theory. The remuneration committee is likely to consider shareholder dissent say on pay votes by modifying CEO compensation to avoid the adverse consequences of a feeling of deprivation on employees. Nevertheless, orienting the CEO compensation mix to a performance-based mix may increase CEO compensation if the CEO performs well. Finally, shareholder say on pay votes are found to mediate the relationship between CEO-to-worker pay disparities and CEO compensation, as predicted by the relative deprivation and agency theories.

This study has important implications for policymakers and regulators because it elaborates the usefulness of the CEO-to-worker pay ratio disclosure for shareholders. The regulation pressures boards of directors to tighten CEO pay to performance because the CEO-to-worker pay ratio gives shareholders a benchmark to compare within-corporation pay fairness. However, its unintended consequences raise questions about its real benefits to society, fuelling the debate on the effects of disclosure regulation (Edmans, 2017; Loh, 2017; Murphy & Jensen, 2018). Overall, this study makes two primary contributions to the literature. First, it articulates two streams of literature that have reported mixed findings concerning the effects of the CEO-to-worker pay ratio on say on pay votes and the effects of say on pay votes on CEO compensation. Consequently, this study extends the literature by documenting the mediating role of shareholder say on pay votes in the relationship between CEO-to-worker pay disparities and CEO compensation. Second, based on the relative deprivation and agency theories, this study shows that shareholders and the board of directors are reacting to CEO-to-worker pay disparities due to the potential negative consequences of a feeling of deprivation experienced by employees and CEOs. This result provides evidence of the indirect impact of shareholder reactions to CEO-to-worker pay disparities on CEO compensation. In a nutshell, the findings support the existence of a shareholder engagement channel driven by social comparison mechanisms and agency responses.

Like other studies, the study has limitations that may open avenues for future research. First, the current study focuses on the mediating role of say on pay votes, and future research can investigate the mediating role of other factors, such as compensation consultants, on the relationship between CEO-to-worker pay disparities and CEO compensation. Second, although the disclosure regulation of the CEO-to-worker pay ratio has recently been adopted in various developed countries (e.g., France in 2018 and the UK in 2020), the ratio is mainly used for informational purposes. Nevertheless, recent tax initiatives have been proposed to penalise companies with large CEO-to-worker pay disparities. For example, the city of Portland, Oregon, is applying a 10% surtax on firms surpassing a ratio of 100:1, and this surtax rose to 25% for companies with a ratio of more than 250:1 (City of Portland, 2017). Future research could explore the effectiveness of these tax initiatives to provide timely evidence to companies, investors, and regulators.

Appendix 1: Variance inflation factors (VIFs) and tolerance for Chapter 5

	1st part of the channel (dep=*SNOVotes*)		2nd part of the channel (dep=*CEOTot*)		Mediation (dep=*CEOTot*)	
Variable	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance
CTW	1.57	0.64			1.64	0.61
SNOVotes			1.05	0.95	1.08	0.93
Peers	1.14	0.88	1.12	0.89	1.14	0.88
CompAdv	1.27	0.79	1.27	0.79	1.27	0.79
BoardSize	1.82	0.55	1.83	0.55	1.83	0.55
CEODual	1.17	0.85	1.17	0.86	1.17	0.85
CEOFounder	1.15	0.87	1.15	0.87	1.15	0.87
CEOAge	1.13	0.88	1.13	0.88	1.13	0.88
InstOwn	1.24	0.81	1.24	0.81	1.24	0.81
NonExec	1.32	0.76	1.32	0.76	1.32	0.76
ROA	1.14	0.88	1.14	0.88	1.14	0.88
TSR	1.33	0.75	1.34	0.75	1.34	0.74
FirmSize	3.62	0.28	3.60	0.28	3.69	0.27
Leverage	1.15	0.87	1.14	0.88	1.15	0.87
RDIntensity	1.48	0.68	1.47	0.68	1.48	0.68
NofEmpl	4.14	0.24	3.35	0.30	4.30	0.23

Chapter 6
CEO compensation: CSR contracting

6.1. Brief summary

Companies have increasingly started to include ESG targets in CEO compensation contracts. However, this recent initiative, named 'CSR contracting', raises questions about the prioritisation of ESG issues and the balance of stakeholders' interests. CSR contracting may direct CEOs' attention to objectives not matching those of the corporation, shareholders, and other stakeholders, potentially harming these different parties. This study examines whether the types of ESG targets (i.e., material or general) included in CEO compensation influence corporate financial and non-financial performance. Using a sample of 1,577 companies from 2011 to 2019, material CSR contracting more substantially affects environmental performance than does general CSR contracting in the short term and has a greater effect on all non-financial performance proxies after three years of implementation. Additionally, general CSR contracting is associated with lower asset turnover in the short term, meaning that such an initiative reduces corporations' ability to generate revenues from their assets. The merits of material and general CSR contracting for corporations and their stakeholders are discussed, raising tough questions about the simultaneous achievement of financial and non-financial performance and the soundness of shareholder-oriented materiality frameworks.

6.2. Introduction

Corporate socially responsible (CSR) contracting aims to attract CEOs' attention towards environmental, social, and governance (ESG) objectives meeting the interests of different groups of stakeholders (Maas, 2018). However, researchers find difficulties concerning which ESG targets to include in CEO compensation due to the heterogeneity of stakeholders' interests (Burchman, 2018; Flammer, Hong, & Minor, 2019; Gosling & O'Connor, 2021). Some research advances that such initiatives may lead compensation-setters[4] to disconnect the CEOs' incentive structures from the financial and non-financial objectives of corporations by giving too much attention to less salient stakeholders (Banker, Potter, & Srinivasan, 2000; Ittner & Larcker, 2001; Emerton & Jones, 2019). Meanwhile, following rising shareholder activism and recent changes in the regulatory landscape, CSR contracting is mainstreaming in the US and worldwide (Maas & Rosendaal, 2016).

4 The term compensation-setters refers to the individuals in charge of the design of CEO compensation (i.e., directors in the compensation committee and their compensation consultants).

Prior empirical studies on CSR contracting and corporate financial performance are mixed. Some authors report a positive link with market-based performance measures (Flammer, Hong, & Minor, 2019), while others find the opposite with accounting-based measures (Cavaco, Crifo, & Guidoux, 2020), and some show no association with accounting-based measures and a negative association with market-based measures (Khenissi, Hamrouni, & Ben Farhat, 2022). Then, empirical studies on CSR contracting and corporate non-financial performance report a positive relationship (Flammer, Hong, & Minor, 2019; Cavaco, Crifo, & Guidoux, 2020; Khenissi, Hamrouni, & Ben Farhat, 2022). However, other studies specify conditions under which this relationship is positive. For example, CSR contracting is found to positively influence corporate non-financial performance when quantitative ESG targets are used (Maas, 2018), when ESG targets remain symbolic (Haque, 2017; Haque & Ntim, 2020), and after a few years of implementation of ESG targets have passed (Derchi, Zoni, & Dossi, 2021).

These contradictory findings suggest a disconnection between the CEOs' incentive structures and the financial and non-financial objectives of the corporation due to the prioritisation of less salient stakeholders. Hence more and more researchers are advocating for the application of the concept of materiality to identify stakeholders' salience based on their financial significance or materiality (Eccles, Krzus, & Ribot, 2014; Khan, Serafeim, & Yoon, 2016; Whitehead, 2017; Freiberg, Rogers, & Serafeim, 2020). Non-financial materiality refers to 'those issues that can have significant repercussions on the company (both positive and negative)' (NYU, 2019, p. 2). Applied to CSR contracting, materiality can be seen as a strategic tool that could help prioritise stakeholders' interests and facilitate the inclusion of ESG targets in compensation contracts based on their 'likelihood to impact the conditions or the operating performance of a company' (Kotsantonis & Bufalari, 2019, p. 2). Prior empirical studies on the concept of materiality reveal contradictory findings concerning the use of material ESG information and corporate financial performance (Khan, Serafeim & Yoon, 2016; Giorgino, Supino & Barnabè, 2017; Kotsantonis & Bufalari, 2019; Kaiser, 2020; Kim & Lee, 2020; Grewal, Hauptmann, & Serafeim, 2021; Schiehll & Kolahgar, 2021; Consolandi, Eccles, & Gabbi, 2022). However, studies on material ESG information and corporate non-financial performance report a positive relationship (Maniora, 2018; Jadoon et al., 2021; Madison & Schiehll, 2021). Given the difficulties of materiality assessment, several organisations propose guidance to identify material ESG issues at the firm, industry, or sector levels. This study relies

on the Sustainability Accounting Standard Board[5] (SASB) stakeholder-oriented materiality framework to identify ESG issues material to corporations.

The stakeholder-agency theory (Hill & Jones, 1992) proposes a way to reconcile some of the empirical contradictions found in the literature by recognising the need to align the interests of CEOs with those of all stakeholders to achieve long-term success. From this theoretical perspective, material CSR contracting could better connect the CEOs' incentive structures to financial and non-financial objectives of corporations by focusing on ESG issues that shape their activities and outcomes. Using a large sample of 1,577 companies from 2011 to 2019, the different ESG issues identified in corporations' annual reports (filings DEF 14A) have been manually matched with material issues identified by the SASB to determine whether general or material ESG targets were tied to CEO compensation. Their effects on corporate financial and non-financial performance are tested, and several additional analyses are conducted to assess the robustness of the results.

This study makes a twofold contribution to the literature. First, it introduces the notions of general and material CSR contracting to classify the types of ESG targets included in CEO compensation that strategically matter for the corporation. Thus, this study refines the current academic conversation on the effects of CSR contracting and corporate performance by demonstrating that, over time, the material character of ESG targets included in CEO compensation matters (Ibrahim & Lloyd, 2011; Brown-Liburd & Zamora, 2015; Haque, 2017; Maas, 2018; Flammer, Hong, & Minor, 2019; Li & Thibodeau, 2019; Cavaco, Crifo, & Guidoux, 2020; Haque & Ntim, 2020; Derchi, Zoni, & Dossi, 2021; Tsang et al., 2021; Adu, Flynn & Grey, 2022; Cho & Ibrahim, 2022; Khenissi, Jahmane, & Hofaidhllaoui, 2022; Khenissi, Hamrouni, & Ben Farhat, 2022). Second, the findings challenge the stakeholder-agency theory by demonstrating that satisfying all stakeholders in the same time frame may not be achievable. Thus, this study refines the stakeholder-agency theory of Hill and Jones (1992) by highlighting the need for intertemporal trade-offs and strategic prioritisation when identifying and selecting ESG targets in CEO compensation contracts to encourage them to consider the interests of all stakeholders in different temporalities.

5 The SASB (now part of the Value Reporting Framework) is a non-profit organisation that has developed sustainability accounting standards. These standards help corporations and investors identify the most relevant ESG issues for enterprise value creation. The SASB standard-setting procedure involves the collection of evidence-based information from a wide range of market participants. Its results are summarised in the SASB's financial materiality map® and are regrouped under 11 sectors and 77 industries.

This study has important implications for corporations and regulators. First, it raises challenging questions about the simultaneous achievement of financial and non-financial performance. While material CSR contracting might represent a promising alleyway by which to align the interests of stakeholders on different temporalities, its short-term financial performance uncertainties unveil the need for compensation-setters to build a solid narrative defending their case. This should push compensation-setters to put in place strategies that enhance CEOs' efforts on CSR and avoid a re-prioritisation of shareholder interests over other stakeholders, as seen in the case of Danone[6] (Bansal, 2021). Second, this study calls into question the soundness of shareholder-oriented materiality frameworks by showing their relevance for the identification of ESG issues but also their fragilities to meet the financial and non-financial objectives of corporations due to methodological shortcomings (i.e., generic ESG issues, lack of focus on future opportunities, and increased imitation pressures in some sectors). The findings may help compensation-setters to question current shareholder-oriented materiality frameworks by refining the concept of materiality with respect to their own financial and non-financial strategies. They also highlight the need for regulators to substantiate their efforts to clarify the concept of materiality and promote a more inclusive financial regulation by considering the merits of material CSR contracting.

The remainder of this paper is organised as follows: The next section introduces the literature review and develops the hypotheses. The third section deals with the data and methodology. The fourth section presents the results, and the last section provides a discussion and a conclusion.

6.3. Literature review and hypotheses development

6.3.1. CEO compensation and CSR

In corporate governance theory, compensation contracts are seen as mechanisms providing incentives to individuals and rewarding for the performance achieved (Hong, Li, & Minor, 2016). Based on the agency theory of Jensen & Meckling (1976), this approach suggests that

[6] In March 2021, Emmanuel Faber was removed from his position as CEO of the Danone Group by activist hedge funds who believed that the company became less profitable due to its environmental and social responsibility policies (Bris, 2021). Several studies have demonstrated that leading companies in CSR can be attacked by activist hedge funds who cut their working capital expenses and reduce their investments in R&D, or CSR, to generate short-term returns (DesJardine & Durand, 2020; DesJardine, Marti, & Durand, 2021). Hence, stripping corporations of their hard-won and long-term benefits.

corporations are a nexus of contracts between self-interested individuals (Eisenhardt, 1989). Accordingly, financial targets have been traditionally included in CEO compensation to direct CEOs' attention to corporate financial objectives and shareholder value creation (McGuire, Dow, & Argheyd, 2003; Berrone & Gomez-Mejia, 2009; Derchi, Zoni, & Dossi, 2021). Nevertheless, this neo-classical approach arguing that CEOs are only responsible for maximising shareholders' interests has been met with a more pro-socioeconomic one, whereby CEOs should direct their attention to the interests of all individuals or groups affected by the achievement of longer-term corporate objectives (Nigam, Benetti, & Mbarek, 2018). Based on the stakeholder theory (Freeman, 1984), this approach views corporations as value-creators for all legitimate stakeholders, not just shareholders. Consequently, there has been an increasing use of non-financial targets in CEO compensation to direct CEOs' attention to corporate non-financial objectives and stakeholder value creation.

CSR contracting is a voluntary initiative consisting of the inclusion of non-financial, or ESG, targets in CEO compensation contracts. Today, this governance mechanism is controversial because researchers and practitioners find it challenging to identify and select ESG targets in CEO compensation due to the various, and often contradictory, interests of stakeholders (Burchman, 2018; Flammer, Hong, & Minor, 2019; Gosling & O'Connor, 2021). As each ESG target corresponds to a particular ESG issue faced by one or more stakeholders, to pick a particular ESG issue is to favour one or more groups of stakeholders at the expense of all others. This selectiveness creates tensions between what CEOs are incentivised to do and what stakeholders are expecting them to do, possibly resulting in contractual losses for both the agent and the principal. In other words, if too many resources are allocated to maximise the interests of a specific group of stakeholders, the interests of other groups of stakeholders might not be efficiently maximised. Thus, some researchers advocate for the identification and selection of ESG targets that better align the CEOs' incentive structures to the financial and non-financial objectives of corporations by focusing on the most salient stakeholders (Banker, Potter, & Srinivasan, 2000; Ittner & Larcker, 2001; Emerton & Jones, 2019).

6.3.2. The concept of materiality and CSR contracting

From a non-financial perspective, materiality refers to 'those issues that can have significant repercussions on the company (both positive and negative)' (NYU, 2019, p. 2). The concept of materiality is complex because its existence, use, and impact depend on its audience and on the

context of use (Eccles, Krzus, & Ribot, 2014; Edgley, 2014; Lai, Melloni, & Stacchezzini, 2017). Thus, materiality is variously defined. On the one hand, the impact of ESG issues on corporations constitutes financial materiality, while on the other hand, the impact of corporations on ESG issues constitutes environmental and social materiality (Worthington-Smith & Giamporcaro, 2021). The complexity of this concept has led some organisations to develop different sets of recommendations and standards to help CEOs better identify the ESG issues relevant to their sectors. For example, the SASB has developed a set of standards that facilitate the collection, management, and communication of non-financial information to provide financially material, decision-useful, and cost-effective information to investors (SASB, 2021). The non-profit organisation adopts a financial materiality perspective on investors' use of ESG information.

In practice, materiality can be considered an intermediary step between information and the final decision by focusing on key elements for decision-making. The concept has traditionally been employed in the context of reporting to communicate information that would influence the decision-making of users if incorrect or missing (IFRS, 2018). However, some researchers argue that materiality could be operationalised for strategic management (Eccles, Krzus, & Ribot, 2014; Khan, Serafeim, & Yoon, 2016; Whitehead, 2017; Freiberg, Rogers, & Serafeim, 2020). Indeed, material information could help corporations identify salient stakeholders based on their 'likelihood to impact the conditions or the operating performance of a company' (Kotsantonis & Bufalari, 2019, p. 2). Applied in the context of CSR contracting, the operationalisation of materiality could help compensation-setters prioritise the interests of stakeholders based on their financial significance. This action would benefit corporations and stakeholders in two ways. First, it would better align the interests between CEOs and all legitimate stakeholders by ensuring that CEOs are held accountable for meeting ESG goals. Second, it would improve relationships with stakeholders by signalling the seriousness of CEOs' engagement.

6.3.3. Hypotheses development

This study proposes to apply the concept of materiality to identify and select ESG targets in CEO compensation based on the financial significance of stakeholders' interests. While most studies on CSR contracting have adopted a unique theoretical lens to evaluate the influence of this mechanism on corporate performance, a multi-theoretical perspective seems more

appropriate to account for the multiplicity of stakeholders' interests (Winschel & Stawinoga, 2019). The stakeholder-agency theory (Hill & Jones, 1992) sees corporations as entities serving multiple legitimate stakeholders, such as shareholders, employees, suppliers, communities, and the broader environment, among others. The legitimacy of stakeholders is established by a relationship of exchange with the corporation. Not only do stakeholders who brought resources have a claim on how the corporation employs this resource, but they also expect something in return (Hill & Jones, 1992). This theory extends the contractual relationships between CEOs and shareholders to a series of explicit and implicit contractual relationships between CEOs and all legitimate stakeholders (Coombs & Gilley, 2005). Thus, corporations are considered a nexus of contracts between CEOs and legitimate stakeholders whose goals are the balance of different interests to maintain and enhance the sustainable use of stakeholders' resources to contribute to their overall success (Kock, Santaló, & Diestre, 2012).

Incorporating ESG targets in CEO compensation is supposed to align CEOs' incentives with the interests of all stakeholders and direct their attention to non-financial objectives (Hong, Li, & Minor, 2016). However, this action is complex in practice due to the heterogeneity of stakeholders' interests (Burchman, 2018; Flammer, Hong, & Minor, 2019; Gosling & O'Connor, 2021). Consequently, this initiative could push corporations to prioritise the interests of certain groups of stakeholders over all others in a way that is not optimal for their success and this of their stakeholders (Emerton & Jones, 2019; Banker, Potter, & Srinivasan, 2000; Ittner & Larcker, 2001). The stakeholder-agency theory recognises this issue and emphasises the need to align the interests of CEOs and all legitimate stakeholders (those bringing key resources to the corporation) to achieve long-term performance beneficial to the corporation and all its stakeholders.

From the stakeholder-agency theory lens, corporations opting for CSR contracting might be interested in identifying and selecting ESG targets that are financially material for two reasons. First, such compensation contracts translate the capacity of corporations to better align the interests of CEOs with those of legitimate stakeholders, promoting CEO accountability. Second, they signal the level of their commitment to meeting stakeholders' interests, improving relationships with stakeholders. Empirical research aligns with these claims, by showing that the explicit consideration of key stakeholders' interests enables corporations to prevent underperforming CEOs from building alliances with particular groups of stakeholders (Cespa & Cestone, 2007) and reduces the possibility of unexpected conflicts among stakeholders (Hartikainen, Järvenpää and Rautiainen, 2021). Overall, the inclusion of material ESG targets

in CEO compensation, coined as ‘material CSR contracting’, is motivated by the need to incentivise CEOs to perform well while preserving and enhancing good relationships with legitimate stakeholders providing key resources to the corporation.

6.3.3.1. Material CSR contracting and corporate financial performance

The stakeholder-agency theory of Hill and Jones (1992) posits that corporations should consider the interests of all stakeholders in their decision-making. This theory recognises the potential conflicts arising from the heterogeneity of stakeholders’ interests and the need to align these interests to achieve long-term success. One way to solve this issue is to operationalise the concept of materiality to prioritise stakeholders’ interests based on their financial significance. Applied in the context of CSR contracting, this initiative would help compensation-setters better connect the CEOs’ incentive structures with the financial and non-financial objectives of the corporation. This shift in focus, from a broad initiative, that includes general ESG targets in CEO compensation, to a narrower one, that solely considers material ESG targets having financial significance to the corporation, might affect corporate financial performance.

First, the literature on the effect of CSR contracting on corporate financial performance provides mixed findings. While Cavaco, Crifo, and Guidoux (2020) show that the inclusion of ESG targets in CEO compensation negatively impacts corporate financial performance (captured by using ROA, ROE, and price-to-book ratio), Flammer, Hong, and Minor (2019) report the opposite (using Tobin’s Q as a measure of corporate financial performance). Moreover, Khenissi, Hamrouni, and Ben Farhat (2022) report no significant effect with accounting-based performance (proxied with ROE) and a negative effect with market-based performance (measured with Tobin’s Q). Given these contradictory results, empirical studies have examined the link between pay and performance in the context of CSR contracting to determine whether this initiative provides enough incentives to increase performance (Adu, Flynn & Grey, 2022; Cho & Ibrahim, 2022). These authors argue that such practice might increase the corporation’s legitimacy (Adu, Flynn & Grey, 2022) and signal to shareholders that CEOs will be motivated to engage in activities that increase corporate financial performance, contributing to its success (Cho & Ibrahim, 2022).

Second, empirical research has examined the effect of managing material ESG issues on corporate financial performance. In the restaurant sector, Kim and Lee (2020) suggest that material ESG information does not increase the likelihood of corporations improving their

financial performance. However, other studies in multiple sectors suggest that the use of material ESG information allows corporations to outperform their peers (Khan, Serafeim & Yoon, 2016; Kotsantonis & Bufalari, 2019), to improve stock price informativeness (Grewal, Hauptmann, & Serafeim, 2021; Schiehll & Kolahgar, 2021), to have greater stock price returns (Giorgino, Supino & Barnabè, 2017; Consolandi, Eccles, & Gabbi, 2022), and to improve risk management and corporate outcomes (Kaiser, 2020). Overall, these studies suggest that material ESG information might reduce ESG risks and improve returns, which might contribute to greater corporate financial performance.

Based on the stakeholder-agency theory and previous empirical studies on CSR contracting and materiality, the following hypotheses are proposed:

H1a: The adoption of material CSR contracting has a positive effect on corporate financial performance.

H1b: The adoption of material CSR contracting has a greater effect on corporate financial performance than does general CSR contracting.

6.3.3.2. Material CSR contracting and corporate non-financial performance

The inclusion of material ESG targets in CEO compensation can also affect corporate non-financial performance. Hill and Jones' (1992) stakeholder-agency theory suggests that CEOs' actions are motivated by the financial incentives they receive. Thus, attracting their attention to non-financial objectives is crucial for the long-term success of the corporation and its stakeholders. Including material ESG targets in CEO compensation might solve this issue by better connecting the CEOs' incentive structures with the corporation's financial and non-financial objectives. As the material ESG issues are those financially significant for corporations, attracting the attention of CEOs to such issues might better align the interests of corporations with those of legitimate stakeholders. Such shared interests make CEOs more accountable to legitimate stakeholders with material interests and improve relationships with these stakeholders. In sum, including material ESG targets, rather than general ESG targets, in CEO compensation contracts might be more beneficial for corporations to improve corporate non-financial performance.

First, the literature on the effect of CSR contracting on corporate non-financial performance supports a positive relationship. Flammer, Hong, and Minor (2019), Li and

Thibodeau (2019), Cavaco, Crifo, and Guidoux (2020), and Khenissi, Hamrouni, and Ben Farhat (2022) suggest that CSR contracting increases corporate non-financial performance. However, other studies report specific conditions under which the relationship is positive. For example, Maas (2018) shows that the use of hard (quantitative) ESG targets is a significant driver of this relationship, while no effects are found for soft (qualitative) ESG targets. Additionally, Haque (2017) and Haque and Ntim (2020) report that CSR contracting increases carbon reduction initiatives but is not significantly associated with actual GHG emissions, highlighting the potentially symbolic aspect of this initiative for environmental performance. Derchi, Zoni, and Dossi (2021) reveal that corporate non-financial performance increases after three years of CSR contracting implementation, suggesting that corporations accumulate knowledge to enhance CSR strengths and mitigate CSR concerns. In sum, some other studies have found benefits for corporations to include CSR contracting, such as a decrease in earning manipulations (Ibrahim & Lloyd, 2011; Li & Thibodeau, 2019; Khenissi, Jahmane, & Hofaidhllaoui, 2022), a decrease in investors' concern about overinvestments in CSR when external assurance is present (Brown-Liburd & Zamora, 2015), and an increase in innovation (Tsang et al., 2021).

Second, empirical research on the concept of materiality has mainly focused on its value relevance for corporations and shareholders (Fiandrino, Tonelli, & Devalle, 2022), and little empirical research has focused on its effects on corporate non-financial performance. Jadoon et al. (2021) report that investors value corporate non-financial performance; however, the environmental dimension seems to lack financial materiality for them. Moreover, Madison and Schiehll (2021) show that the use of financial materiality can help to classify corporations addressing substantial issues and other addressing symbolic issues, improving investment decisions and the informative value of ESG scores. In sum, Maniora (2018) demonstrates that the mismanagement of ESG issues (focus on immaterial ESG issues) can increase unethical behaviours. Certain corporations with a more 'prospector-type' strategy (i.e., oriented on market innovation and who risk lower profitability and overuse of corporate resources) might intentionally perform better on immaterial ESG issues rather than on the material ones to divert stakeholder's attention from their low sustainability performance level (Maniora, 2018). This study demonstrates that material ESG information can improve corporate reputation and brand image, improving corporate non-financial performance.

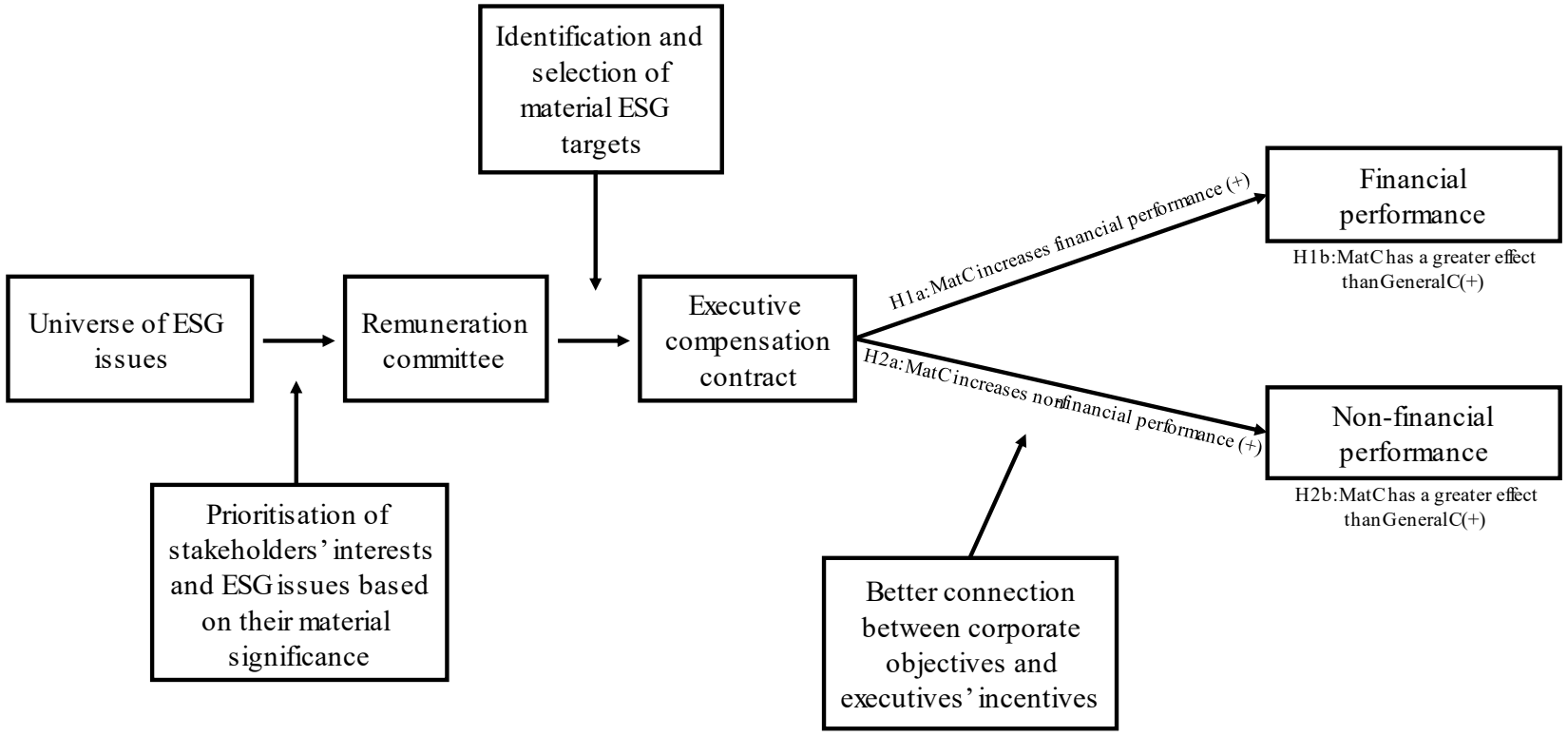
Based on the stakeholder-agency theory and previous empirical studies on CSR contracting and materiality, the following hypotheses are proposed:

H2a: The adoption of material CSR contracting has a positive effect on corporate non-financial performance.

H2b: The adoption of material CSR contracting has a greater effect on corporate non-financial performance than does general CSR contracting.

Figure 10 summarises the research model.

Figure 10: Research model for Chapter 6



6.4. Data and methodology

6.4.1. Data and sample

This study consists of a large sample of US publicly listed companies indexed on the Russell 3,000, covering 98% of publicly traded equities for this country. Unlike previous research on CSR contracting that has mainly focused on large companies belonging to the S&P 500 index (Hong, Li, & Minor, 2016; Maas, 2018; Flammer, Hong, & Minor, 2019), this study on general and material CSR contracting extends the analytical scope to small and medium-cap companies to provide an in-depth overview of these corporate initiatives in the US over the last decade.

To test the hypotheses, data from various sources was gathered. First, financial data were compiled from the Bloomberg database. Second, data on the types of CSR contracting were manually collected from the annual reports, or more precisely, from the DEF 14A filings publicly available on the Edgar database, and then compared using the SASB materiality matrix. Finally, non-financial data (ESG, environmental, social, and governance scores) has been acquired from the Thomson Reuters Asset4 database through Refinitiv. This database provides objective and reliable ESG information based on publicly available information.

The sample period ranges from 2011 to 2019. The choice of this sample period coincides with the first year of implementation of the Dodd-Frank Act of 2010, which has significantly changed the corporate governance landscape in the US (Conyon, 2014), and the last year available before the COVID pandemic. The initial sample comprises 2,992 firms. However, due to the exclusion of financial companies, missing data for the dependent variables, and general and material CSR contracting, the final sample consists of 1,577 firms for 7,971 observations. Table 11 describes the sample selection process and gives information about the sector classification.

Table 11: Sample selection and sector classification

Panel A: Sample selection	**Frequency**	**Percentage**
Initial sample	2,992	100%
Less: Financial companies	745	24.90%
Less: Missing fin. and non-fin. performance	639	21.36%
Less: Missing gen. and mat. CSR contracting	31	1.04%
Final Sample	**1,577**	**52.70%**

Panel B: Sector classification	**Frequency**	**Percentage**
Energy	83	5.26%
Materials	103	6.53%
Industrials	303	19.21%
Consumer discretionary	246	15.60%
Consumer staples	87	5.52%
Healthcare	333	21.12%
IT	280	17.76%
Communications	81	5.13%
Utilities	61	3.87%
Total	**1,577**	**100%**

Note: The final sample is unbalanced and composed of 1,577 firms with 7,971 observations from 2011 to 2019.

6.4.2. Variable definitions and regression models

6.4.2.1. Dependent variables

To examine the impact of general and material CSR contracting on corporate financial performance, this study employs total shareholder return (*TSR*) as a proxy for financial performance. This financial ratio has been previously used in empirical research on the determinants of CSR contracting (Abdelmotaal & Abdel-Kader, 2016; Aresu, Hooghiemstra, & Melis, 2023). The inclusion of material ESG targets in CEO compensation contracts is expected to improve corporate financial performance and have a greater effect than general ESG targets. Then, the overall environmental, social, and governance (ESG) scores from Thomson Reuters Asset 4 are used as a proxy for non-financial performance. Environmental scores are composed of 68 data points related to resource use, emissions, and innovation; social scores are composed of 62 data points dealing with workforce, human rights, community, and product responsibility; and governance scores are composed of 56 data points considering management, shareholders, and CSR strategy (Refinitiv, 2022). This proxy has been used in previous empirical research on CSR contracting (Maas, 2018; Al-Shaer & Zaman, 2019;

Derchi, Zoni, & Dossi, 2021). The inclusion of material ESG targets in CEO compensation contracts is expected to improve corporate non-financial performance and have a greater effect than general ESG targets.

6.4.2.2. Independent variables

The independent variables are general (*GeneralC*) and material (*MatC*) CSR contracting. The identification of general and material CSR contracting has involved various steps. First, companies having tied ESG targets to CEO compensation are searched using Bloomberg and Refinitiv databases. Second, once companies with such practices were identified, the EDGAR database (in the proxy statement DEF 14A) is used to find the ESG issues included in CEO compensation contracts. Third, the different ESG issues hand-collected in the DEF 14A are matched with the material issues identified by the SASB to determine whether general or material ESG targets were tied to CEO compensation. When the CEO compensation was linked to general ESG issues, not considered material under the SASB classification, a dummy variable (*GeneralC*) took the value of 1 and 0 otherwise. When the CEO compensation was linked to material ESG issues, a dummy variable (*MatC*) took the value of 1 and 0 otherwise.[7] In the final sample, 81 companies having tied general ESG targets to CEO compensation and 152 companies having tied material ESG targets were identified, based on the SASB classification for the significance of material ESG issues.

6.4.2.3. Control variables

Control variables are included in the regression model because they might influence the relationship between the different types of CSR contracting and corporate financial and non-financial performance. First, a dummy variable is used to indicate the separation between the roles of chairman and CEO (*CEODual*). Duality at the top of the company provides a governance mechanism mitigating the potential abuse of power. Prior empirical studies have reported that the separation of chairman and CEO might impact corporate financial and non-financial performance (Elsayed, 2007; Uyar et al., 2021).

[7] For both variables, general and material CSR contracting are set to zero if companies do not use CSR contracting. This approach has been previously employed by Flammer, Hong, and Minor (2019).

Second, the total number of directors sitting on the board (*BoardSize*) is included. The corporate governance literature traditionally views larger boards as a source of agency costs due to their more frequent problems of communication and coordination. Empirically, board size is found to negatively affect corporate financial performance (Cheng, 2008). However, its impact on corporate non-financial performance remains controversial. Some have argued that a larger board better collects and analyses information on CSR, raising CSR performance, while others have argued that a small board has the degree of action necessary to manage poor CSR performance (Endrikat et al., 2021).

Third, the percentage of non-executive directors (*NonExec*) is used. Their judgments on corporate activities improve the board's monitoring efficiency and reduce agency costs. Empirical studies find that a larger proportion of such directors on board may influence corporate financial and non-financial performance (Core, Holthausen, & Larcker, 1999; Berrone & Gomez-Mejia, 2009).

Fourth, the percentage of institutional holders (*InstOwn*) is employed because this type of investor is known to improve corporate governance efficiency and promote CEOs' accountability as they have interests in the longer-term growth and success of corporations. The proportion of institutional holders has been found to affect corporate financial and non-financial performance (Cornett et al., 2007; Dyck et al., 2019).

Fifth, the presence of compensation advisors (*CompAdv*) is used, as they provide expert information and knowledge to the board sub-committee in charge of the design of CEO compensation (Conyon, Peck, & Sadler, 2009). The corporate governance literature finds that the presence of compensation advisors tightens the link between CEO pay and performance, ultimately affecting corporate outcomes (Murphy & Sandino, 2020).

Finally, several variables have been incorporated to control for firm characteristics following prior studies on the determinants and effects of CSR contracting (Schiehll & Bellavance, 2009; Brown-Liburd & Zamora, 2015; Flammer, Hong, & Minor, 2019; Derchi, Zoni, & Dossi, 2021). These variables include total CEO cash compensation (*CEOCCash*), assurance of CSR reports (*Assurance*), size (*FirmSize*), leverage (*Leverage*), and research and development intensity (*RDIntensity*).

To test the hypotheses concerning the effects of general and material CSR contracting on corporate financial performance and non-financial performance, the following model is estimated:

$$y_{it+1} = \beta 0 + \beta 1\ CSR\ Contracting_{it} + \beta 2\ CEODuality_{it} + \beta 3\ BoardSize_{it} + \beta 4\ NonExec_{it} + \beta 5\ InstOwn_{it} + \beta 6\ CompAdv_{it} + \beta 7\ CEOCCash_{it} + \beta 8\ Assurance_{it} + \beta 9\ FirmSize_{it} + \beta 10\ Leverage_{it} + + \beta 11\ RDIntensity_{it} + \varepsilon_{it} \quad (1)$$

where *y* is the dependent variable of interest for a firm '*i*' in function of time '*t*'. *CSR contracting* is a proxy for either *GeneralC* or *MatC*. Control variables and time-industry effects have also been included. Table 12 presents the definitions of all variables.

Table 12: Definitions of variables

Variables	Description
Dependent variables	
TSR	Total shareholder returns are calculated by adding current share price minus last share price plus dividends divided by last share price.
RefESGscore	ESG performance score of Refinitiv.
Independent and control variables	
GeneralC	1, if the CEO compensation is linked to general ESG goals, 0 otherwise.
MatC	1, if the CEO compensation is linked to material ESG goals, 0 otherwise.
CEODuality	1, if the company's CEO is also chairman of the board, 0 otherwise.
BoardSize	The number of directors on the company's board, as reported by the company.
NonExec	The percentage of non-executive directors on the board.
InstOwn	The proportion of institutional ownership to total company ordinary shareholdings.
CompAdv	1, if the company appoints outside compensation advisors, 0 otherwise.
CEOCCash	The total amount of cash compensation (salary and bonus) the company paid to the CEO.
Assurance	1, if the company's environmental policies and data were externally assured, 0 otherwise.
FirmSize	The natural log of total assets.
Leverage	The ratio of total debts divided by the total shareholders' equity.
RDIntensity	The research and development expenses divided by total assets.

6.5. Empirical findings

6.5.1. Descriptive statistics

Table 13 presents the descriptive statistics for the variables used in this study. General CSR contracting has been adopted by 4% of companies, while material CSR contracting accounts for 10%. As a basis for comparison, Flammer, Hong, and Minor (2019) found an average CSR contracting of 23.8 %, while Maas (2018) found 21.58 % for large-cap companies indexed on the S&P 500 from 2004 to 2013 and 2008 to 2012, respectively. Other controls align with previous studies on the determinants and effects of CSR contracting (Hong, Li, & Minor, 2016; Ikram, Li, & Minor, 2019; Cavaco, Crifo, & Guidoux, 2020; Derchi, Zoni, & Dossi, 2021).

Table 13: Descriptive statistics

Variable	Obs.	Mean	Q1	Median	Q3	Std. Dev.
TSR	7,971	0.21	-0.07	0.15	0.39	0.41
RefESGscore	7,971	40.94	25.57	37.28	55.02	19.62
GeneralC (1/0)	7,971	0.04	0.00	0.00	0.00	0.20
MatC (1/0)	7,971	0.10	0.00	0.00	0.00	0.30
CEODuality (1/0)	7,971	0.41	0.00	0.00	1.00	0.49
BoardSize	7,971	9.62	8.00	9.00	11	2.14
NonExec (%)	7,971	85.73	83.33	88.89	90	7.50
InstOwn (%)	7,971	87.93	81.73	94.24	100	16.43
CompAdv (1/0)	7,971	0.90	1.00	1.00	1.00	0.31
CEOCCash (log)	7,971	14.45	14.14	14.54	15.03	1.56
Assurance (1/0)	7,971	0.08	0.00	0.00	0.08	0.23
FirmSize (log)	7,971	8.30	7.25	8.27	9.37	1.64
Leverage (log)	7,971	4.15	3.68	4.21	4.83	1.53
RDIntensity	7,971	0.03	0.00	0.01	0.04	0.06

Note: This table presents the descriptive statistics for the full sample. See Table 12 for the variables' definitions.

Table 14 reports the results of the Pearson correlation matrix for all variables. Material CSR contracting is found to be negatively associated with *TSR*, the proxy for corporate financial performance, and positively associated with *RefESGscore*, the proxy for corporate non-financial performance. Then, the Pearson correlation coefficients do not reveal any high correlations among the independent variables, indicating no serious multicollinearity issues. The additional tests conducted in Appendix 2 using the Variance Inflation Factors (VIFs) procedure support this claim.

Table 14: Pearson correlation matrix

	TSR	RefESGscore	GeneralC	MatC	CEODuality	BoardSize	NonExec	InstOwn	CompAdv	CEOCCash	Assurance	FirmSize	Leverage	RDIntensity
TSR	1													
RefESGscore	-.046**	1												
GeneralC	-.020	.163**	1											
MatC	-.037**	.211**	-.072**	1										
CEODuality	-.020	.115**	.012	.070**	1									
BoardSize	-.039**	.479**	.155**	.170**	.056**	1								
NonExec	-.008	.320**	.068**	.116**	.022*	.315**	1							
InstOwn	-.043**	-.015	-.046**	-.076**	-.077**	-.038**	.104**	1						
CompAdv	-.019	.195**	.025*	.091**	.004	.186**	.278**	.175**	1					
CEOCCash	-.006	.205**	.029**	.118**	.055**	.226**	.179**	.037**	.215**	1				
Assurance	-.011	-.034**	-.039**	.059**	.008	-.037**	-.028*	.028*	.008	-.017	1			
FirmSize	-.044**	.600**	.177**	.281**	.154**	.609**	.238**	-.015	.168**	.263**	-.039**	1		
Leverage	-.013	.094**	.069**	.058**	.030**	.179**	.141**	.003	.077**	.113**	.002	.244**	1	
RDIntensity	.067**	-.128**	-.076**	-.127**	-.076**	-.257**	-.063**	-.059**	.004	-.214**	.035**	-.389**	-.177**	1

Note: This table reports the Pearson correlation coefficients. **, * indicate that the correlation is significant at the 0.01 and 0.05 levels, respectively. See Table 12 for the variables' definitions.

6.5.2. General vs material CSR contracting and corporate financial performance

Columns 1 and 2 of Table 15 report the results for the baseline (pooled OLS) regressions concerning the effects of general versus material CSR contracting on corporate financial performance. Hypothesis 1 predicts that adopting both general and material ESG targets in CEO compensation improves corporate financial performance. Hypothesis 2 predicts that the effect will be greater for material CSR contracting than for general CSR contracting. However, results show that general and material CSR contracting have no significant effects on *TSR* (β = -0.015, $p > 0.1$; β = 0.002, $p > 0.1$). These results mostly contradict the streams of literature on the effects of CSR contracting on corporate financial performance and are against the findings of Flammer, Hong, and Minor (2019) and Cavaco, Crifo, and Guidoux (2020). However, they partially support those of Khenissi, Hamrouni, and Ben Farhat (2022). Moreover, the results contrast with those of most studies on the effect of material ESG information on corporate financial information (Khan, Serafeim & Yoon, 2016; Giorgino, Supino, & Barnabè, 2017; Kotsantonis & Bufalari, 2019; Kaiser, 2020; Grewal, Hauptmann, & Serafeim, 2021; Schiehll & Kolahgar, 2021; Consolandi, Eccles, & Gabbi, 2022), although they support those of Kim and Lee (2020). Overall, hypotheses 1a and 1b are not supported.

Given these results, two competing explanations can be derived from the stakeholder-agency theory. On the one hand, general and material CSR contracting could be seen as increasing agency costs for shareholders, since they constitute an overinvestment in non-financial strategies, reducing their expected benefits (Brown-Liburd & Zamora, 2015; Abdelmotaal & Abdel-Kader, 2016). On the other hand, such corporate initiatives might not translate into financial gains immediately (Hart & Ahuja, 1996; Derchi, Zoni, & Dossi, 2021). Both types of CSR contracting could have forward-looking properties that generate intangible benefits that are hardly captured by traditional proxies for financial performance (Chen et al., 2015; O'Connell & O'Sullivan, 2014; Hartikainen, Järvenpää and Rautiainen, 2021).

These findings also challenge the soundness of shareholder-oriented materiality frameworks. The material ESG factors of the SASB might suffer from severe methodological limitations because they are generic across sectors and are not oriented to identify future opportunities, possibly preventing companies from differentiating themselves from their peers (Porter, Serafeim, & Kramer, 2019). For some authors, the use of material ESG information alone is insufficient. It must be coupled with a strategy of differentiation based on sustainability to create and sustain a competitive advantage while increasing financial performance (Edmans, 2020; Ioannou & Serafeim, 2021). Accordingly, corporations should undertake their own

materiality assessment to create unique material CSR contracts and to gain a competitive advantage against peers corporations that did not consider the same material ESG issues.

6.5.3. General vs material CSR contracting and corporate non-financial performance

Columns 3 and 4 of Table 15 report the results for the baseline (pooled OLS) regressions concerning the effects of general versus material CSR contracting on corporate non-financial performance. Hypothesis 3 anticipates a positive relationship between the adoption of material CSR contracting and corporate non-financial performance. Hypothesis 4 predicts that the effects will be greater for material CSR contracting than for general CSR contracting. The results demonstrate that both types of CSR contracting have a significant positive association with ESG performance ($\beta = 4.528$, $p < 0.01$; $\beta = 4.319$, $p < 0.01$). However, the effect is greater for general CSR contracting than material CSR contracting by about 5%. These results are consistent with prior studies on CSR contracting (Maas, 2018; Flammer, Hong, & Minor, 2019; Li & Thibodeau, 2019; Cavaco, Crifo, & Guidoux, 2020; Derchi, Zoni, & Dossi, 2021; Khenissi, Hamrouni, & Ben Farhat, 2022) and the concept of materiality (Maniora, 2018; Jadoon et al., 2021; Madison & Schiehll, 2021) concerning the outcome of the relationship but not its magnitude. Overall, hypothesis 2a is supported, but not hypothesis 2b.

The stakeholder-agency theory of Hill and Jones (1992) provides two competing explanations of these results. On the one hand, the inclusion of general and material CSR contracting can be merely symbolic. The effect of including general ESG targets is greater than that of including material ESG targets because such initiatives are only used to neutralise criticism over CEO compensation without forcing them to undertake substantive actions on ESG issues (Haque, 2017; Haque & Ntim, 2020). On the other hand, the effect of including material ESG targets in CEO compensation might take some time to manifest, and there might be a lag between the implementation of the corporate initiative and its effect on corporate non-financial performance (Hart & Ahuja, 1996; Derchi, Zoni, & Dossi, 2021). Overall, these findings highlight the need to conduct additional tests using alternative measures of corporate performance, timing effects, and endogeneity.

Table 15: Baseline analysis

		Financial Performance			Non-Financial Performance	
	Exp.	Dep: *TSR*		Exp.	Dep: *RefESGscore*	
	Sign	(1)	(2)	Sign	(3)	(4)
GeneralC	+	-0.015		+	4.528***	
		(0.019)			(0.851)	
MatC	+		0.002	+		4.319***
			(0.015)			(0.631)
CEODuality	-	-0.011	-0.011	+	1.140***	1.043***
		(0.009)	(0.009)		(0.341)	(0.340)
BoardSize	?	-0.005*	-0.005*	?	1.264***	1.274***
		(0.003)	(0.003)		(0.107)	(0.106)
NonExec	+	0.001	0.001	+	0.373***	0.374***
		(0.001)	(0.001)		(0.023)	(0.023)
InstOwn	-	-0.001***	-0.001***	-	-0.038***	-0.037***
		(0.001)	(0.001)		(0.010)	(0.010)
CompAdv	+	-0.015	-0.015	+	2.390***	2.287***
		(0.016)	(0.016)		(0.558)	(0.558)
CEOCCash	+	0.006*	0.006*	+	0.230*	0.169
		(0.003)	(0.003)		(0.126)	(0.120)
Assurance	+	-0.020	-0.020	+	-0.335	-0.818
		(0.019)	(0.019)		(0.730)	(0.731)
FirmSize	-	-0.010***	-0.010***	+	6.828***	6.743***
		(0.004)	(0.004)		(0.145)	(0.144)
Leverage	-	0.005	0.005	-	-0.881***	-0.837***
		(0.003)	(0.003)		(0.110)	(0.110)
RDIntensity	?	0.169	0.168	?	30.836***	29.693***
		(0.118)	(0.118)		(3.502)	(3.497)
Year effects		Yes	Yes		Yes	Yes
Sector effects		Yes	Yes		Yes	Yes
Intercept		0.103	0.105		-68.110***	-68.296***
		(0.077)	(0.077)		(2.703)	(2.639)
R-squared		0.112	0.112		0.473	0.474
No. of obs.		7,971	7,971		7,971	7,971

Note: This table reports the baseline results of the OLS regressions examining the impact of the different types of CSR contracting (general or material) on financial and non-financial performance. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

6.5.4. Robustness tests

6.5.4.1. Alternative measures of financial and non-financial performance

Table 16 examines the effect of general and material CSR contracting on corporate financial and non-financial performance using alternative dependent variables. Regarding alternative variables for financial performance, return on equity (*ROE*) is used as an accounting measure for profitability, cash ratio (*CashRatio*) as a measure of liquidity, and asset turnover (*AssetTurnover*) as a measure of efficiency. These three measures provide a more detailed picture of corporate financial performance. Panel A of Table 16 reveals no significant effects between the different types of CSR contracting, *ROE*, and *CashRatio*. However, general CSR contracting is negatively associated with *AssetTurnover*, while material CSR contracting is not significant. Deriving from the stakeholder-agency theory, this finding suggests that the inclusion of general ESG targets in CEO compensation prevents corporations from efficiently using their assets to generate revenues, constituting a cost for shareholders (Brown-Liburd & Zamora, 2015; Abdelmotaal & Abdel-Kader, 2016). As such, general ESG targets, without financial significance for the corporation, do not provide enough incentives to improve financial performance. The causes of this effect could include that CEOs are distracted by trying to resolve ESG issues without value for the corporation or are entrenched, as this type of contracting lets them justify their underperformance. These results support the baseline findings concerning the set of hypotheses 1 and provide an in-depth understanding of the effect of general and material CSR contracting on corporate financial performance.

Concerning non-financial performance, the sub-ESG scores of Refinitiv (*RefESG*) related to environmental performance (*RefEscore*), social performance (*RefSscore*), and governance performance (*RefGscore*) are used. Comparably to corporate financial performance, the aim is to obtain a more granular picture of corporate non-financial performance. Panel B of Table 16 reveals positive associations for all models and a greater effect of material CSR contracting compared to general CSR contracting for environmental performance, while the opposite is true for social and governance performance. These results support the baseline conclusions regarding the sign of the relationship between the different types of CSR contracting and non-financial performance (Hypothesis 2a). However, they partially support the baseline results concerning non-financial performance (Hypothesis 2b). While the results for social and governance performance are consistent with the previous conclusions, environmental performance seems to be consistent with hypothesis 2b concerning the greater effect of material CSR contracting on non-financial performance compared to

general CSR contracting. Overall, these results nuance the relationship between the different types of CSR contracting and corporate non-financial performance.

Table 16: Alternative measures of financial and non-financial performance

Panel A: Financial performance

	Profitability		Liquidity		Efficiency	
	Dep: *ROE*	Dep: *ROE*	Dep: *CashRatio*	Dep: *CashRatio*	Dep: *AssetTurnover*	Dep: *AssetTurnover*
	(1)	(2)	(3)	(4)	(5)	(6)
GeneralC	-1.177		0.035		-0.093***	
	(1.128)		(0.040)		(0.023)	
MatC		1.313		-0.010		0.019
		(0.861)		(0.028)		(0.019)
CEODuality	1.916***	1.905***	-0.114***	-0.114***	0.055***	0.055***
	(0.457)	(0.457)	(0.022)	(0.022)	(0.011)	(0.011)
BoardSize	0.311**	0.301**	-0.026***	-0.026***	0.020***	0.020***
	(0.140)	(0.140)	(0.007)	(0.007)	(0.003)	(0.003)
NonExec	0.069**	0.068**	-0.011***	-0.011***	0.002**	0.002**
	(0.031)	(0.031)	(0.002)	(0.002)	(0.001)	(0.001)
InstOwn	0.058***	0.059***	0.001	0.001	0.002***	0.002***
	(0.016)	(0.016)	(0.001)	(0.001)	(0.001)	(0.001)
CompAdv	-2.866***	-2.882***	-0.009*	-0.089*	-0.013	-0.012
	(0.736)	(0.736)	(0.047)	(0.047)	(0.020)	(0.020)
CEOCCash	0.810***	0.800***	-0.032***	-0.032***	0.009***	0.009***
	(0.152)	(0.152)	(0.009)	(0.009)	(0.003)	(0.003)
Assurance	0.376	0.294	0.029	0.029	0.039*	0.040*
	(1.056)	(1.057)	(0.048)	(0.048)	(0.023)	(0.024)
FirmSize	2.296***	2.226***	-0.085***	-0.084***	-0.077***	-0.079***
	(0.204)	(0.206)	(0.011)	(0.011)	(0.005)	(0.005)
Leverage	-0.067	-0.057	-0.111***	-0.111***	-0.035***	-0.035***
	(0.204)	(0.204)	(0.008)	(0.008)	(0.004)	(0.004)
RDIntensity	-119.929***	-120.444***	7.997***	8.002***	-2.137***	-2.149***
	(6.271)	(6.287)	(0.337)	(0.337)	(0.128)	(0.129)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-39.491***	-39.185***	3.522***	3.516***	0.824***	0.839***
	(3.505)	(3.500)	(0.205)	(0.204)	(0.077)	(0.078)
R-squared	0.270	0.270	0.413	0.412	0.308	0.307
No. of obs.	7,971	7,971	7,971	7,971	7,971	7,971

Note: This table reports the OLS regressions using *ROE*, *CashRatio* and *AssetTurnover* as profitability, liquidity, and efficiency proxies for financial performance. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

Panel B: Non-financial performance

	Env. Performance		Soc. Performance		Gov. Performance	
	Dep: *RefEscore*	Dep: *RefEscore*	Dep: *RefSscore*	Dep: *RefSscore*	Dep: *RefGscore*	Dep: *RefGscore*
	(1)	(2)	(3)	(4)	(5)	(6)
GeneralC	3.539***		5.814***		5.186***	
	(1.152)		(0.950)		(1.184)	
MatC		5.627***		4.210***		2.137**
		(0.871)		(0.688)		(0.860)
CEODuality	1.394***	1.284***	1.641***	1.536***	-0.446	-0.516
	(0.476)	(0.475)	(0.387)	(0.387)	(0.464)	(0.465)
BoardSize	1.885***	1.886***	1.307***	1.324***	0.452***	0.472***
	(0.144)	(0.143)	(0.122)	(0.120)	(0.145)	(0.144)
NonExec	0.238***	0.239***	0.286***	0.288***	0.579***	0.582***
	(0.032)	(0.032)	(0.027)	(0.027)	(0.032)	(0.032)
InstOwn	-0.139***	-0.137***	-0.038***	-0.037***	0.049***	0.049***
	(0.015)	(0.015)	(0.012)	(0.012)	(0.014)	(0.014)
CompAdv	1.778**	1.658**	2.667***	2.558***	3.016***	2.947***
	(0.753)	(0.753)	(0.621)	(0.623)	(0.831)	(0.829)
CEOCCash	0.260	0.188	0.312**	0.248*	0.139	0.099
	(0.196)	(0.191)	(0.141)	(0.134)	(0.142)	(0.139)
Assurance	1.512	0.942	-1.016	-1.523*	0.101	-0.213
	(0.998)	(0.995)	(0.790)	(0.796)	(0.983)	(0.986)
FirmSize	10.186***	10.035***	7.071***	7.013***	3.932***	3.941***
	(0.201)	(0.202)	(0.162)	(0.162)	(0.203)	(0.203)
Leverage	-1.071***	-1.018***	-1.015***	-0.970***	-0.765***	-0.738***
	(0.148)	(0.147)	(0.119)	(0.118)	(0.155)	(0.155)
RDIntensity	50.616***	48.971***	70.495***	69.473***	-24.446***	-24.818***
	(4.932)	(4.922)	(4.201)	(4.209)	(5.161)	(5.156)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-91.951***	-91.858***	-67.761****	-68.141***	-41.847***	-42.358***
	(3.898)	(3.829)	(3.031)	(2.962)	(3.448)	(3.426)
R-squared	0.501	0.503	0.407	0.407	0.236	0.235
No. of obs.	7,971	7,971	7,971	7,971	7,971	7,971

Note: This table reports the OLS regressions using *RefEscore*, *RefSscore*, and *RefGscores* as environmental, social, and governance performance proxies for non-financial performance. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

6.5.4.2. Effect timing

The impact of general and material CSR contracting on corporate financial and non-financial performance might not translate into effect immediately (Hart & Ahuja, 1996; Derchi, Zoni, & Dossi, 2021). There might be a lag between their implementation and effects. Consequently, effect timing must be controlled using one-year and three-year lags. The results reported in Table 17 show that both types of CSR contracting lack significant effects on corporate financial performance. In addition, both types of CSR contracting positively and significantly affect corporate non-financial performance. However, the magnitude of the effect is greater for general CSR contracting for the first year, while the effect is greater for material CSR contracting after the third year of implementation. This result is consistent with the argument derived from the stakeholder-agency theory and suggests that the effect of material CSR contracting does not translate immediately into better corporate non-financial performance. For Derchi, Zoni, and Dossi (2021), this lag between implementation and effect might be explained by the experience accumulation allowing corporations to enhance their ESG strengths and mitigate their ESG concerns. These findings are fairly consistent with the baseline findings and better explain the effect of material CSR contracting on corporate financial and non-financial performance.

Table 17: Effect timing

Panel A: One-year lag

	Financial Performance		Non-Financial Performance	
	Dep: *TSR*		Dep: *RefESGscore*	
	(1)	(2)	(3)	(4)
GeneralC *t*-1	-0.004		4.657***	
	(0.020)		(0.898)	
MatC *t*-1		-0.009		4.230***
		(0.016)		(0.668)
Controls *t*-1	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Intercept	0.348***	0.347***	-67.947***	-68.173***
	(0.081)	(0.081)	(2.976)	(2.903)
R-squared	0.147	0.147	0.476	0.477
No. of obs.	6,393	6,393	6,393	6,393

Note: This table reports the OLS regressions examining the impact of the different types of CSR contracting (general or material) on future financial and non-financial performance. In all columns, independent and control variables are lagged by one year. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

Panel B: Three-year lags

	Financial Performance		Non-Financial Performance	
	Dep: *TSR*		Dep: *RefESGscore*	
	(1)	(2)	(3)	(4)
GeneralC *t*-3	-0.009		3.797***	
	(0.023)		(1.048)	
MatC *t*-3		-0.003		3.900***
		(0.021)		(0.810)
Controls *t*-3	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Intercept	0.085	0.086	-70.964***	-71.204***
	(0.098)	(0.098)	(3.757)	(3.669)
R-squared	0.137	0.137	0.466	0.467
No. of obs.	3,634	3,634	3,634	3,634

Note: This table reports the OLS regressions examining the impact of the different types of CSR contracting (general or material) on future financial and non-financial performance. In all columns, independent and control variables are lagged by three years. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

6.5.4.3. Endogeneity

This study maintains that material ESG targets have been tied to CEO compensation to push CEOs to consider stakeholders with a financially material impact on corporations. However, CEOs whose compensation has been tied to general ESG targets might be incentivised to reach targets that do not align with corporations' financial and non-financial objectives, which may harm corporations and all stakeholders. Thus, the inclusion of general ESG targets in CEO compensation might also be a sign of poor corporate governance, highlighting the need to further control for potential endogeneity. Blundell and Bond (1998) propose the system generalised method of moments (GMM) to mitigate this issue. The system GMM is a procedure that simultaneously introduces two sets of equations: a level equation including the original variables of the model and a first difference equation including the instruments (Boateng et al., 2021). The principal benefit of adopting the system GMM procedure is that first-differenced instruments can be internal to the equation (Wintoki, Linck, & Netter, 2012). For this study, the lagged dependent and independent variables are used as instruments for the first difference equation, and the original variables are used in the level equation, consistent with Boateng et al. (2021). In sum, the model's validity is tested through a second-order serial correlation AR (2) test and the Hansen J-test (Roodman, 2009).

Columns 1 and 2 of Table 18 reveal that both types of CSR contracting have no significant effect on corporate financial performance (β = 0.049, $p > 0.1$; β = -0.026, $p > 0.1$). By contrast, in columns 3 and 4 of Table 18, both types of CSR contracting are found to positively affect corporate non-financial performance (β = 14.844, $p > 0.01$; β = 12.359, $p > 0.01$). Additionally, the magnitude of the effect is greater for general CSR contracting compared to material CSR contracting. Then, the correctness of the system GMM models is tested through the AR (2) and Hansen-J tests. For all models, AR (2) is not significant, suggesting that there is no evidence of serial correlation in the second order. Moreover, for all models, the Hansen-J test of over-identification is not significant, supporting the validity of the instruments. Overall, the results are consistent with the baseline results and reveal that they do not suffer from endogeneity.

Table 18: Endogeneity

	Financial Performance		Non-Financial Performance	
	Dep: *TSR*		Dep: *RefESGscore*	
	(1)	(2)	(3)	(4)
GeneralC	0.049		14.844**	
	(0.105)		(6.293)	
MatC		-0.026		12.359***
		(0.080)		(4.544)
CEODuality	-0.009	0.008	1.126	1.339
	(0.044)	(0.042)	(2.010)	(2.352)
BoardSize	0.001	-0.004	0.655	0.970
	(0.013)	(0.013)	(0.717)	(0.789)
NonExec	-0.004	-0.003	0.412**	0.331
	(0.004)	(0.004)	(0.203)	(0.238)
InstOwn	-0.003	-0.004*	-0.201**	-0.157
	(0.002)	(0.002)	(0.093)	(0.113)
CompAdv	-0.135*	-0.118	-7.480*	-10.328*
	(0.078)	(0.074)	(4.379)	(5.387)
CEOCCash	0.002	0.001	-0.183	-0.320
	(0.008)	(0.008)	(0.458)	(0.501)
Assurance	0.003	0.008	4.284	1.224
	(0.046)	(0.048)	(3.209)	(3.336)
FirmSize	0.009	0.012	8.507***	8.195***
	(0.014)	(0.015)	(1.055)	(1.066)
Leverage	0.024	0.021	-1.384	-1.517
	(0.015)	(0.015)	(0.912)	(0.968)
RDIntensity	1.117	1.030	28.224	34.489
	(0.789)	(0.798)	(49.842)	(51.554)
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Intercept	0.500	0.450	-42.285**	-37.912*
	(0.339)	(0.317)	(18.911)	(20.737)
AR (1)	0.000	0.000	0.000	0.000
AR (2)	0.543	0.502	0.677	0.925
Hansen J test	0.148	0.241	0.758	0.796
F-Stat.	83.13	78.78	301.18	268.91
Prob > F	0.000	0.000	0.000	0.000
No. of obs.	7,971	7,971	7,971	7,971

Note: This table reports the system-GMM results examining the impact of the different types of CSR contracting (general or material) on financial and non-financial performance. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 12 for definitions of variables.

6.6. Discussion and conclusion

This study examines whether the inclusion of general and material ESG targets in CEO compensation improves corporate financial and non-financial performance. Using a large sample of 1,577 companies from 2011 to 2019, the inclusion of both general and material ESG targets in CEO compensation was found to lack significant effects on corporate financial performance and positively affect corporate non-financial performance. Further analyses demonstrate that material CSR contracting is associated with greater environmental performance than for general CSR contracting in the first year of implementation and with greater ESG performance after three years. Moreover, general CSR contracting is found to reduce corporations' ability to generate revenues from their assets (through a lower asset turnover ratio). These results challenge the theoretical framework derived from the stakeholder-agency theory because material CSR contracting lacks have the expected dual effect on corporate financial and non-financial performance. On the one hand, this corporate initiative fulfils its objectives by better aligning the interests of CEOs with those of all legitimate stakeholders, not just shareholders, and by improving their relationships. On the other hand, it remains unclear whether short-term profit maximisation traditionally aligned with shareholder interests can be efficiently maximised.

These results raise complex questions concerning the economic relevance of material CSR contracting and the soundness of shareholder-oriented materiality frameworks. First, the economic relevance of material CSR contracting can be viewed differently depending on the trust shareholders have in corporations. While doubtful shareholders might see this corporate initiative as an overinvestment reducing their short-term benefits (Brown-Liburd & Zamora, 2015; Abdelmotaal & Abdel-Kader, 2016), trustful shareholders might see intangible benefits that are hardly captured by traditional financial performance proxies (Chen et al., 2015; Hartikainen, Järvenpää and Rautiainen, 2021; O'Connell & O'Sullivan, 2014). Consequently, compensation-setters should ensure that all stakeholders have understood and adhered to the financial and non-financial objectives of the corporation beforehand. This understand will prevent doubtful shareholders from trying to re-prioritise their interests over those of other stakeholders and protect the CSR-related gains earned by the corporation. Second, material CSR contracting challenges shareholder-oriented materiality frameworks by showing their usefulness for identifying ESG issues material to corporations and highlighting significant fragilities. The sole focus on enterprise value creation promised by these materiality frameworks shows critical flaws due to methodological shortcomings related to the generic

nature of ESG issues, the lack of identification of future opportunities preventing differentiation, and increased imitation pressures (Ioannou & Serafeim, 2021; Porter, Serafeim, & Kramer, 2019). Thus, the results open the debate on the soundness of shareholder-oriented materiality frameworks by highlighting their benefits and fragilities.

This study makes a twofold contribution to the literature. First, it introduces the notions of material and general CSR contracting to identify and select ESG targets that strategically matter in CEO compensation. By demonstrating that the consideration of material issues matters over time, this distinction refines the nascent stream of studies on CSR contracting and corporate performance (Ibrahim & Lloyd, 2011; Brown-Liburd & Zamora, 2015; Haque, 2017; Maas, 2018; Flammer, Hong, & Minor, 2019; Li & Thibodeau, 2019; Cavaco, Crifo, & Guidoux, 2020; Haque & Ntim, 2020; Derchi, Zoni, & Dossi, 2021; Tsang et al., 2021; Adu, Flynn & Grey, 2022; Cho & Ibrahim, 2022; Khenissi, Jahmane, & Hofaidhllaoui, 2022; Khenissi, Hamrouni, & Ben Farhat, 2022). Second, the findings challenge the stakeholder-agency theory (Hill & Jones, 1992) by showing that satisfying all stakeholders on the same timeline may not be feasible. This study refines the stakeholder-agency theory by demonstrating the need for intertemporal trade-offs and strategic prioritisation when including ESG targets in CEO compensation contracts to incentivise them to consider the interests of all stakeholders in different temporalities.

Unlike other studies, this one has limitations because it focuses only on the financial materiality of ESG issues. This approach may bias compensation-setters' decisions to focus on specific ESG issues and omit those assumed to be non-financially material. Nevertheless, these issues may be incorrectly priced or become relevant in different time frames. Thus, the addition of environmental and social materiality to financial materiality, whether double materiality, might be more appropriate to identify and incorporate ESG issues in CEO compensation, since it provides a more holistic picture of a company's impact on ESG issues and on how these ESG issues affect its value creation. Finally, this study has important implications for boards of directors and CEOs because they will face a voluntary and compulsory push from ESG reporting standardisation bodies, national policymakers (MacMillan & Ingram, 2021), and the responsible investors' community (PRI, 2016) to tie ESG targets to CEO compensation. It then becomes crucial that academic contributions disentangle further the tough strategic challenges that material CSR contracting represents nowadays for corporate CSR proponents in terms of stakeholder prioritisation and the simultaneous achievement of financial and non-financial performance.

Appendix 2: Variance inflation factors (VIFs) and tolerance for Chapter 6

	Financial Performance				Non-Financial Performance			
	Dep: *TSR*				Dep: *RefESGscore*			
	(1)		(2)		(3)		(4)	
	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance
GeneralC	1.07	0.94			1.07	0.94		
MatC			1.37	0.73			1.37	0.73
CEODuality	1.06	0.94	1.06	0.94	1.06	0.94	1.06	0.94
BoardSize	1.79	0.56	1.79	0.56	1.79	0.56	1.79	0.56
NonExec	1.25	0.80	1.25	0.80	1.25	0.80	1.25	0.80
InstOwn	1.15	0.87	1.15	0.87	1.15	0.87	1.15	0.87
CompAdv	1.18	0.85	1.18	0.85	1.18	0.85	1.18	0.85
CEOCCash	1.16	0.86	1.17	0.86	1.16	0.86	1.17	0.86
Assurance	1.01	0.99	1.02	0.98	1.01	0.99	1.02	0.98
FirmSize	2.11	0.47	2.15	0.47	2.11	0.47	2.15	0.47
Leverage	1.11	0.90	1.11	0.90	1.11	0.90	1.11	0.90
RDIntensity	1.79	0.56	1.80	0.56	1.79	0.56	1.80	0.56

Chapter 7

Board of directors: CSR committee

7.1. Brief summary

This study relies on the stakeholder-agency theory to examine whether the characteristics and effectiveness of CSR committees influence the initiative of tying ESG targets into CEO compensation contracts (i.e., CSR contracting). Using a sample of 1,641 observations from 575 US companies over 2015 to 2019, this study focuses on four structural characteristics of CSR committees: size, directors' independence, chairperson independence, and meeting frequency. An independent chairperson is found to enhance the likelihood of CSR contracting. An effective CSR committee structure, captured through a composite score including these four characteristics, is also found to influence corporations to opt for CSR contracting. Such CSR committees may influence corporations to opt for CSR contracting because more objective leadership improves the controllability of CSR contracting through more effective monitoring and better protection of stakeholders' interests. However, the possibility of synergies with other structural characteristics as drivers of CSR committees' effectiveness cannot be excluded. In sum, this study has important implications for practitioners wishing to build more effective CSR committees capable of overseeing stakeholder-oriented governance initiatives and for regulators wishing to provide guidance on their structures and practises.

7.2. Introduction

Societal expectations of better governance over sustainable development have led corporations to create corporate social responsibility (CSR) committees[8] to monitor and give advice on CSR activities (Shaukat, Qiu, & Trojanowski, 2016). However, the lack of empirical evidence on their substantiveness, coupled with the absence of guidance on their structures, have raised concerns about the ability of CSR committees to effectively oversee CSR activities (Rodrigue, Magnan, & Cho, 2013; World Bank - IFC, 2021). This problem is particularly important due to CSR committees' ability to affect the behaviours of CEOs on CSR through the inclusion of ESG targets in their compensation contracts[9] (Maas, 2018). Indeed, CSR committees make recommendations to remuneration committees concerning the design of CEO compensation

[8] These committees have received different names (such as ethics committee, health and safety committee, or sustainability committee). However, they are commonly referred to as CSR committees (Michelon & Parbonetti, 2012; Baraibar-Diez & Odriozola, 2019; Orazalin, 2020).

[9] This corporate initiative, also called CSR contracting, aims to attract CEOs' attention to non-financial objectives that are in the interests of different groups of stakeholders and will benefit the corporation in the long run (Hong, Li, & Minor, 2016; Maas, 2018). The terms 'inclusion of ESG targets in CEO compensation contracts' and 'CSR contracting' are used interchangeably.

contracts to better incentivise, monitor, and reward CEOs for their CSR performance (Al-Shaer & Zaman, 2019). Accordingly, the involvement of CSR committees in the contracting process is necessary. This is because CSR committees collect and analyse more information on CSR activities, enabling them to better inform remuneration committees on the performance of CEOs with respect to CSR, ultimately improving decision-making regarding CEO compensation contracts (Berrone & Gomez-Mejia, 2009). Therefore, the structure and effectiveness of CSR committees might be significant drivers for corporations to opt for CSR contracting as they are more capable of monitoring CEOs' actions and protecting the interests of all stakeholders (Radu & Smaili, 2022).

Although the academic literature on the board of directors is well documented, much less has been studied on board sub-committees, especially on CSR committees (Gennari & Salvioni, 2019; Radu & Smaili, 2022). Some empirical studies have examined the effect of several CSR committees' structural characteristics on corporate outcomes, such as size, directors' independence, chairperson independence, meeting frequency, and others, with conflicting results (Peters & Romi, 2015; Eberhardt-Toth, 2017; Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022). Additionally, several other studies have examined their effectiveness on corporate outcomes using a composite score of their structural characteristics (Chapple, Chen, & Zhang, 2017; Bradbury, Jia, & Li, 2022) or using descriptive statistics (Liao, Luo, & Tang, 2015; Burke, Hoitash, & Hoitash, 2019). These studies mostly show that effective CSR committees positively influence corporate outcomes. However, some researchers are concerned by the potential lack of controllability of CSR contracting because, without proper monitoring, it could exacerbate information asymmetries between CEOs and stakeholders and deter their relationships (Nigam, Benetti, & Mbarek, 2018; Derchi, Zoni, & Dossi, 2021). Few studies have indirectly examined the link between the presence of CSR committees and CSR contracting by using the former as a control variable (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019) or as part of a mediation analysis (Radu & Smaili, 2022). These studies report a positive association between the presence of CSR committees and CSR contracting. Given the limited empirical evidence available and concerns about the potential lack of controllability of CSR contracting, further research is necessary to examine the influence of CSR committees' characteristics and effectiveness on corporations' decisions to opt for CSR contracting.

Hill and Jones' (1992) stakeholder-agency theory combines the agency and stakeholder theories to create a new paradigm whereby CEOs should act in the best interests of all

stakeholders (Coombs & Gilley, 2005). Through this theoretical lens, CSR committees, as a type of sub-board structure, have two main roles (Elmaghrabi, 2021; Jarboui, Ben Hlima & Bouaziz, 2022). First, they reduce information asymmetries between CEOs and all stakeholders by providing information on CSR activities. Second, they improve relationships with stakeholders by reducing their costs of accessing CSR information due to the centralisation of CSR activities. Nevertheless, their ability to produce more information on CSR for all stakeholders is affected by the effectiveness of their structural characteristics, such as size, directors' independence, chairperson independence, and meeting frequency (Elmaghrabi, 2021). Consequently, certain CSR committees might be more effective than others in gathering and analysing the CSR performance of CEOs, improving their ability to supervise CEOs' actions and protect all stakeholders' interests. CSR committees' characteristics and effectiveness are therefore assumed to feature in the implementation of CSR contracting because they permit better monitor and the provision of more informed advise on the performance of CEOs on CSR. These advantages are expected to improve the controllability of CSR contracting and motivate corporations to opt for this initiative.

Using an unbalanced panel dataset of 1,641 observations from 575 US publicly listed companies over 2015 to 2019, this study empirically tests whether CSR committees' characteristics (including size, directors' independence, chairperson independence, and meeting frequency) influence the decision to opt for CSR contracting. It also investigates whether effective CSR committees' structures influence the decision to opt for CSR contracting using a composite score including these four variables.

This study makes a twofold contribution to the literature on corporate governance and CSR. First, empirical studies have indirectly examined the link between the presence of CSR committees and CSR contracting (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019; Radu & Smaili, 2022). However, these studies are limited because they have only included the presence of CSR committees as a control variable (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019) or as a component of a mediation analysis (Radu & Smaili, 2022). Therefore, to the best of our knowledge, this study is the first to investigate the impact of CSR committees' structure and effectiveness on CSR contracting. It fills a gap in the literature on the extent to which corporations can ensure that their CSR committees can be effectively structured to engage actively in the contracting process and to ensure that CSR initiatives align with corporations' objectives and stakeholder expectations. Second, this study conceptualises the relationships between CSR committees' characteristics and effectiveness in

CSR contracting by drawing on the stakeholder-agency theory of Hill and Jones (1992). While the theory posits that effective boards and sub-board committees better monitor and improve relationships with stakeholders, it does not explicitly refer to the role of their structural characteristics (Elmaghrabi, 2021; Jarboui, Ben Hlima & Bouaziz, 2022). Accordingly, this study expands the arguments of the stakeholder-agency theory to the structural characteristics of CSR committees by demonstrating that corporations with more objective leadership are more likely to opt for CSR contracting because they have more effective control over this initiative.

This study has important practical implications because it provides timely evidence to corporations and regulators in search of best practises for the governance of sustainability. With the notable exception of the World Bank - IFC (2021), there is today no guidance for the structure of CSR committees. As a result, this study offers some empirical evidence that corporations could use to design more effective CSR committees to enhance their sustainability efforts. Additionally, regulators could also use the findings of this study to create rule-based guidance for CSR committees.

The remainder of this paper is organised as follows: Section 2 reviews the literature and develops the hypotheses. Section 3 deals with the data and methodology. Section 4 presents the results, and the last section concludes this study.

7.3. Literature review and hypotheses development

7.3.1. CSR committees: Structures and effects

Due to the increasing roles of boards of directors in the governance of sustainability (Elkington, 2006; Ayuso & Argandoña, 2009), companies have begun to delegate CSR tasks and responsibilities to expert sub-board committees (Shaukat, Qiu, & Trojanowski, 2016). These corporate initiatives, named 'CSR committees', are becoming increasingly prevalent in developed economies. For example, Baraibar-Diez and Odriozola (2019) document a rise from 31% to 90% of companies having implemented CSR committees for a large sample of British, French, German, and Spanish-listed companies from 2005 to 2015. CSR committees have two main roles (Elmaghrabi, 2021; Jarboui, Ben Hlima & Bouaziz, 2022). First, they reduce information asymmetries between CEOs and all stakeholders, improving the monitoring of CSR activities. Second, they improve stakeholders' relationships by reducing costs to access CSR information, promoting accountability, and better protecting their interests. However, the

rapid development of CSR committees and the lack of guidance on their governance create uncertainties regarding the effect and substantiveness of their monitoring (Velte & Stawinoga, 2020). Some scholars have found that CSR committees positively affect CSR performance and might have a substantive role (Mallin & Michelon, 2011; Dixon-Fowler, Ellstrand, & Johnson, 2017; Hussain, Rigoni, & Orij, 2018). For example, in an international context, Baraibar-Diez and Odriozola (2019) find that the presence of CSR committees is associated with increased environmental, social, and governance performance for a sample of 197 firms from France, Germany, Spain, and the UK over 2005 to 2015. Nevertheless, other researchers find no effects between CSR contracting and CSR performance and conclude that they might only have a symbolic role (Berrone & Gomez-Mejia, 2009). For example, in the US context, Rodrigue, Magnan, and Cho (2013) found that CSR committees do not influence environmental regulatory performance and pollution prevention performance for a sample of S&P 500 companies from 2003 to 2008.

Given these contradictory findings, a smaller stream of research has focused on the structure of CSR committees to provide a more granular understanding of the effects and substantiveness of their monitoring. In the UK context, Elmaghrabi (2021) found robust evidence that CSR committee independence, chair member gender, meeting frequencies, and size positively impact CSR performance for a sample of 100 FTSE non-financial companies from 2015 to 2017. In the Indian context, Jarboui, Ben Hlima, and Bouaziz (2022) report that CSR committee expertise, independence, and size are positively associated with CSR performance for a sample of 60 BSE companies from 2014 to 2019. In the US context, Peters and Romi (2015) show that CSR committees with greater expertise are more likely to opt for CSR assurance and to search for external assurance from a professional accountant. Their study focuses on a sample of 912 US company-year observations from 2002 to 2010. Finally, in an international context of 177 non-financial companies in 2012, Eberhardt-Toth (2017) reports that CSR committees with greater independence, no CEO in the committee, a higher average member's age, a female chairperson, and a smaller size have higher corporate social performance. However, no significant impacts are found between the board chair's presence, the proportion of female directors, and higher corporate social performance.

These studies have mainly employed CSR committees' structural characteristics in isolation without looking at their aggregated effects and effectiveness (Elmaghrabi, 2021). Specifically, effectiveness is determined by the degree to which the components of their structures successfully fulfil their objectives (Tricker, 2019). Some empirical studies have

investigated the impact of CSR committees' effectiveness on companies' likelihood to hire an external party to provide assurance on their CSR reports. Chapple, Chen, and Zhang (2017) report a positive association between CSR committee effectiveness and the details of CSR assurance engagement, but no significant association with the likelihood of opting for CSR assurance. Their study focuses on a sample of 200 Australian companies from 2010 to 2014. However, using a sample of Australian firms from 2004 to 2016, Bradbury, Jia, and Li (2022) find that a more effective CSR committee is more likely to opt for external assurance on CSR. The authors also find that effective CSR committees are more likely to seek assurance from a Big Four accounting company and receive their CSR assurance from the same provider as their financial assurance. Finally, Burke, Hoitash, and Hoitash (2019) distinguished between effective and ineffective CSR committees based on their CSR strengths using a sample of 1,742 US companies from 2003 to 2013. The authors report that CSR committee independence, meeting frequency, and size were higher for effective CSR committees. Liao, Luo, and Tang (2015) compare effective and ineffective CSR committees based on their disclosure of environmental information as part of the Carbon Disclosure Project (CDP) and report similar findings using a sample of 329 UK companies in 2011. These studies demonstrate the importance of CSR committees' structure and effectiveness on corporate outcomes and highlight the need to better understand their relationships with CSR contracting.

7.3.2. CSR committees and CSR contracting

The inclusion of ESG targets in CEO compensation contracts, also known as CSR contracting, follows the growing recognition that CEOs must be involved to successfully implement CSR strategies (Miller Perkins & Serafeim, 2015). Due to their central positions in the company, CEOs influence employees and impact corporate outcomes (Peters & Romi, 2015). However, CEOs may engage in CSR activities only if they have incentives to do so, due to the uncertainties and risks of engaging in such activities (Berrone & Gomez-Mejia, 2009). Consequently, some scholars have called for a broader push for the use of ESG targets in CEO compensation contracts to attract CEOs' attention to all stakeholders and incentivise them to solve CSR issues potentially detrimental to the company (Cordeiro & Sarkis, 2008; O'Connell & O'Sullivan, 2014; Hong, Li, & Minor, 2016; Maas, 2018). This initiative can be viewed as an extension of the traditional pay for financial performance by adding ESG targets to the existing ones (Flammer, Hong, & Minor, 2019). Finally, these targets will likely be included in

CEO compensation contracts by the remuneration committee in consultation with the CSR committee (Al-Shaer & Zaman, 2019).

The literature on CSR committees and the presence of ESG targets in CEO compensation contracts is scarce and provides only indirect evidence supporting a positive relationship. In the UK context, two empirical studies examined the effects of firm characteristics (Abdelmotaal & Abdel-Kader, 2016) and sustainability reporting assurance (Al-Shaer & Zaman, 2019) on CSR contracting. Both studies include the presence of CSR committees as a control variable and report a positive association between CSR committees and CSR contracting for samples of FTSE 350 companies from 2009 to 2011 and 2011 to 2015, respectively. Additionally, Radu and Smaili's (2022) study examines the effect of CSR committees and CSR contracting on CSR performance. Using mediation analysis, the authors show that CSR committees do not directly affect CSR performance for a sample of 164 Canadian companies from 2012 to 2018. However, their research positively links CSR committees to CSR contracting and reveals that only through CSR contracting do CSR committees positively affect CSR performance. Given such limited empirical evidence, some researchers have called for more research on the governance of CSR contracting (Nigam, Benetti, & Mbarek, 2018; Derchi, Zoni, & Dossi, 2021). These researchers are concerned that its lack of controllability caused by ineffective monitoring could create information asymmetries, misaligning the interests between CEOs and stakeholders and harming their relationships (Nigam, Benetti, & Mbarek, 2018; Derchi, Zoni, & Dossi, 2021). Overall, these studies highlight the importance of corporations in ensuring that their CSR committees are involved in the contracting process to promote the alignment of CSR initiatives with corporations' objectives and stakeholder expectations.

7.3.3. Theoretical framework

Most corporate governance studies adopt a unique theoretical lens to evaluate the influence of governance mechanisms on corporate practises and outcomes (Helfaya & Moussa, 2017). However, the role played by CSR committees requires a multi-theoretical approach to better account for the different facets of CSR activities and sustainable development (Orazalin, 2020). In this way, the stakeholder-agency theory of Hill and Jones (1992) is employed to explain the relationship between CSR committees' characteristics and effectiveness and the presence of ESG targets in CEO compensation contracts. This theory combines the agency and the

stakeholder theories to create a new paradigm in which CEOs are seen as the agents of all stakeholders (Coombs & Gilley, 2005; Kock, Santaló, & Diestre, 2012). Moreover, this theory promotes the implementation of governance mechanisms that better align the interests of CEOs with those of all stakeholders (Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022). In sum, the stakeholder-agency theory broadens the accountability requirements of CEOs.

Under this theoretical lens, CSR committees have a dual objective: to supervise CEOs' actions on CSR and protect the interests of all stakeholders (Elmaghrabi, 2021). First, CSR committees reduce information asymmetries between CEOs and all stakeholders by gathering and analysing information on the CSR performance of CEOs (Berrone & Gomez-Mejia, 2009). This step more comprehensively and completely represents CEOs' efforts on CSR and tightens the link between pay and performance (Al-Shaer & Zaman, 2019). Second, CSR committees improve relationships with stakeholders by centralising the costs associated with the gathering and analysis of information about CEOs' activities on CSR, which might be substantial and out of the money for some stakeholders[10] (Hill & Jones, 1992). CSR committees reduce the costs of accessing information and help all stakeholders to become more empowered and informed about CEOs' actions on CSR (Hill & Jones, 1992). Overall, CSR committees enable corporations to produce more information on CSR and to democratise its access to all stakeholders by guaranteeing better monitoring of CEOs' activities on CSR and by improving relationships with stakeholders.

Nevertheless, CSR committees' effectiveness influences their ability to appropriately oversee the activities of CEOs on CSR (Chapple, Chen, & Zhang, 2017). Principally because of their structural characteristics, CSR committees are more effective in gathering and analysing CSR information (Bradbury, Jia, & Li, 2022). If their structures are ineffective, the inclusion of ESG targets in CEO compensation contracts might exacerbate agency problems due to the lack of controllability of this corporate initiative (Nigam, Benetti, & Mbarek, 2018; Derchi, Zoni, & Dossi, 2021). Thus, the stakeholder-agency theory of Hill and Jones (1992) suggests that more effective boards of directors can better oversee CEOs' actions and improve stakeholder relationships without explicitly mentioning their structural characteristics (Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022). This study therefore attempts to fill this theoretical gap by extending the arguments of the stakeholder-agency theory to the

[10] This situation is particularly conspicuous in the case of diffuse stakeholders, where the groups of stakeholders are numerous, small, and lack the resources and power to gather and analyse information about agents' activities (Hill & Jones, 1992).

structural characteristics of CSR committees through the examination of their effectiveness in the inclusion of ESG targets in CEO compensation contracts.

7.3.4. Hypotheses development

This study considers the effectiveness of CSR committees in terms of four structural characteristics: size, directors' independence, chairperson independence, and meeting frequency.

7.3.4.1. Size

The size of a CSR committee is viewed as among its most critical structural characteristics because having more directors is often perceived as improving a committee's skills, experience, and expertise (Jarboui, Ben Hlima, & Bouaziz, 2022). By applying the stakeholder-agency theory rationale to CSR committee size, the addition of directors to the CSR committee might diversify the skills, experience, and expertise to improve the governance of CSR contracting (Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022). More precisely, larger CSR committees gather and analyse more information on the CSR performance of CEOs, providing better monitoring and advisory of CSR activities. Such CSR committees might therefore reduce information asymmetries between CEOs and all stakeholders and improve stakeholder relationships. Thus, larger CSR committees ensure better controllability of CSR contracting, possibly motivating corporations to choose this initiative.

While no legislation exists in the US to impose a given size on CSR committees, the World Bank - International Fund Corporations (World Bank - IFC) provides principle-based guidance on the structure and practises of CSR committees internationally (World Bank-IFC, 2021). The financial institution suggests that CSR committees' size should reflect its mandate and the required skills to monitor and give advice on CSR activities (World Bank - IFC, 2021). However, the academic literature on optimal board size and CSR performance is shared between those arguing that a larger board better gathers and analyses CSR information and others stating that a smaller board better manages poor CSR performance (Endrikat et al., 2021). These contradictory arguments are also reflected in the academic literature on CSR committees and CSR performance. Some authors find that smaller CSR committees increase corporate

social performance (Eberhardt-Toth, 2017), while others find that larger CSR committees increase CSR performance (Jarboui, Ben Hlima, & Bouaziz, 2022), and some others find no significant association with CSR performance (Elmaghrabi, 2021) or with CSR assurance (Peters & Romi, 2015). Nevertheless, Liao, Luo, and Tang (2015) and Burke, Hoitash, and Hoitash (2019) demonstrate that effective CSR committees, determined by their disclosure and CSR strengths, tend to be larger. Based on the stakeholder-agency theory and empirical evidence, the following hypothesis is proposed:

H1: Companies with a larger CSR committee size are more likely to include ESG targets in CEO compensation contracts.

7.3.4.2. Independence

The independence of a CSR committee is determined by the absence of relationships between its directors and the company (Kang, Cheng, & Gray, 2007). Deriving from the stakeholder-agency theory lens, a larger proportion of independent directors and an independent chairperson might be viewed as providing better governance of CSR contracting because they consider the needs of all stakeholders and the complexity and multiplicity of CSR issues (García-Sánchez et al., 2019). Consequently, more independent CSR committees led by an independent chairperson gather and analyse more information on the CSR performance of CEOs. This analysis reduces information asymmetries between CEOs and stakeholders and improves stakeholder relationships. Therefore, CSR committees with more independent directors and an independent chairperson are more likely to implement CSR contracting because they better control this initiative.

The corporate governance literature suggests that independent directors can better exercise free judgment and protect the interests of all stakeholders (Mallin, 2019). However, prior findings on CSR committee independence and corporate outcomes are contradictory. While some studies find a positive effect between the proportion of independent directors and CSR performance (Eberhardt-Toth, 2017; Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022) and chairperson independence and CSR performance (Elmaghrabi, 2021), others report no significant effect concerning the proportion of independent directors and CSR assurance (Peters & Romi, 2015). The World Bank - IFC's guidance on the structures and practises of CSR committees recommends that they should comprise a minimum of half independent

directors and chaired by an independent director (World Bank - IFC, 2021). The studies of Liao, Luo, and Tang (2015) and Burke, Hoitash, and Hoitash (2019) support these recommendations in showing that effective CSR committees, classified respectively based on their disclosure and CSR strengths, have a higher proportion of independent directors. Thus, based on the stakeholder-agency theory and empirical evidence, the following hypotheses are proposed:

H2a: Companies with a more independent CSR committee, in terms of independent directors' proportion, are more likely to include ESG targets in CEO compensation contracts.

H2b: Companies with a more independent CSR committee, in terms of chairperson independence, are more likely to include ESG targets in CEO compensation contracts.

7.3.4.3. Frequency of meetings

A CSR committee meeting frequency corresponds to the number of times its members gather during a given year (Chapple, Chen, & Zhang, 2017). The meeting frequency determines the activity level of CSR committees and provides information about their ability to effectively monitor and advise on CSR activities (Liao, Luo, & Tang, 2015). Following the stakeholder-agency theory rationale, CSR committees with more frequent meetings better govern CSR contracting because their greater activity enhances their ability to gather and analyse CSR information (Elmaghrabi, 2021; Jarboui, Ben Hlima, & Bouaziz, 2022). Consequently, such CSR committees can effectively track the CSR performance of CEOs, improving their capability to monitor and advise on the inclusion of ESG targets in CEO compensation contracts. Thus, CSR committees that meet more frequently improve the controllability of CSR contracting, which might encourage corporations to opt for this initiative.

The corporate governance literature on meeting frequency is shared between scholars who argue that numerous meetings demonstrate ineffectiveness associated with underperformance and others, maintaining that it increases effectiveness through better monitoring (Hussain, Rigoni, & Orij, 2018). Regarding CSR committees, the World Bank-IFC recommends a frequency of three to four meetings a year (World Bank - IFC, 2021). Nevertheless, the guidance suggests that meeting frequency should be adjusted based on their mandates (World Bank - IFC, 2021). Prior empirical research is consistent with these recommendations. For example, more effective CSR committees are found to meet more regularly, from about three times a year (Liao, Luo, & Tang, 2015) to four times a year (Burke,

Hoitash, & Hoitash, 2019). Nevertheless, studies on the relationships between CSR committees' meeting frequency and corporate outcomes are conflicting. For example, Peters and Romi (2015) and Jarboui, Ben Hlima, and Bouaziz (2022) report no significant association between meeting frequency and CSR performance and CSR assurance, while Elmaghrabi (2021) finds a positive association between meeting frequency and CSR performance. As such, based on the stakeholder-agency theory, the following hypothesis is proposed:

H3: Companies with a greater frequency of CSR committee meetings are more likely to include ESG targets in CEO compensation contracts.

7.3.4.4. Effective structure

Effectiveness is considered the degree to which the components of CSR structural characteristics successfully fulfil their objectives (Tricker, 2019). While the shareholder-agency theory posits that more effective sub-board committees better monitor and recommend on CSR activities, it does not mention whether their effectiveness is determined by individual factors or a combination of factors. This distinction is crucial in corporate governance, as a growing stream of research advocates for the adoption of a 'bundle' perspective[11] to examine the effectiveness of corporate governance mechanisms (Rediker & Seth, 1995; Aguilera, Desender, & Kabbach de Castro, 2012). Thus, the combination of size, directorial independence, chairperson independence, and meeting frequency might affect the ability of CSR committees to gather and analyse information on CSR. The synergies realised by the four different structural characteristics might help corporations to better assess CEOs' performance on CSR and align their actions with stakeholders' interests. In sum, CSR committees with more effective structures are expected to improve the controllability of CSR contracting and might motivate corporations to opt for this initiative.

The literature on CSR committees' effectiveness and corporate outcomes is narrow. The only studies available have investigated the impact of CSR committee effectiveness on CSR assurance in Australia. While Chapple, Chen, and Zhang (2017) find that CSR committee effectiveness is not associated with the decision to seek external CSR assurance, Bradbury, Jia, and Li (2022) report a positive association. The use of different effectiveness composite scores might explain these mixed results. On the one hand, Chapple, Chen, and Zhang (2017) use a

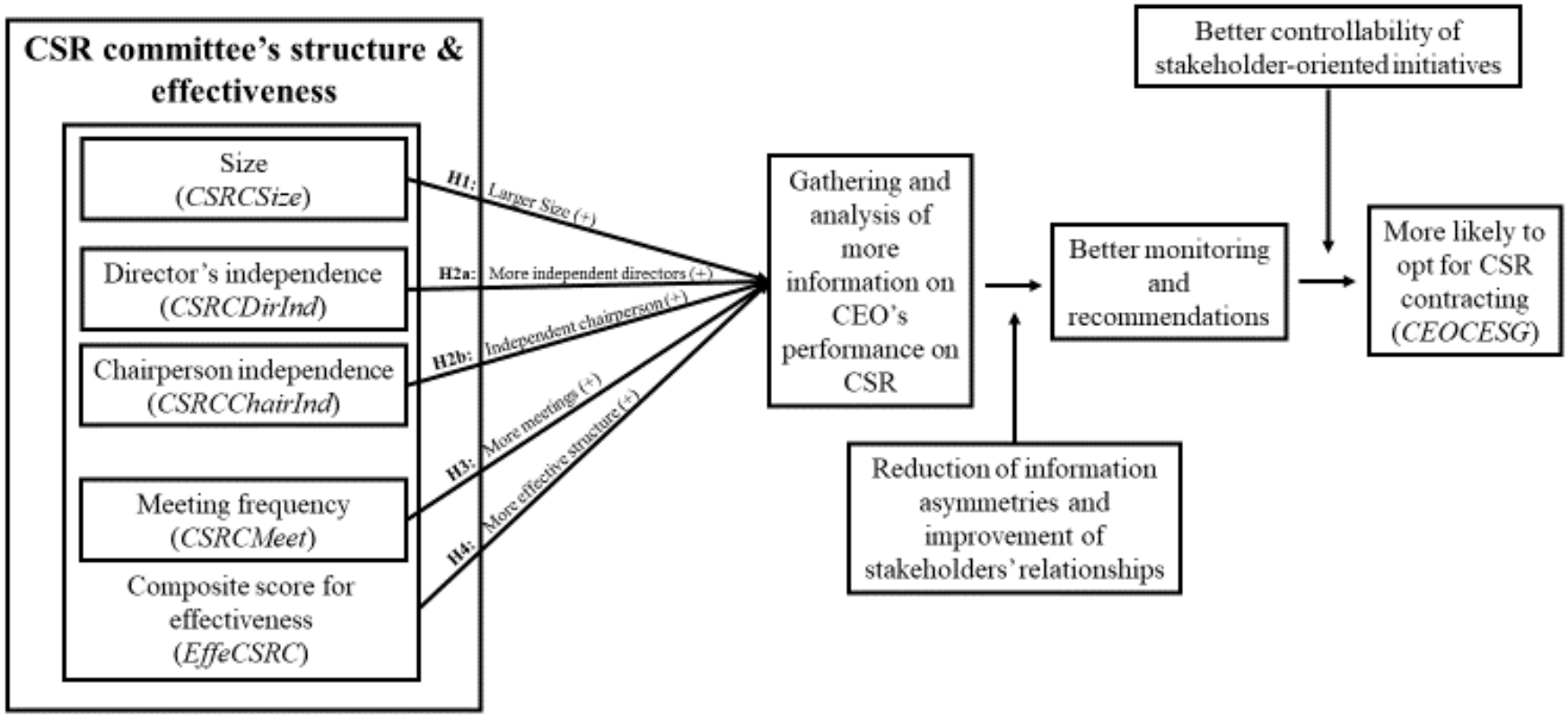
[11] The concept of 'bundle' in corporate governance suggests that corporate governance mechanisms can fulfil their objectives due to a combination of factors rather than one factor (Rediker & Seth, 1995).

score of 5 factors, including CSR committee size, independence, meeting frequency, busyness, and expertise. On the other hand, Bradbury, Jia, and Li (2022) use a score comprised of 12 variables based on four pillars related to composition, authority, resources, and diligence. This approach is common in measuring the effectiveness of audit committees (Chapple, Chen, and Zhang, 2017). The approach allows a performance assessment comprising the interrelated effects of all structural components and a benchmark with other companies, which would not have been possible by only pooling their structural characteristics. Furthermore, the literature on the relationship between CSR committees and the inclusion of ESG targets in CEO compensation contracts is limited. The only studies available have examined this relationship indirectly as part of control variables (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019) or a mediation analysis (Radu & Smaili, 2022). Nevertheless, these studies have used only a dummy variable to indicate the presence of CSR committees, limiting the understanding of their functioning. Consequently, following the stakeholder-agency theory and previous empirical studies, the following hypothesis is proposed:

H4: Companies with a more effective CSR committee structure are more likely to include ESG targets in CEO compensation contracts.

Figure 11 summarises the research model.

Figure 11: Research model for Chapter 7



7.4. Data and methodology

7.4.1. Data and sample

This study consists of 1,641 observations from 575 US companies that are part of the Russell 3,000 index. This sample covers 98% of publicly traded equities in the US, and its size is consistent with previous empirical research on CSR committees (Eberhardt-Toth, 2017; Uyar et al., 2021; Bradbury, Jia, & Li, 2022). Moreover, it reflects the growing trend of this corporate initiative in this country and extends previous research that has focused mostly on large companies indexed on the S&P 500 (Dixon-Fowler, Ellstrand, & Johnson, 2017; Rodrigue, Magnan, & Cho, 2013). The data was collected from the Bloomberg database. This database is widely used in the financial and sustainability industries due to its reliability (Park & Ravenel, 2013). In addition, the Bloomberg database has been previously employed in the study on CSR committees (Eberhardt-Toth, 2017). Finally, the sample period starts in 2015 and ends in 2019. It corresponds to the first year of data available on the Bloomberg database for the structural characteristics of CSR committees and the last year before the COVID-19 pandemic, which has significantly affected corporate governance practises (Zattoni & Pugliese, 2021). Table 19 displays the sample selection and the patterns of distribution.

Table 19: Sample selection and patterns of distribution

Panel A: Sample selection	**Frequency**	**Percentage**
Initial sample	2,992	100%
Less: Firms without CSR committees	2,315	77.37%
Less: Firms without data on CSR committees' structure	102	3.41%
Final sample	**575**	**19.22%**

Panel B: Distribution of the sample	**Frequency**	**Percentage**
Only Russell 3,000	130	22.61%
Only S&P 1,500	174	30.26%
Only S&P 500	271	47.13%
Total	**575**	**100%**

Panel C: Sector classification	**Frequency**	**Percentage**
Financial firms	107	18.61%
Non-financial firms	468	81.39%
Total	**575**	**100%**

Note: The final dataset is unbalanced and composed of 575 firms with 1,641 observations from 2015 to 2019.

7.4.2. Variable definitions and regression models

7.4.2.1. Dependent variable

A dummy variable named *CEOCESG* is used to measure the presence of ESG targets in CEO compensation contracts. This measure takes the value of 1 if ESG targets are tied to CEO compensation and 0 otherwise. *CEOCESG* has been used in prior empirical studies on CEO compensation and CSR (Hong, Li, & Minor, 2016; Maas, 2018; Flammer, Hong, & Minor, 2019; Cavaco, Crifo, & Guidoux, 2020).

7.4.2.2. Independent variables

Four variables related to their size, directors' independence, chairperson independence, and meeting frequency are used to measure CSR committees' characteristics. *CSRCSize* is the number of directors on the CSR committee, *CSRCDirInd* is the proportion of independent directors, *CSRCChairInd* is the presence of an independent chair, and *CSRCMeet* is the number of meetings held by the CSR committee for a given year. These proxies have been employed in previous studies on CSR committees (Liao, Luo, & Tang, 2015; Peters & Romi, 2015; Chapple, Chen, & Zhang, 2017; Eberhardt-Toth, 2017; Burke, Hoitash, & Hoitash, 2019; Elmaghrabi, 2021; Bradbury, Jia, & Li, 2022; Jarboui, Ben Hlima, & Bouaziz, 2022). CSR committees' effectiveness is then measured by creating a composite score of four dummy variables capturing CSR committees' size (*EffeSize*), the independence of directors (*EffeDirInd*), the chairperson's independence (*CSRCChairInd*), and meeting frequency (*EffeMeet*). This composite score considers the combination and potential synergies of these four structural characteristics, assumed to provide a complementary assessment of CSR committee effectiveness. Specifically, for each continuous variable, a dummy variable takes the value of 1 if the component's value is greater than the sample median and 0 otherwise. The following model is estimated:

$$EffeCSRC = EffeSize + EffeDirInd + CSRCChairInd + EffeMeet \quad (1)$$

EffeCSRC is a composite score ranging from zero to four, with zero indicating the lowest effectiveness and four the highest effectiveness. This method has been used in prior research on CSR committees (Chapple, Chen, & Zhang, 2017; Bradbury, Jia, & Li, 2022).

7.4.2.3. Control variables

A number of variables are included to control for other factors influencing the presence of ESG targets in CEO compensation contracts. First, this study controls for corporate governance characteristics. Prior studies have found that corporate governance structure significantly influences CSR contracting (Al-Shaer & Zaman, 2019; Ikram, Li, & Minor, 2019). Thus, several corporate governance variables are included to control for the separation between CEO and chairman (*CEODuality*), the number of directors on the company's board (*BoardSize*), and the presence of compensation advisors (*CompAdv*).

Second, this study controls for ownership concentration. Prior studies have found that CEO ownership concentration is a determinant of CSR contracting (Berrone & Gomez-Mejia, 2009; Schiehll & Bellavance, 2009; Al-Shaer & Zaman, 2019). Consequently, a variable (*CEOOwn*) is added to control for the percentage of shares owned by the CEO. Additionally, prior research reports that the proportion of institutional investors may increase the implementation of CSR contracting because they have publicly stated their preferences towards corporations with more robust CSR standards in their CEO compensation contracts (Qin & Yang, 2022). In this way, the variable (*InstOwn*) is included to control for the proportion of institutional investors.

Third, prior studies have demonstrated that corporate size is crucial in the implementation of CSR initiatives (Johnson & Greening, 1999; Brammer & Millington, 2006). Thus, the larger the company, the more resources it will have to enhance its CSR efforts. Consequently, this study controls for firm size (*FirmSize*) using the natural logarithm of total sales.

Fourth, a measure to control for corporate performance is included. Due to the widespread use of performance-based pay for CEOs, the fate of CEOs is increasingly tied to the performance of their companies (Frydman & Jenter, 2010). Thus, financial performance might significantly determine CEO compensation. In line with the studies of Helfaya and Moussa (2017), Biswas, Mansi, and Pandey (2018), and Uyar et al. (2021), financial performance is measured using the return on assets (*ROA*).

Fifth, investors often consider companies with high financial leverage riskier (Banerjee, Dasgupta, & Kim, 2008). For example, Mishra and Modi (2013) found that companies with high financial leverage receive fewer benefits from their positive CSR initiatives in terms of reducing their specific or idiosyncratic risks. Therefore, a variable (*Leverage*) is included to

control for the company's capital structure, as high leverage might affect the implementation of CSR contracting. Financial leverage is calculated by dividing total debts by shareholders' equity. Finally, research and development intensity (*RDIntensity*) is included because companies with high research and development intensity might be more willing to opt for CSR contracting as it attracts CEOs' attention to long-term issues affecting corporate activities. Consistent with Burke, Hoitash, and Hoitash (2019), the research and development intensity is calculated by dividing research and development expenses by total assets. These variables are defined in Table 20.

Table 20: Definitions of variables

Variables	Description
Dependent variable	
CEOCESG	1, if the CEO compensation is linked to ESG targets, 0 otherwise.
Independent and control variables	
CSRCSize	The number of directors on the CSR committee.
CSRCDirInd	The proportion of independent directors on the CSR committee.
CSRCChairInd	1, if the CSR committee chairperson is independent, 0 otherwise.
CSRCMeet	The number of meetings held by the CSR committee for a given year.
EffeCSRC	*EffeCSRC* is a score measuring the effectiveness of a CSR committee. It comprises four dummy variables related to the size of the committee (1 if above median, 0 otherwise), the independence of its members (1 if above median, 0 otherwise), the independence of its chairperson (1 if independent, 0 otherwise), and its meeting frequency (1 if above median, 0 otherwise). The score ranges from 0 to 4 and identifies companies with corporate governance practices that are assumed to produce a more effective CSR committee.
CEODuality	1, if the company's chief executive officer is also chairman of the board, 0 otherwise.
BoardSize	The number of directors on the company's board, as reported by the company.
CompAdv	1, if the company appoints outside CEO compensation advisors, 0 otherwise.
CEOOwn	The proportion of shares outstanding held by the CEO as a fraction of total shares outstanding.
InstOwn	The proportion of institutional ownership to total company ordinary shareholdings.
FirmSize	The natural log of total sales.
ROA	The return on assets is the ratio of net income to total assets.
Leverage	The ratio of total debts divided by the total shareholders' equity.
RDIntensity	The research and development expenses divided by total assets.

7.4.2.4. Regression models

Logistic regressions are employed to test the hypotheses on the relationship between CSR committees' characteristics and effectiveness and CSR contracting. Due to the nature of the dependent variable (*CEOCESG*), this statistical model is recommended to better estimate binary outcomes (Wooldridge, 2015). Furthermore, this estimation technique has been employed in prior research on CSR committees (Abdelmotaal & Abdel-Kader, 2016; Eberhardt-Toth, 2017; Al-Shaer & Zaman, 2019; García-Sánchez et al., 2019). Therefore, the following models are proposed:

$$CEOCESG_{it} = \beta 0 + \beta 1\, CSRCSize_{it} + \beta 2\, CSRCDirInd_{it} + \beta 3\, CSRCChairInd_{it} + \beta 4\, CSRCMeet_{it} + \beta 5\, Controls_{it} + \varepsilon_{it} \quad (2)$$

In equation (2), the dependent variable is *CEOCESG*, indicating whether ESG targets are tied to CEO compensation for a firm '*i*' in function of time '*t*'. The independent variables *CSRCSize*, *CSRCDirInd*, *CSRCChairInd*, and *CSRCMeet* account for the different structural components of CSR committees. *Controls* represents control variables, and a set of sector and year dummies has been included to control for their effects. Finally, equation (2) is first estimated with all independent variables to provide a comprehensive overview of the extent to which the different structural characteristics of CSR committees affect CSR contracting. Then, equation (2) is estimated using each characteristic individually to precisely identify the significance and strength of their association with CSR contracting.

$$CEOCESG_{it} = \beta 0 + \beta 1\, EffeCSRC_{it} + \beta 3\, Controls_{it} + \varepsilon_{it} \quad (3)$$

In equation (3), the dependent variable is *CEOCESG*, indicating whether ESG targets are tied to CEO compensation for a firm '*i*' in function of time '*t*'. The independent variable *EffeCSRC* comprises the different proxies to test the effectiveness of the structural components of CSR committees (*EffeSize*, *EffeDirInd*, *CSRCChairInd*, *EffeMeet*). *Controls* represents control variables, and a set of sector and year dummies has been included to control for their effects. To conclude, equation (3) uses a composite score to provide a complementary assessment of CSR committees' effectiveness by accounting for the potential synergies between their different structural characteristics.

7.5. Empirical findings

7.5.1. Descriptive statistics

Table 21 provides descriptive statistics for the variables used in this study. The average proportion of companies including ESG targets in CEO compensation contracts (*CEOCESG*) is about 31%. As a basis for comparison, Flammer, Hong, and Minor (2019) found that about 24% of companies tied their ESG targets to CEO compensation contracts for a sample of S&P 500 companies from 2004 to 2013. Then, the components of CSR committee structures suggest that an average committee has a size of 4.17 members, about 96% of independent directors, an independent chair in 96% of cases, and a frequency of 4.34 meetings a year. Furthermore, the average effectiveness score is 3.06 out of 4. Other controls are also in line with previous studies on CSR contracting and CSR committees (Burke, Hoitash, & Hoitash, 2019; Eberhardth-Toth, 2017; Flammer, Hong, & Minor, 2019).

Table 21: Descriptive statistics

Variable	Obs.	Mean	Q1	Median	Q3	Std. Dev.
CEOCESG (1/0)	1,641	0.31	0.00	0.00	1.00	0.46
CSRCSize	1,641	4.17	3.00	4.00	5.00	1.47
CSRCDirInd (%)	1,641	95.63	89.90	100.00	100.00	9.79
CSRCChairInd (1/0)	1,641	0.96	1.00	1.00	1.00	0.20
CSRCMeet	1,641	4.34	4.00	4.00	5.00	1.74
EffeCSRC	1,641	3.06	3.00	3.00	4.00	0.98
CEODuality (1/0)	1,641	0.43	0.00	0.00	1.00	0.49
BoardSize	1,641	10.44	9.00	10.00	12.00	2.25
CompAdv (1/0)	1,641	0.95	1.00	1.00	1.00	0.21
CEOOwn (%)	1,641	0.86	0.05	0.15	0.40	4.43
InstOwn (%)	1,641	87.78	80.79	93.40	100.00	16.07
FirmSize (log)	1,641	8.56	7.44	8.57	9.65	1.69
ROA	1,641	4.61	1.22	4.12	8.13	5.98
Leverage	1,641	4.49	3.89	4.49	5.07	1.22
RDIntensity	1,641	0.01	0.00	0.00	0.01	0.03

Note: This table reports the descriptive statistics for the full sample. See Table 20 for definitions of variables.

In Table 22, the Pearson correlation coefficients reveal that the effectiveness of a CSR committee's size, proportion of independent directors, and chairperson independence have a positive relationship with *CEOCESG*. However, its meeting frequency does not correlate with *CEOCESG*. In addition, the effectiveness structure score is positively correlated with *CEOCESG*. The Pearson correlation coefficients reveal no high correlations among the independent variables and indicate no serious multicollinearity issues. The additional test in Appendix 3 using the variance inflation factors (VIF) procedure is consistent with this claim.

Table 22: Pearson correlation matrix

	CEOCESG	CSRCSize	CSRCDirInd	CSRCChairInd	CSRCMeet	EffeCSRC	CEODuality	BoardSize	CompAdv	CEOOwn	InstOwn	FirmSize	ROA	Leverage	RDIntensity
CEOCESG	1														
CSRCSize	.129**	1													
CSRCDirInd	.057*	.008	1												
CSRCChairInd	.093**	.289**	.234**	1											
CSRCMeet	-.043	.042	.077**	.024	1										
EffeCSRC	.157**	.510**	.414**	.545**	.363**	1									
CEODuality	.091**	.141**	.032	.051*	.002	.104**	1								
BoardSize	.140**	.343**	.090**	.092**	.104**	.310**	.138**	1							
CompAdv	.071**	.103**	.075**	.050*	.100**	.205**	.084**	.116**	1						
CEOOwn	-.072**	-.088**	-.055*	-.005	.018	-.054*	.120**	-.219**	-.014	1					
InstOwn	-.037	.038	.065**	.083**	.106**	.161**	-.054*	-.033	.336**	-.221**	1				
FirmSize	.200**	.268**	.216**	.170**	.132**	.407**	.182**	.556**	.222**	-.126**	.064**	1			
ROA	-.073**	.085**	.022	.086**	-.027	.090**	.016	.038	-.068**	.016	.033	.180**	1		
Leverage	.145**	.106**	-.054*	.035	.009	.060*	.028	.172**	.058*	-.191**	.033	.143**	-.074**	1	
RDIntensity	-.146**	-.059**	.042	.016	-.042	.057*	-.016	-.080**	.063*	.015	.031	-.072**	.127**	-.173**	1

Note: This table reports the Pearson correlation coefficients. **, * indicate that the correlation is significant at the 0.01 and 0.05 levels, respectively. See Table 20 for definitions of variables.

7.5.2. Baseline analyses

Table 23 presents the logistic regression results concerning the impact of CSR committees' characteristics and effectiveness on the inclusion of ESG targets in CEO compensation contracts. Regarding CSR committees' characteristics, in column 1, chairperson independence is positively and significantly associated with the inclusion of ESG targets in CEO compensation contracts (B = 1.134, $p < 0.001$). However, there are no associations with CSR committees' size, the proportion of independent directors, or meeting frequency (B = -0.023, $p > 0.01$; B = 0.005, $p > 0.01$; B = -0.035, $p > 0.01$). Columns 2 to 5 reveal that these results are similar for each CSR committee's characteristics estimated in isolation. Finally, column 5 reveals that CSR committee effectiveness is positively and significantly associated with the presence of ESG targets (B = 0.305, $p < 0.001$). Overall, hypotheses 2b and 4 are supported.

Previous studies have not specifically examined these relationships. Consequently, the findings of this study are compared and contrasted with the streams of literature examining the impact of CSR committees' structure and effectiveness on corporate outcomes and the impact of the presence of CSR committees and CSR contracting to highlight their similarities and differences. Concerning CSR committee size, the result is consistent with Peters and Romi (2015) and Elmaghrabi (2021). However, it goes against Eberhardt-Toth (2017), who finds that smaller CSR committees are associated with greater non-financial performance, and Jarboui, Ben Hlima, and Bouaziz (2022), who find the opposite. Regarding directors' independence, the finding aligns with those of Peters and Romi (2015) but not those of Eberhardt-Toth (2017), Elmaghrabi (2021), and Jarboui, Ben Hlima, and Bouaziz (2022), who report a positive relationship between CSR committees with a larger proportion of independent directors and non-financial performance. With respect to chairperson independence, the result is consistent with Elmaghrabi (2021), who found a positive association between chairperson independence and non-financial performance. For meeting frequency, the finding is in line with Peters and Romi (2015), Jarboui, Ben Hlima, and Bouaziz (2022) but goes against Elmaghrabi (2021), who reports a positive link between CSR committee meeting frequency and corporate non-financial performance. In sum, the finding concerning the link between CSR committee effectiveness and CSR contracting is consistent with studies examining the effectiveness of CSR committees on corporate outcomes (Liao, Luo, & Tang, 2015; Chapple, Chen, & Zhang, 2017; Burke, Hoitash, & Hoitash, 2019; Bradbury, Jia, & Li, 2022) and studies having indirectly investigated the impact of CSR committees on CSR contracting (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019; Radu & Smaili, 2022).

In light of previous studies, the results provide a more granular understanding of the impact of CSR committees' characteristics and effectiveness on CSR contracting. They provide some support and challenge the theoretical arguments derived from the stakeholder-agency theory of Hill and Jones (1992). Contrary to expectations, no association was found between CSR committee size and CSR contracting, possibly due to larger committees hindering effective communication and decreasing CSR contracting controllability. Then, no association was found between the proportion of independent directors in the CSR committee and CSR contracting. An explanation for the absence of this connection might be that a committee composed mostly of independent directors could misalign CSR initiatives with corporations' objectives and stakeholder expectations, deteriorating the controllability of CSR contracting. In contrast, an independent chairperson is associated with CSR contracting because it improves the controllability of CSR contracting by providing more objective leadership. While frequent CSR committee meetings were expected to increase the activity level and improve the controllability of CSR contracting, no association between the two was found, perhaps because more meetings decrease CSR contracting controllability due to a lack of focus on strategic CSR initiatives. Finally, the study shows that more effective CSR committees are associated with CSR contracting. The use of a composite score provides complementary insights into the effectiveness of CSR committees. It shows that, even if several additional structural characteristics are not significant, their combined effect driven by chairperson independence can still be significant in influencing corporations to opt for CSR contracting. This finding supports the argument derived from the stakeholder-agency theory and the concept of corporate governance bundle.

Table 23: Baseline analysis

	Exp. Sign	Dep: *CEOCESG*					
		(1)	(2)	(3)	(4)	(5)	(6)
CSRCSize	+	-0.023	0.005				
		(0.048)	(0.044)				
CSRCDirInd	+	0.005		0.008			
		(0.008)		(0.009)			
CSRCChairInd	+	1.134***			1.140***		
		(0.338)			(0.304)		
CSRCMeet	+	-0.035				-0.036	
		(0.042)				(0.043)	
EffeCSRC	+						0.305***
							(0.080)
CEODuality	+	0.077	0.085	0.083	0.082	0.078	0.082
		(0.141)	(0.140)	(0.140)	(0.140)	(0.140)	(0.141)
BoardSize	?	0.067*	0.064*	0.067*	0.060	0.064*	0.049
		(0.039)	(0.038)	(0.037)	(0.037)	(0.037)	(0.038)
CompAdv	+	0.172	0.158	0.155	0.157	0.173	0.009
		(0.344)	(0.350)	(0.352)	(0.337)	(0.353)	(0.341)
CEOOwn	-	-0.035	-0.036	-0.032	-0.038	-0.036	-0.037
		(0.058)	(0.056)	(0.057)	(0.057)	(0.057)	(0.053)
InstOwn	+	-0.001	0.001	0.001	-0.001	0.001	-0.001
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
FirmSize	+	0.423***	0.430***	0.421***	0.424***	0.435***	0.388***
		(0.058)	(0.056)	(0.058)	(0.057)	(0.057)	(0.058)
ROA	+	0.010	0.011	0.012	0.010	0.011	0.010
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Leverage	+	0.270***	0.272***	0.280***	0.267***	0.270***	0.287***
		(0.059)	(0.059)	(0.059)	(0.058)	(0.059)	(0.057)
RDIntensity	?	11.158***	11.488***	11.378***	11.317***	11.399***	11.921***
		(4.219)	(4.200)	(4.211)	(4.195)	(4.213)	(4.236)
Year effects		Yes	Yes	Yes	Yes	Yes	Yes
Sector effects		Yes	Yes	Yes	Yes	Yes	Yes
Intercept		-6.420***	-5.184***	-5.915***	-6.023***	-5.094***	-5.276***
		(0.945)	(0.700)	(0.985)	(0.710)	(0.711)	(0.691)
Wald χ^2		415.61	404.05	404.43	410.74	407.92	407.68
Prob > χ^2		0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R2		0.313	0.309	0.310	0.312	0.309	0.315
No. of obs.		1,641	1,641	1,641	1,641	1,641	1,641

Note: This table reports the baseline results of the logistic regressions examining the influence of CSR committees' characteristics and effectiveness on the inclusion of ESG targets in CEO compensation. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

7.5.3. Robustness tests

7.5.3.1. Endogeneity

While control variables were included to avoid the omitted variable bias and different fixed effects were used to control for time and sector effects, unobservable factors might still affect the results. Thus, the baseline models are estimated using the two-stage least squares (2SLS) model to control for potential spurious relationships. First, an instrumental variable correlated to the main independent variables in the first stage but not to the dependent variables in the second one must be found. Inspired by recent studies bridging the fields of corporate governance and CSR (Hermalin & Weisbach, 2003; Fang, Noe, & Tice, 2009; Wang et al., 2020), the lags of CSR committee characteristics (in terms of size, directorial independence, chair independence, meeting frequency, and effectiveness score) are chosen. These instruments are supposed to correlate with CSR committees' effectiveness variables, but not with the error term. Second, these instruments are introduced as independent variables in a first-stage regression model. Finally, the instrumented variables of the first model are added to the main model. This second-stage regression model is assumed to provide unbiased estimates robust to potential endogeneity.

Appendix 4 shows that the instrumental variables of the first-stage regressions are positively and significantly associated with CSR committees' effectiveness variables for each model. Additionally, the Staiger and Stock (1997) rule of thumb suggests that the instruments are weak and inappropriate if the first-stage F-statistic is lower than 10. Following this rule, the F-statistics are reported in Table 24. The first-stage F-statistics are well above 10, suggesting that the instruments are valid and not weakly correlated with the endogenous regressors. Then, Table 24 presents the second-stage regression results. From columns 1 to 6, the instrumented CSR committee size, CSR committee proportion of independent directors, and CSR meeting frequency are not significant. In contrast, the instrumented chair independence and effectiveness structure are positively and significantly associated with the presence of ESG targets in CEO compensation contracts. These results are consistent with the baseline findings. In sum, the Wald test for endogeneity is performed. The results in Table 24 show that p-values are large ($p > 0.1$). We fail to reject the null hypothesis that the endogenous regressors can be treated as exogenous, indicating that endogeneity issues are not serious in the models (Bradbury, Jia, & Li, 2022).

Table 24: Endogeneity tests

	Dep: *CEOCESG*					
	(1)	(2)	(3)	(4)	(5)	(6)
CSRCSize *instr.*	-0.035 (0.044)	-0.010 (0.040)				
CSRCDirInd *instr.*	0.002 (0.006)		0.004 (0.006)			
CSRCChairInd *instr.*	0.933*** (0.314)			0.871*** (0.281)		
CSRCMeet *instr.*	-0.026 (0.048)				-0.032 (0.048)	
EffeCSRC						0.196*** (0.074)
CEODuality	0.063 (0.101)	0.066 (0.100)	0.059 (0.099)	0.059 (0.099)	0.057 (0.099)	0.061 (0.100)
BoardSize	0.013 (0.026)	0.016 (0.026)	0.014 (0.025)	0.007 (0.025)	0.010 (0.025)	0.004 (0.025)
CompAdv	-0.031 (0.219)	-0.100 (0.212)	-0.093 (0.211)	-0.035 (0.212)	-0.084 (0.213)	-0.179 (0.212)
CEOOwn	-0.365*** (0.116)	-0.351*** (0.110)	-0.343*** (0.112)	-0.361*** (0.113)	-0.351** (0.110)	-0.351*** (0.113)
InstOwn	-0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	-0.001 (0.003)	0.001 (0.003)	-0.001 (0.003)
FirmSize	0.228*** (0.040)	0.228*** (0.039)	0.223*** (0.039)	0.223*** (0.039)	0.233*** (0.039)	0.204*** (0.041)
ROA	0.005 (0.008)	0.006 (0.008)	0.006 (0.008)	0.005 (0.008)	0.006 (0.008)	0.007 (0.008)
Leverage	0.166*** (0.042)	0.172*** (0.042)	0.178*** (0.041)	0.168*** (0.042)	0.167*** (0.042)	0.184*** (0.040)
RDIntensity	4.780* (2.889)	4.653 (2.885)	4.629 (2.882)	4.740* (2.873)	4.661 (2.883)	4.962* (2.886)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-2.899*** (0.681)	-2.187*** (0.464)	-2.625*** (0.693)	-2.830*** (0.482)	-2.057*** (0.484)	-2.319*** (0.462)
Wald χ^2	326.64	312.97	314.28	321.07	315.01	321.42
Prob > χ^2	0.000	0.000	0.000	0.000	0.000	0.000
First-stage F-stat.	55.78	66.15	135.89	31.38	18.61	94.49
Wald test of exogeneity (p-value)	0.406	0.361	0.492	0.111	0.636	0.241
No. of obs.	1,063	1,063	1,063	1,063	1,063	1,063

Note: This table reports the second-stage results of the two-stage least squares probit regressions. The first-stage results can be found in Appendix 2. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

7.5.3.2. Effectiveness of CSR committees' characteristics

The baseline analysis focused on the impact of CSR committees' characteristics in value and percentage. To further assess the robustness of the results, the effectiveness of CSR committees' characteristics is examined by employing the proxies used for the CSR committee effectiveness score. More precisely, three dummy variables are generated to assess the effectiveness of CSR committees' size (*EffeSize*), the proportion of independent directors (*EffeDirInd*), and meeting frequency (*EffeMeet*). Each dummy variable takes the value of 1 if the component's value is greater than the sample median and 0 otherwise. Column 1 of Table 25 shows that effective CSR committee independence, captured by a larger proportion of independent directors, is positively and significantly associated with the likelihood of CSR contracting, while effective CSR committee size and meeting frequency are not. From columns 2 to 4, these findings are consistent for each CSR committee effectiveness variable estimated in isolation. In sum, these results align with the baseline findings by showing that CSR committee independence is a crucial factor influencing the likelihood of CSR contracting.

7.5.3.3. Proportion of ESG targets in CEO compensation

This study considers the initiative of CSR contracting as a dual outcome, whether ESG targets were tied to CEO compensation or not. However, prior empirical works on CSR contracting have also used a continuous measure of CSR contracting by capturing the proportion of ESG targets in CEO compensation (Flammer, Hong, & Minor, 2019; Khenissi, Hamrouni, & Ben Farhat, 2022). Accordingly, *CEOCESGProp* is used as a proxy for the proportion of ESG targets in CEO compensation to further test the robustness of the results. Column 1 of Table 26 reveals that CSR committee chair independence is positively and significantly associated with the proportion of ESG targets in CEO compensation. However, no significant effects are reported for CSR committee size, the proportion of independent directors, or meeting frequency. These results are similar to those in columns 2 to 6, where each CSR committee characteristic is estimated in isolation. They are also consistent with the baseline findings.

Table 25: Effectiveness of CSR committees' characteristics

	Dep: *CEOCESG*			
	All	Size	Independence	Meeting Frequency
	(1)	(2)	(3)	(4)
EffeSize	0.190	0.155		
	(0.170)	(0.164)		
EffeDirInd	0.713***		0.710***	
	(0.177)		(0.173)	
EffeMeet	0.072			0.161
	(0.169)			(0.162)
CEODuality	0.063	0.082	0.064	0.094
	(0.143)	(0.140)	(0.142)	(0.140)
BoardSize	0.059	0.055	0.070*	0.066*
	(0.039)	(0.038)	(0.038)	(0.037)
CompAdv	0.078	0.109	0.152	0.134
	(0.362)	(0.353)	(0.360)	(0.344)
CEOOwn	-0.033	-0.037	-0.032	-0.037
	(0.052)	(0.056)	(0.053)	(0.056)
InstOwn	-0.002	0.001	-0.001	0.001
	(0.005)	(0.005)	(0.005)	(0.005)
FirmSize	0.363***	0.428***	0.368***	0.425***
	(0.060)	(0.057)	(0.059)	(0.056)
ROA	0.013	0.010	0.015	0.011
	(0.012)	(0.012)	(0.012)	(0.012)
Leverage	0.295***	0.271***	0.294***	0.277***
	(0.058)	(0.059)	(0.058)	(0.058)
RDIntensity	10.907**	11.651***	10.578**	11.790***
	(4.284)	(4.189)	(4.250)	(4.259)
Year effects	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes
Intercept	-4.982***	-5.093***	-5.068***	-5.233***
	(0.719)	(0.717)	(0.704)	(0.695)
Wald χ^2	406.54	411.41	399.40	401.12
Prob > χ^2	0.000	0.000	0.000	0.000
Pseudo R2	0.319	0.309	0.318	0.309
No. of obs.	1,641	1,641	1,641	1,641

Note: This table reports the results of the logistic regressions examining the effectiveness of CSR committees' characteristics (in terms of size, independence, and meeting frequency) on the inclusion of ESG targets in CEO compensation. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

Table 26: Proportion of ESG targets linked to CEO compensation

	Dep: *CEOCESGProp*					
	(1)	(2)	(3)	(4)	(5)	(6)
CSRCSize	0.048	0.123				
	(0.146)	(0.134)				
CSRCDirInd	-0.008		-0.001			
	(0.016)		(0.016)			
CSRCChairInd	1.880***			1.887***		
	(0.588)			(0.470)		
CSRCMeet	-0.036				-0.037	
	(0.097)				(0.097)	
EffeCSRC						0.584***
						(0.162)
CEODuality	-0.484	-0.476	-0.446	-0.468	-0.451	-0.466
	(0.366)	(0.364)	(0.365)	(0.364)	(0.367)	(0.364)
BoardSize	0.089	0.079	0.103	0.100	0.103	0.070
	(0.103)	(0.102)	(0.099)	(0.098)	(0.099)	(0.099)
CompAdv	0.494	0.414	0.437	0.491	0.451	0.241
	(0.711)	(0.711)	(0.715)	(0.714)	(0.715)	(0.714)
CEOOwn	-0.036	-0.033	-0.033	-0.036	-0.032	-0.039
	(0.026)	(0.025)	(0.025)	(0.025)	(0.026)	(0.025)
InstOwn	-0.019	-0.018	-0.017	-0.020*	-0.017	-0.023*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
FirmSize	0.524***	0.535***	0.544***	0.512***	0.547***	0.440***
	(0.162)	(0.156)	(0.160)	(0.160)	(0.161)	(0.161)
ROA	0.050	0.053*	0.055*	0.051	0.055*	0.051
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
Leverage	0.029	0.039	0.044	0.038	0.044	0.057
	(0.121)	(0.121)	(0.121)	(0.120)	(0.120)	(0.119)
RDIntensity	-2.107	-1.665	-1.719	-2.076	-1.906	-0.828
	(5.627)	(5.580)	(5.583)	(5.613)	(5.567)	(5.575)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	2.922	3.360*	3.513	2.165	3.521**	3.564**
	(2.142)	(1.782)	(2.220)	(1.723)	(1.741)	(1.769)
R2	0.181	0.179	0.178	0.180	0.178	0.182
No. of obs.	1,641	1,641	1,641	1,641	1,641	1,641

Note: This table reports the results of the OLS regressions examining the relationship between CSR committees' characteristics and effectiveness on the proportion of ESG targets included in CEO compensation. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

7.5.3.4. Non-financial companies

Empirical studies in corporate governance research traditionally exclude financial companies from their samples due to their different characteristics, reporting policies, and regulatory requirements compared to non-financial companies (Fama & French, 1992). Thus, companies from the financial sector are removed to avoid bias in the results. Table 27 presents the results of the models for non-financial companies. In column 1, CSR committee size and meeting frequency's effectiveness are not significant with the inclusion of ESG targets in CEO compensation contracts, while the independence of directors and the chairperson are positively and significantly associated. These results are similar to those presented in columns 2 to 5, where each CSR committee's characteristics are estimated in isolation. Additionally, in column 6, CSR committee effectiveness is positively and significantly associated with the presence of targets in CEO compensation contracts. These results support the baseline findings and demonstrate that the inclusion of financial companies in the sample does not bias the study.

7.6. Discussion and conclusion

While corporations are increasingly delegating CSR tasks and responsibilities to CSR committees, the lack of empirical evidence on their substantiveness and guidance on their practises raises concerns about their ability to effectively control CSR activities (Rodrigue, Magnan, & Cho, 2013; World Bank - IFC, 2021). This problem is particularly important due to the ability of CSR committees to influence CEOs' actions on CSR by promoting the inclusion of ESG targets in their compensation contracts (Maas, 2018; Radu & Smaili, 2022). Thus, this study examines the extent to which the structural characteristics and effectiveness of CSR committees influence the presence of ESG targets in CEO compensation contracts. CSR committee independence, captured by chairperson independence, is found to be positively associated with the inclusion of ESG targets in CEO compensation contracts. However, no significant associations are found with CSR committees' size, independence of directors, or meeting frequency. In sum, an effective CSR committee structure, measured using an effectiveness score including four variables related to size, directors' independence, chairperson independence, and meeting frequency, is positively associated with CSR contracting.

Table 27: Non-financial companies

	Dep: *CEOCESG*					
	(1)	(2)	(3)	(4)	(5)	(6)
CSRCSize	-0.032	-0.021				
	(0.051)	(0.048)				
CSRCDirInd	0.022**		0.025***			
	(0.009)		(0.009)			
CSRCChairInd	0.838**			1.000***		
	(0.355)			(0.323)		
CSRCMeet	-0.055				-0.053	
	(0.047)				(0.047)	
EffeCSRC						0.323***
						(0.087)
CEODuality	0.160	0.159	0.166	0.141	0.146	0.141
	(0.154)	(0.153)	(0.153)	(0.152)	(0.152)	(0.152)
BoardSize	0.083*	0.082*	0.081*	0.073*	0.075*	0.063
	(0.046)	(0.044)	(0.044)	(0.043)	(0.043)	(0.044)
CompAdv	0.212	0.211	0.173	0.198	0.235	-0.037
	(0.415)	(0.415)	(0.424)	(0.393)	(0.416)	(0.403)
CEOOwn	-0.028	-0.037	-0.026	-0.039	-0.036	-0.038
	(0.057)	(0.055)	(0.055)	(0.056)	(0.056)	(0.052)
InstOwn	-0.002	-0.001	-0.001	-0.002	-0.001	-0.003
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
FirmSize	0.327***	0.351***	0.319***	0.345***	0.356***	0.305***
	(0.065)	(0.063)	(0.064)	(0.063)	(0.063)	(0.065)
ROA	0.015	0.015	0.016	0.013	0.014	0.014
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Leverage	0.207***	0.206***	0.216***	0.201***	0.198***	0.218***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.060)	(0.057)
RDIntensity	9.827**	10.480***	10.078**	10.359***	10.301***	11.004***
	(3.928)	(3.894)	(3.898)	(3.876)	(3.906)	(3.915)
Year effects	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-6.558***	-4.222***	-6.360***	-4.939***	-4.092***	-4.267***
	(1.004)	(0.695)	(1.029)	(0.701)	(0.703)	(0.680)
Wald χ^2	378.32	360.24	367.43	364.18	365.84	360.54
Prob > χ^2	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R2	0.319	0.312	0.316	0.315	0.313	0.319
No. of obs.	1,380	1,380	1,380	1,380	1,380	1,380

Note: This table reports the results of the logistic regressions for a sample of non-financial companies. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

These findings support the arguments derived from the stakeholder-agency theory of Hill and Jones (1992). Corporations with CSR committees having an independent chairperson and an effective structure are more likely to opt for CSR contracting because they can better collect and analyse information on the performance of CEOs on CSR. Subsequently, such structural characteristics improve monitoring by reducing information asymmetries between CEOs and stakeholders and ameliorating relationships with stakeholders by giving them access to information through a cost-effective structure that centralises CSR information. In sum, the objective leadership of CSR committees seems to be a significant structural characteristic for effectively overseeing stakeholder-oriented governance initiatives. However, the possibility that other structural characteristics play a role in the effectiveness of CSR committees due to possible synergies with chairperson independence cannot be ruled out.

This study extends as well as makes a number of contributions to the literature on corporate governance and CSR. First, it is the first to investigate the impact of CSR committees' structure and effectiveness on CSR contracting. Prior empirical works have indirectly examined the relationship between the presence of CSR committees and CSR contracting (Abdelmotaal & Abdel-Kader, 2016; Al-Shaer & Zaman, 2019; Radu & Smaili, 2022). However, these studies are limited and do not indicate the effects of the structural characteristics of CSR committees on CSR contracting. Second, this study enriches the arguments of the stakeholder-agency theory of Hill and Jones (1992) by demonstrating that more objective leadership improves monitoring and relationships with stakeholders through better controllability of CSR contracting.

This study has important implications for corporations and regulators. First, the structural characteristics and effectiveness of CSR committees are helpful for corporations because they affect their ability to monitor and protect the interests of all stakeholders (Chapple, Chen, & Zhang, 2017; Bradbury, Jia, & Li, 2022). These findings provide empirical evidence that corporations can use to design more effective CSR committees to ensure better controllability of CSR contracting. Second, this research is helpful for regulators in search of empirical evidence to substantiate their guidance on the structures and practises of CSR committees. While US companies can rely only on principle-based guidance at the international level to design CSR committees (World Bank - IFC, 2021), US regulators could use the findings of this study to provide national rule-based guidance.

Like other studies, this study also has limitations that may open avenues for future research. First, it does not account for companies with multiple CSR committees. For example, British Petroleum implemented a safety and sustainability committee and a people and

governance committee to oversee its CSR activities (British Petroleum, 2021). This multiplicity of CSR committees decentralises CSR activities, which might increase information asymmetries between CEOs and stakeholders and deter their relationships. Therefore, future research could focus on the performance of corporations with multiple CSR committees. Second, prior studies on corporate governance report that the type of governance structure affects the weight of targets in CEO compensation contracts (Davila & Penalva, 2006). While explicit weighting is known in advance using a formula, an implicit weighting is left to the discretion of compensation-setters (Ittner, Larcker, & Meyer, 2003). The former weighting type relates to more explicit gains but can cause suboptimal behaviours, while the latter type corresponds to less vulnerability to manipulation but can harm CEOs' trust in the remuneration process (Bol, 2008). Accordingly, future research could examine whether the effectiveness of CSR committees influences the decision to opt for a particular weighting type, which may significantly influence CEOs' behaviours.

Appendix 3: Variance inflation factors (VIFs) and tolerance for Chapter 7

Variable	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance
CSRCSize	1.33	0.75	1.22	0.82								
CSRCDirInd	1.15	0.87			1.10	0.91						
CSRCChairInd	1.20	0.84					1.06	0.95				
CSRCMeet	1.10	0.91							1.10	0.91		
EffeCSRC											1.29	0.77
CEODuality	1.13	0.88	1.13	0.88	1.12	0.89	1.12	0.89	1.12	0.89	1.12	0.89
BoardSize	1.81	0.55	1.80	0.56	1.70	0.59	1.69	0.59	1.69	0.59	1.71	0.58
CompAdv	1.27	0.79	1.27	0.79	1.27	0.79	1.27	0.79	1.27	0.79	1.27	0.78
CEOOwn	1.23	0.81	1.22	0.82	1.22	0.82	1.22	0.82	1.23	0.82	1.22	0.82
InstOwn	1.34	0.75	1.31	0.76	1.31	0.76	1.32	0.76	1.32	0.76	1.34	0.75
FirmSize	1.84	0.54	1.77	0.57	1.82	0.55	1.78	0.56	1.77	0.56	1.88	0.53
ROA	1.25	0.80	1.24	0.81	1.24	0.81	1.24	0.81	1.24	0.81	1.24	0.81
Leverage	1.14	0.87	1.14	0.88	1.14	0.88	1.13	0.88	1.13	0.88	1.13	0.88
RDIntensity	1.83	0.55	1.82	0.55	1.82	0.55	1.82	0.55	1.83	0.55	1.83	0.55

Appendix 4: First-stage regressions

	Dep: *CSRCSize*	Dep: *CSRCDirInd*	Dep: *CSRCChairInd*	Dep: *CSRCMeet*	Dep: *CSRCSize*	Dep: *CSRCDirInd*	Dep: *CSRCChairInd*	Dep: *CSRCMeet*	Dep: *EffeCSRC*
			(1)		(2)	(3)	(4)	(5)	(6)
CSRCSize $_{t-1}$	0.760***	-0.156	0.004	-0.028	0.764***				
	(0.033)	(0.107)	(0.003)	(0.025)	(0.033)				
CSRCDirInd $_{t-1}$	0.001	0.895***	0.001*	0.002		0.896***			
	(0.003)	(0.034)	(0.001)	(0.004)		(0.033)			
CSRCChairInd $_{t-1}$	0.144	-0.004	0.819***	0.179			0.833***		
	(0.169)	(0.972)	(0.061)	(0.200)			(0.058)		
CSRCMeet $_{t-1}$	0.011	0.039	-0.003**	0.597***				0.596***	
	(0.003)	(0.055)	(0.001)	(0.041)				(0.041)	
EffeCSRC $_{t-1}$									0.748***
									(0.025)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intercept	-0.166	10.307***	0.146**	0.902**	0.033	10.166***	0.186***	1.152***	0.212
	(0.356)	(2.595)	(0.062)	(0.457)	(0.276)	(2.620)	(0.070)	(0.365)	(0.134)
R2	0.653	0.863	0.828	0.445	0.653	0.863	0.825	0.444	0.700
No. of obs.	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063	1,063

Note: This table reports the first-stage OLS regressions of the two-stage least square probit regressions. The instrumental variables used for the two-stage least squares regressions are the lagged explanatory variables of each model. Robust standard errors are presented in parenthesis, and ***, **, * indicate the statistical significance at the 0.01, 0.05, and 0.1 levels. See Table 20 for definitions of variables.

Chapter 8
Conclusion

8.1. Introduction

Due to the evolving needs of society for more sustainability, there is a shared recognition that no sustainable finance can be achieved without better understanding the impact of corporations on the environment and society. These new expectations have increased demand for more non-financial information, which has redefined the role of accounting and questioned the construction of corporate governance systems. In response, several researchers have recognised the need to construct a more integrated corporate governance system that ensures good flow of information to all stakeholders to meet the requirements of sustainable development (Crifo & Rebérioux, 2016; Goergen, 2022). Nevertheless, the current academic literature remains polarised around the merits and limitations of the shareholder-centric and stakeholder-centric models of governance (Roe et al., 2021). A central aspect of this debate relates to the impact of these models on CEOs' incentives. Thus, this thesis addresses this gap by examining the components of a corporate governance model more aligned with the principles of sustainable development and the extent to which they can influence CEOs' incentives. This investigation corresponded to the following central research question:

Central research question: What are the components of sustainable corporate governance influencing CEOs' incentives?

Deriving from the central research question, this thesis focused on three sustainable corporate governance mechanisms (regulation, CEO compensation, and the board of directors) and their relationship with CEOs' incentives. More specifically, based on the central research question, three further research questions were advanced:

Research question 1: To what extent do shareholders say on pay votes, motivated by CEO-to-worker pay disparities, influence CEO compensation?

Research question 2: To what extent does the inclusion of financially material ESG targets in CEO compensation contracts impact corporate financial and non-financial performance?

Research question 3: To what extent is an effective CSR committee more likely to influence the presence of ESG targets in CEO compensation contracts?

8.2. Summary of findings

The first objective of this thesis was to explore the nuances of sustainable corporate governance and propose a theoretical approach that promotes the integration of sustainability in corporate governance to incentivise CEOs to consider different stakeholders, different time frames, and different sustainability issues. Chapter 3 presented the concept of sustainable corporate governance through the lens of the stakeholder-agency theory of Hill and Jones (1992). From this perspective, corporate governance is viewed as a collection of check and balance mechanisms ensuring good flow of financial and non-financial information to all decision-makers. It posits that corporations should consider various stakeholders, including shareholders, employees, customers, suppliers, competitors, communities, and the broader environment. These stakeholders acquire legitimacy when they supply the corporation with crucial resources. Due to their significant impact on the corporation, the resources brought by legitimate stakeholders are seen as different forms of capital that must be preserved and enhanced to guarantee the prosperity, integrity, and equity of all resource providers as well as the corporation. This concept implies a fundamental reform of current corporate governance systems to ensure that all legitimate stakeholders who supply the corporation with crucial resources are informed and empowered about the use of their resources. As the power shifts from ownership to contribution, the redesign of corporate governance systems must be more participatory to ensure that all resource providers are represented and have a voice in strategic decisions and resource allocation. Accordingly, sustainable corporate governance is a holistic and integrated approach applying a strong form of sustainability to corporate governance systems. It ensures the preservation and enhancement of corporations' economic, environmental, and social ecosystems and promotes the consideration of all stakeholders, different temporalities, and sustainability issues, making corporations more democratic, inclusive, and participatory. In sum, the third chapter explained the theoretical foundations given by stakeholder-agency theory to contribute to a corporate governance model more aligned with sustainable development that can incentivise CEOs to consider different stakeholders, time frames, and sustainability issues.

The second research objective was to examine the effect of regulation on CEOs' incentives. Specifically, whether shareholder dissent say on pay votes mediates the link between CEO-to-worker pay disparities and CEO compensation. Chapter 5 disentangles the complex

role that shareholder engagement, expressed through say on pay votes, plays in the relationship between CEO-to-worker pay disparities and CEO compensation. Using a sample of 1,594 non-financial firms from 2013 to 2019, higher CEO-to-worker pay disparities were found to increase shareholder dissent say on pay votes. Moreover, shareholder say on pay votes is found to increase CEO compensation after controlling for CEO-to-worker pay disparities, and shareholders say on pay votes partially mediates the relationship between CEO-to-worker pay disparities and CEO compensation. These results support the first and third hypotheses but reject the second hypothesis.

These results are explained through the lens of the relative deprivation and agency theories. Concerning hypothesis 1, the theoretical argument is consistent with the findings. Shareholders are likely to issue dissent say on pay votes because large CEO-to-worker pay disparities might trigger a feeling of deprivation among employees and CEOs, possibly leading to a loss of productivity and lower returns. Concerning hypothesis 2, although the result is unexpected, the agency theory still provides an explanation. The remuneration committee is likely to consider shareholder dissent say on pay votes by modifying CEO compensation to avoid the adverse consequences of a feeling of deprivation on employees. Nevertheless, this shift to a more performance-based mix increases CEO compensation if the CEO performs well. This result can be seen as a perverse effect of the CEO-to-worker pay ratio disclosure rule, initially established to reduce CEO compensation, but with rather the opposite outcome. Finally, hypothesis 3 is consistent with the relative deprivation and agency arguments suggesting that shareholder dissent say on pay votes mediate the relationship between CEO-to-worker pay disparities and CEO compensation. Shareholder engagement with this social issue constitutes a complex channel affecting corporate practises. Overall, Chapter 5 revealed the extent to which regulation as a mechanism of sustainable corporate governance affects CEOs' incentives, consistent with the second research objective.

The third research objective was to investigate the extent to which the construction of compensation contracts affects CEOs' incentives for corporate performance. Chapter 6 examined whether the inclusion of material ESG targets in CEO compensation increases corporate financial and non-financial performance. Using a sample of 1,577 companies from 2011 to 2019, general and material CSR contracting were found to increase corporate non-financial performance but were not significantly associated with corporate financial performance. More granular tests reveal that general CSR contracting is associated with lower

asset turnover, meaning that corporations adopting such initiatives have more difficulties generating revenues from their assets. Moreover, the effect of material CSR contracting on environmental performance is greater than that of general CSR contracting immediately after its implementation. However, this initiative has a greater effect than for general CSR contracting on overall corporate non-financial performance after only three years of implementation. These results support the second set of hypotheses.

These results are explained through the lens of the stakeholder-agency theory. The theoretical argument predicted that material CSR contracting would incentivise CEOs to perform well while preserving and enhancing good relationships with legitimate stakeholders. This prediction derives from material CSR contracting being assumed to better connect CEOs' incentive structures to corporate financial and non-financial goals by reducing information asymmetries between CEOs and stakeholders and signalling the seriousness of their engagement in ESG goals. The results demonstrate that material CSR contracting fulfils its objectives by better aligning the interests of CEOs with those of stakeholders and directing their attention to non-financial goals significant to the corporation. In this way, material CSR contracting better connects the CEOs' incentive structures to the corporate financial and non-financial objectives to promote accountability and long-term success for all stakeholders. However, these results raise concerns about the effective maximisation of shareholders' interests. The financial performance uncertainties surrounding the implementation of this initiative should encourage compensation-setters to build a solid narrative defending their case. This defence would mitigate the risk of re-prioritising shareholder interests over those of other stakeholders, as seen with Danone. Furthermore, these results challenge the notion of financial materiality and the use of a shareholder-oriented materiality framework because they might reduce the universe of ESG issues by omitting environmental and socially material issues. Consequently, the use of a double materiality approach might be more appropriate to identify and incorporate ESG issues in CEO compensation as it provides a more holistic picture of a company's impact on ESG issues and how these ESG issues affect its value creation. In sum, Chapter 6 showed the extent to which CEO compensation as a mechanism of sustainable corporate governance influences CEOs' incentives, in line with the third research objective.

The last research objective was to focus on the effect of board committees on CEOs' incentives, especially whether CSR committees' structural components and effectiveness influenced corporations to opt for CSR contracting. Chapter 7 investigated whether the

structural characteristics of CSR committees influence the inclusion of ESG targets in CEO compensation. Using a sample of 575 companies from 2015 to 2019, CSR committees' independent chairpersons were found to enhance the likelihood of CSR contracting. Moreover, effective CSR committee structures (composed of structural characteristics related to size, directorial independence, chairperson independence, and meeting frequency) are also found to enhance the likelihood of CSR contracting. These results are robust to a battery of additional tests, including an endogeneity test, different measures of CSR committee structural characteristics, the use of a continuous measure for CSR contracting, and the exclusion of financial companies. These results support hypothesis H2b and hypothesis 4.

The stakeholder-agency theory is employed to explain these results. From this theoretical lens, corporations with CSR committees having an independent chairperson and a more effective structure are more likely to opt for CSR contracting because they can collect and analyse more information on the performance of CEOs on CSR. Such CSR committees' characteristics reduce information asymmetries between CEOs and stakeholders and improve their relationships by giving stakeholders access to information through a cost-effective structure centralising CSR information. Hence, a more objective leadership of CSR committees appears to be an important characteristic for effectively overseeing stakeholder-oriented governance initiatives. Even so, the impact of other characteristics cannot be excluded due to possible synergies with chairperson independence. Overall, Chapter 7 reported the extent to which board committees as a mechanism of sustainable corporate governance influence CEOs' incentives, matching the fourth hypothesis.

The findings of this thesis have revealed a number of tension points that enrich the debate on the challenges surrounding corporate sustainability. The first study adds to the ongoing debate on principle-based versus rule-based regulation by documenting the perverse effects of the CEO-to-worker pay ratio disclosure rule on CEO compensation. It suggests that the rule-based regulation of the CEO-to-worker pay ratio must be revised, which should invite regulators to reflect on other mechanisms to tackle income inequality within corporations. Moreover, the study contributes to the debate on the integration of sustainability by showing that shareholders use a combination of financial and non-financial information during their say on pay votes. This combination helps them better assess CEOs' performance and inform their say on pay votes. Finally, the study exposes a tension point at the theoretical level by demonstrating that economic theory, based on rationality and utility motives, insufficiently

explains shareholder behaviour. Our results alone cannot explain whether shareholders react to potential economic reasons or to other motives (e.g., fairness). Accordingly, a multi-theoretical approach, combining economic and sustainability assumptions, seems more appropriate to study the behaviour of shareholders.

The second study provides reflections on the single versus double materiality debate by discussing the benefits and limitations of shareholder-oriented materiality frameworks. These frameworks have some merit in providing a comprehensive list of material ESG issues for a specific sector because they facilitate their identification. However, their generic aspects, lack of focus on future opportunities, increased peer pressures, and lack of alignment with corporate objectives and stakeholder interests demonstrate the need for a more personalised materiality framework adopting a double materiality perspective. Then, the second study contributes to the debate on temporality by demonstrating that the effects of material CSR contracting translate into corporate performance only over time. It highlights the need to consider different time horizons to better assess the impact and usefulness of stakeholder-oriented governance initiatives on corporate performance. Finally, the study reveals a theoretical tension by demonstrating that the satisfaction of all stakeholders in the same time frame may be unachievable. This possibility implies a refinement of the stakeholder-agency theory to move from a 'static' to a 'dynamic' prioritisation of stakeholders to account for potential intertemporal trade-offs.

The third study enriches the debate on principle-based versus rule-based regulation. It emphasises the necessity to provide more direction on how to create effective structures for CSR committees. Currently, practitioners lack guidance regarding the most effective methods for establishing and running CSR committees (with the notable exception of the World Bank-IFC). This deficiency is problematic because the substantiveness of CSR committees is questioned. With a 'comply or explain' rule-based regulation, corporations that implemented effective CSR committees as part of a sound commitment to CSR could differentiate themselves from those who established CSR committees for symbolic purposes. Another benefit of this approach is its flexibility, which better accounts for the variety of best practises for CSR committees. The study also contributes to the debate on whether sustainability should be integrated or combined by showing that CSR committees provide additional information on the CSR performance of CEOs, aiding remuneration committees in the contracting process. While remuneration committees typically rely on economic information when designing CEO

compensation contracts, using more comprehensive and high-quality information gathered and centralised by CSR committees is crucial for the controllability of stakeholder-oriented governance initiatives. Finally, the study reveals a tension at the theoretical level regarding the effectiveness of CSR committees' structural characteristics, depending on the theoretical lens adopted. While certain structural characteristics are considered efficient under the agency rationale to protect the interests of shareholders, they might be inappropriate under the stakeholder rationale to protect the interests of other stakeholders. This tension highlights the need to adopt a multi-theoretical approach to balance the interests of shareholders and other stakeholders in the construction of corporate governance mechanisms.

Overall, this thesis demonstrates that sustainable corporate governance is a holistic and integrated approach fostering long-term success for all by pushing CEOs to consider the interdependence between corporations, society, and the environment. The use of sustainable corporate governance mechanisms helps to ensure CEOs are held accountable for their actions by guaranteeing good flow of information to all legitimate stakeholders. Accordingly, sustainable corporate governance mechanisms make all information channels visible between resource producers (legitimate stakeholders) and resource users (corporations). It helps empower resource providers by allowing them to be informed and to have a say over the use of the resources they bring to the corporation. The result is that the implementation of sustainable corporate governance mechanisms improves relationships between corporations and stakeholders by supporting the development of business models more aligned with the principles of sustainability. Nevertheless, such mechanisms can have limitations. For example, the CEO-to-worker pay disclosure rule increases the level of CEO compensation, material CSR contracting does not satisfy all stakeholders, and only chairperson independence appears to be an effective structural characteristic for the governance of stakeholder-oriented initiatives. In sum, there is a need for a refinement of the stakeholder-agency theory, which is behind the construction of sustainable corporate governance mechanisms, to consider the paradoxical tensions in scope, temporality, and strategic balance of stakeholder interests.

8.3. Theoretical and practical implications

The thesis has important theoretical implications for the fields of corporate governance and sustainability. Primarily, it underscores the relevance and applicability of the stakeholder-agency theory as a theoretical foundation for an integrated model of corporate governance with

strong sustainability, helping to investigate the components of sustainable corporate governance and their impacts on CEOs' incentives. It provides a framework to evaluate the effectiveness of sustainable corporate governance mechanisms in protecting the interests of all legitimate stakeholders and driving long-term shared value creation. Researchers in corporate governance and sustainability could use this theoretical approach to gain deeper insights into the dynamics of sustainable corporate governance. Moreover, it can be employed in conjunction with accounting models that integrate financial and non-financial information. Notable examples of such integrated accounting models include Care, Impact-Weighted Account, Lift, and Olam. While these models enable corporations to collect, manage, and report financial and non-financial information simultaneously, the use of an integrated corporate governance model with strong sustainability is necessary to better distribute the flow of information to all decision-makers, guaranteeing better transparency and accountability.

Secondly, this thesis provides avenues for the refinement of the stakeholder-agency theory by accounting for the evolving landscape of corporate governance and the emergence of new initiatives based on the need of society for more sustainability. Although the merits of the stakeholder-agency theory have been demonstrated, the refinement of its assumptions could mitigate the current limitations of sustainable corporate governance mechanisms. For instance, the theory could account for the changing behaviour of shareholders towards sustainability objectives, as the sole consideration of economic motives of rationality and utility may not be sufficient. This could motivate regulators to question the finality of their measures and ensure that they meet the desired objectives. Then, the prioritisation of stakeholders could be dynamic to account for intertemporal trade-offs and consider the minimisation of utility loss based on scientific targets for good ecological states. This would avoid the re-prioritisation of interests from certain groups of stakeholders over the others who judge that the finality of the corporate governance model in place is not in their favour. Finally, the assumption concerning board effectiveness could be extended to sub-board CSR committees to structure them in more inclusive, participatory, and democratic manners. While the primary function of a CSR committee is the gathering and analysis of non-financial information, their scope of action could greatly differ if corporations employ CSR committee structures designed solely to protect shareholders' interests. As such, the design of CSR committees should be considered depending on their finality. Overall, these refinements enhance the stakeholder-agency theory's capacity to offer a more comprehensive and nuanced understanding of corporate governance practises to be aligned with strong sustainability principles.

This thesis also has several implications for practitioners and regulators. First, the findings of this research demonstrate that sustainable corporate governance mechanisms incentivise CEOs to consider all stakeholders, different temporalities, and sustainability-related issues. Nevertheless, these mechanisms present certain limitations practitioners can address by implementing innovative measures for better sustainable corporate governance. Drawing on the results of Chapter 5, the implementation of a rule-based regulation to mitigate CEO-to-worker pay disparities appears problematic due to its perverse effect on CEO compensation. Instead, practitioners could implement a say on sustainability. This new mechanism of sustainable corporate governance could give shareholders a voice on the ESG practises of corporations. It would extend previous corporate initiatives, such as the say on climate, by providing a comprehensive approach that considers all sustainability dimensions, engages with shareholders and all stakeholders, and considers the long-term impact of corporations' activities on society and the environment.

Based on the findings of Chapter 6, the ESG targets identified and selected through the use of shareholder-oriented frameworks in single (or financial) materiality appear problematic, as they lack the expected dual effect on corporate financial and non-financial performance. Although a double materiality perspective may have the same outcome, it appears genuine to opt for this approach as it returns to the fundamental idea behind the creation of this mechanism, which is to consider not only the impact of society and the environment on corporations, but also the impact of corporations on society and the environment. Moreover, the use of stakeholder-oriented frameworks in double materiality seems better suited to apprehend future risks, recognise opportunities, and have a positive impact on all stakeholders.

The findings of Chapter 7 reveal that the structural characteristics of CSR committees appear crucial to determining their effectiveness and ability to oversee stakeholder-oriented corporate governance initiatives. The main benefit of CSR committees is the centralisation of CSR activities under one structure, reducing information asymmetries and the costs associated with accessing CSR information. However, several corporations have implemented multiple CSR committees, which may decrease the benefits of the centralisation of CSR activities and question the substantiveness of their approach. The identification of multiple CSR committees might therefore serve as an indicator of CSR committee effectiveness.

Overall, the findings of this thesis have an interesting practicability for a wide range of practitioners, as innovative indicators can be developed based on them. This will be particularly

beneficial to investors, analysts, data providers, and regulators, as these indicators promote a better assessment of the alignment of corporate governance practises with the principles of sustainable development. For example, analysts and investors could use these indicators to better evaluate the non-financial performance of corporations. Data providers could substantiate their ESG scores by integrating new measures that better capture the efforts of corporations on sustainability. Finally, regulators could use them to design more democratic, inclusive, and participatory regulations aligned with the needs of corporations and society. Table 28 summarises the three new indicators for sustainable corporate governance.

Table 28: New indicators for sustainable corporate governance

Measure	Type	Definition
Say on sustainability	Continuous variable (%)	Indicates the percentage of shareholder votes supporting the sustainability initiatives implemented by a corporation.
Two-way material CSR contracting	Dummy variable (1/0)	Indicates whether a corporation has integrated double materially significant ESG targets in CEO compensation contracts.
Multiple CSR committees	Dummy variable (1/0)	Indicates whether a corporation has implemented one or more CSR committees.

8.4. Limitations

Like other studies, this thesis faces certain limitations. First, at the theoretical level, this thesis adopts a positivist approach. Although positivism and interpretivism are frequently believed to be incompatible, these two research paradigms can coexist and be combined (Roth & Mehta, 2002). Most studies are today mono-paradigmatic and support the unification of research paradigms by asserting that scientific consensus is the only way to accumulate knowledge (Knudsen, 2005). Nevertheless, some researchers argue that studies adopting a multi-paradigmatic approach that supports the plurality of research paradigms can better account for the complex nature of reality through different lenses (Knudsen, 2005). This approach, combining the positivist and social constructivist paradigms, was previously taken by Neu (1992) in a study on the social construction of positive choices for accounting practises. It is particularly relevant in the context of sustainable corporate governance, as societal expectations push corporations to take serious actions on sustainability. Accordingly, to ensure that the

reality desired by society is in line with the one constructed by corporations, reforms must occur in how corporate governance systems are designed. Without a change of paradigm at the ontological level, the integration of sustainability in the business context of corporations risks being superficial and disconnected, leading to a social reality misaligned with society's expectations. In sum, the adoption of a multi-theoretical approach combining positivism and social constructivism could better explain the influence of sustainable corporate governance mechanisms nested in social relations on CEOs' incentives.

Second, empirically, this thesis employs a sample of US companies over the past decade that varies based on statistical requirements, data availability, and regulations. Although the focus was on the US due to the size of its market, regulatory framework, and accessibility of data on publicly traded equities, the EU offers a richer regulatory framework for sustainable finance. The sustainable corporate governance practises of these countries might provide different results regarding the substantiveness and symbolism of sustainable corporate governance mechanisms, making generalisations of the results difficult. Additionally, the sustainability corporate governance practises of companies in developing and emerging countries might differ due to their distinct challenges, such as lack of financial resources and technical expertise, regulatory and policy barriers, lack of awareness and understanding, and the lack of stakeholder engagement. Finally, this thesis focuses on publicly listed firms of different sizes (small, medium, and large-cap companies). However, sustainable corporate governance practises might differ for small and medium-sized enterprises due to limited resources, a lack of knowledge, and a lack of financing.

8.5. Future areas of research

The limitations presented earlier may open avenues for future research. First, the different studies on the components of sustainable corporate governance could be replicated in other jurisdictions to compare and contrast with these findings in the US context. These results could be enlightening to promote a generic sustainable corporate governance framework internationally that could be adjusted based on local needs and requirements. This work could be realised by quantitative researchers to gain generalisable knowledge of sustainable corporate governance practises of large populations and could be complemented by qualitative researchers to obtain a more granular understanding and account for special cases. Second, the effect of new components of sustainable corporate governance on CEOs' incentives could be

examined. For example, quantitative and qualitative researchers could investigate the roles of external audits, supply chain management, and sustainability trainings for employees in guiding corporations towards more responsible and sustainable practises. This research stream could help to expand the tools available in sustainable corporate governance. Finally, sustainable corporate governance could be applied to different types of organisations in the private, public, and third sectors. In this manner, theorists could discuss the merits and limitations of sustainable corporate governance to help address the sustainability challenges these different types of organisations face to promote more democratic, inclusive, and participatory practises. Addressing these future research areas will be key to supporting corporations in their efforts to have a positive long-term impact on society.

References

Abdelmotaal, H., & Abdel-Kader, M. (2016). The use of sustainability incentives in executive remuneration contracts: Firm characteristics and impact on the shareholders' returns. *Journal of Applied Accounting Research, 17*(3), 311–330. https://doi.org/10.1108/JAAR-12-2013-0123

Abhayawansa, S. (2022). Swimming against the tide: Back to single materiality for sustainability reporting. *Sustainability Accounting, Management and Policy Journal*, *13*(6), 1361–1385. https://doi.org/10.1108/SAMPJ-07-2022-0378

ACCA. (2021). *Professional accountants at the heart of sustainable organisations*. https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/pahso/PI-PATF-SUSTAINABLE-ORGANISATIONS.pdf

Adams, C. A., & Cho, C. H. (2020, December 14). Sustainable development is too important for self-interest and political posturing. *Responsible Investor*. https://www.responsible-investor.com/articles/sustainable-development-is-too-important-for-self-interest-and-political-posturing

Adams, C. A., & Mueller, F. (2022a). Academics and policymakers at odds: The case of the IFRS Foundation trustees' consultation paper on sustainability reporting. *Sustainability Accounting, Management and Policy Journal*, *13*(6), 1310–1333. https://doi.org/10.1108/SAMPJ-10-2021-0436

Adams, C. A., & Mueller, F. (2022b, May 24). Academics at odds with IFRS Foundation trustees on sustainability reporting. *Accounting Today*. https://www.accountingtoday.com/opinion/academics-at-odds-with-ifrs-foundation-trustees-on-sustainability-reporting

Adams, C. A., Alhamood, A., He, X., Tian, J., Wang, L., & Wang, Y. (2021). *The double-materiality concept: Application and issues*. GRI. https://www.globalreporting.org/media/jrbntbyv/griwhitepaper-publications.pdf

Adu, D. A., Flynn, A., & Grey, C. (2022). Executive compensation and sustainable business practices: The moderating role of sustainability-based compensation. *Business Strategy and the Environment*, *31*(3), 698–736. https://doi.org/10.1002/bse.2913

Aguiar, L., Bandy, A., & Woan, T. (2022, July 25). Recent ESG litigation and regulatory developments. *Harvard Law School Forum on Corporate Governance*. https://corpgov.law.harvard.edu/2022/07/25/recent-esg-litigation-and-regulatory-developments/

Aguilera, R. V., Desender, K. A., & Kabbach de Castro, L. R. (2012). A bundle perspective to comparative corporate governance. In T. Clarke & D. Branson (Eds.), *The SAGE handbook of corporate governance* (pp. 379–405). SAGE Publications.

Aguilera, R. V., Desender, K. A., Bednar, M. K., & Lee, J. H. (2015). Connecting the dots: Bringing external corporate governance into the corporate governance puzzle. *Academy of Management Annals*, *9*(1), 483–573. https://doi.org/10.1080/19416520.2015.1024503

Alexander, D., & Schwandt, H. (2022). The impact of car pollution on infant and child health: Evidence from emissions cheating. *Review of Economic Studies*, *89*(6), 2872–2910. https://doi.org/10.1093/restud/rdac007

Al-Shaer, H., & Zaman, M. (2019). CEO Compensation and sustainability reporting assurance: Evidence from the UK. *Journal of Business Ethics*, *158*(1), 233–252. https://doi.org/10.1007/s10551-017-3735-8

Amini, M., & Bienstock, C. C. (2014). Corporate sustainability: An integrative definition and framework to evaluate corporate practice and guide academic research. *Journal of Cleaner Production*, *76*, 12–19. http://dx.doi.org/10.1016/j.jclepro.2014.02.016

ANC. (2019). *Garantir la pertinence et la qualité de l'information extra-financière des entreprises : Une ambition et un atout pour une Europe durable [Guaranteeing the relevance and quality of companies' extra-financial information : An ambition and an asset for a sustainable Europe].* https://medias.vie-publique.fr/data_storage_s3/rapport/pdf/194000544.pdf

Antle, R., & Demski, J. (1988). The controllability principle in responsibility accounting. *Accounting Review*, *63*(4), 700–718. https://www.jstor.org/stable/247908

Apple. (2021). *SEC Form DEF14A.* https://investor.apple.com/sec-filings/sec-filings-details/default.aspx?FilingId=14599730

Aresu, S., Hooghiemstra, R., & Melis, A. (2023). Integration of CSR Criteria Into Executive Compensation Contracts: A Cross-Country Analysis. *Journal of Management, 49*(8), 2766-2804. https://doi.org/10.1177/01492063221110200

Arjaliès, D. L., & Mundy, J. (2013). The use of management control systems to manage CSR strategy: A levers of control perspective. *Management Accounting Research*, *24*(4), 284–300. http://dx.doi.org/10.1016/j.mar.2013.06.003

Avakian, S. (2020, September 17). Protecting everyday investors and preserving market integrity: The SEC's division of enforcement. *US Securities and Exchange Commission News.* https://www.sec.gov/news/speech/avakian-protecting-everyday-investors-091720

Ayuso, S., & Argandoña, A. (2009). Responsible corporate governance: Towards a stakeholder board of directors? *Corporate Ownership & Control*, *6*(4), 9-19. https://doi.org/10.22495/cocv6i4p1

Ayuso, S., Rodríguez, M. A., García-Castro, R., & Ariño, M. A. (2014). Maximizing stakeholders' interests: An empirical analysis of the stakeholder approach to corporate governance. *Business and Society*, *53*(3), 414–439. https://doi.org/10.1177/0007650311433122

Baker, D., Bivens, J., & Schieder, J. (2019). *Reining in CEO compensation and curbing the rise of inequality*. Economic Policy Institute. https://www.epi.org/publication/reining-in-ceo-compensation-and-curbing-the-rise-of-inequality/

Bakker, P. (2013, March 5). Accountants will save the world. *Harvard Business Review*. https://hbr.org/2013/03/accountants-will-save-the-world

Balsam, S., Boone, J., Liu, H., & Yin, J. (2016). The impact of say-on-pay on executive compensation. *Journal of Accounting and Public Policy*, *35*(2), 162–191. https://doi.org/10.1016/j.jaccpubpol.2015.11.004

Banerjee, S., Dasgupta, S., & Kim, Y. (2008). Buyer-supplier relationships and the stakeholder theory of capital structure. *Journal of Finance*, *63*(5), 2507–2552. https://doi.org/10.1111/j.1540-6261.2008.01403.x

Bank, S. A., & Georgiev, G. S. (2019). Securities disclosure as soundbite: The case of CEO pay ratios. *Boston College Law Review*, *60*(4), 1123–1203. https://lawdigitalcommons.bc.edu/bclr

Banker, R. D., Bu, D., & Mehta, M. N. (2016). Pay gap and performance in China. *Abacus*, *52*(3), 501–531. https://doi.org/10.1111/abac.12082

Banker, R. D., Potter, G., & Srinivasan, D. (2000). An empirical investigation of an incentive plan that includes nonfinancial performance measures. *Accounting Review*, *75*(1), 65–92. https://www.jstor.org/stable/248633

Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, *26*(3), 197–218. https://doi.org/10.1002/smj.441

Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic Organization*, *12*(1), 70–78. https://doi.org/10.1177/1476127013520265

Bansal, T. (2021, April 15). Do hedge funds create value? 3 lessons from Danone and Unilever. *Forbes*. https://www.forbes.com/sites/timabansal/2021/04/15/how-hedge-funds-are-destroying-corporations-and-society/?sh=3d4f432b7ead

Baraibar-Diez, E., & Odriozola, M. D. (2019). CSR committees and their effect on ESG performance in UK, France, Germany, and Spain. *Sustainability*, *11*(18), 1-20. https://doi.org/10.3390/su11185077

Barker, R., Eccles, R. G., & Serafeim, G. (2020, December 3). The future of ESG is ... accounting? *Harvard Business Review*. https://hbr.org/2020/12/the-future-of-esg-is-accounting

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037//0022-3514.51.6.1173

BDO. (2022). *EU sustainability reporting: Comparison of draft CSRD to NFRD requirements*. https://www.bdo.com/getmedia/0c3fd028-6644-4cf4-80da-8791118549df/ESG-EU-Sustainability-Reporting-Comparison-of-Draft-CSRD-to-NFRD-Requirements.pdf?ext=.pdf

Beaumont, P. B., & Harris, R. I. D. (2003). Internal wage structures and organizational performance. *British Journal of Industrial Relations*, *41*(1), 53–70. https://doi.org/10.1111/1467-8543.00261

Bebbington, J. (2001). Sustainable development: A review of the international development, business, and accounting literature. *Accounting Forum*, *25*(2), 128–157. https://doi.org/10.1111/1467-6303.00059

Bebbington, J., & Unerman, J. (2018). Achieving the United Nations sustainable development goals: An enabling role for accounting research. *Accounting, Auditing and Accountability Journal*, *31*(1), 2–24. https://doi.org/10.1108/AAAJ-05-2017-2929

Bebbington, J., Unerman, J., & O'Dwyer, B. (2014). *Introduction to sustainability accounting and accountability* (2nd ed.). Routledge.

Bebchuk, L. A., & Fried, J. M. (2003). Executive compensation as an agency problem. *Journal of Economic Perspectives*, *17*(3), 71–92. https://doi.org/10.1257/089533003769204362

Bebchuk, L. A., & Fried, J. M. (2004). *Pay without performance: The unfulfilled promise of executive compensation*. Harvard University Press.

Bebchuk, L. A., & Grinstein, Y. (2005). The growth of executive pay. *Oxford Review of Economic Policy*, *21*(2), 283–303. https://doi.org/10.1093/oxrep/gri017

Bebchuk, L. A., & Tallarita, R. (2020). The illusionary promise of stakeholder governance. *Cornell Law Review*, *106*, 91–178. https://www.cornelllawreview.org/wp-content/uploads/2021/02/The-Illusory-Promise-of-Stakeholder-Governance.pdf

Bebchuk, L. A., & Tallarita, R. (2022). The perils and questionable promise of ESG-based compensation. *Journal of Corporation Law, 48*, 37-75. https://jcl.law.uiowa.edu/sites/jcl.law.uiowa.edu/files/2023-01/BebchukTallarita_Online.pdf

Bebchuk, L. A., Fried, J. M., & Walker, D. I. (2002). Managerial power and rent extraction in the design of executive compensation. *University of Chicago Law Review*, *69*(3), 751–846. https://doi.org/10.2307/1600632

Belinfanti, T., & Stout, L. (2018). Contested visions: The value of systems theory for corporate law. *University of Pennsylvania Law Review*, *166*(3), 579–631. https://scholarship.law.upenn.edu/penn_law_review/vol166/iss3/1

Benedetti, A. H., & Chen, S. (2018). High CEO-to-worker pay ratios negatively impact consumer and employee perceptions of companies. *Journal of Experimental Social Psychology*, *79*, 378–393. https://doi.org/10.1016/j.jesp.2018.09.003

Richard, J., Bensadon, D., & Rambaud, A. (2018). *Comptabilité financière [Financial Accounting]* (11th ed.). Dunod.

Berle, A. A., & Means, G. C. (1932). *The modern corporation and private property*. Transaction Publishers.

Bernow, S., Godsall, J., Klempner, B., & Merten., C. (2019, August 7). *More than values: The value-based sustainability reporting that investors want.* McKinsey & Company.

Retrieved from October 23, 2023, from https://www.mckinsey.com/capabilities/sustainability/our-insights/more-than-values-the-value-based-sustainability-reporting-that-investors-want

Berrone, P., & Gomez-Mejia, L. R. (2009). Environmental performance and executive compensation: An integrated agency-institutional perspective. *Academy of Management Journal*, *52*(1), 103–126. https://doi.org/10.5465/amj.2009.36461950

Berthod, O. (2016). Institutional theory of organizations. In A. Farazmand (Ed.), *Global Encyclopedia of Public Administration, Public Policy, and Governance* (pp. 1–5). Springer.

Bertrand, M., & Mullainathan, S. (2001). Are CEOs rewarded for luck? The ones without principals are. *The Quarterly Journal of Economics*, *116*(3), 901–932. https://doi.org/10.1162/00335530152466269

Beske, F., Haustein, E., & Lorson, P. (2020). Materiality analysis in sustainability and integrated reports. *Sustainability Accounting, Management and Policy Journal*, *11*(1), 162–186. https://doi.org/10.1108/SAMPJ-12-2018-0343

Biermann, F., et al. (2012). Navigating the Anthropocene: Improving earth system governance. *Science*, 335(6074), 1306–1307. https://doi.org/10.1126/science.1217255

Biswas, P. K., Mansi, M., & Pandey, R. (2018). Board composition, sustainability committee and corporate social and environmental performance in Australia. *Pacific Accounting Review*, *30*(4), 517–540. https://doi.org/10.1108/PAR-12-2017-0107

BlackRock. (2018). *Larry Fink's 2018 letter to CEOs: A sense of purpose*. https://www.blackrock.com/corporate/investor-relations/2018-larry-fink-ceo-letter

Bloom, M., & Milkovich, G. T. (1998). Relationships among risk, incentive pay, and organisational performance. *Academy of Management Journal*, *41*(3), 283–297. https://doi.org/10.5465/256908

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Boateng, A., Wang, Y., Ntim, C., & Glaister, K. W. (2021). National culture, corporate governance and corruption: A cross-country analysis. *International Journal of Finance & Economics*, *26*(3), 3852–3874. https://doi.org/10.1002/ijfe.1991

Bol, J. C. (2008). Subjectivity in compensation contracting. *Journal of Accounting Literature*, *27*, 1–24. https://ntu.idm.oclc.org/login?url=https://www.proquest.com/scholarly-journals/subjectivity-compensation-contracting/docview/216306530/se-2

Bolton, G. E., & Ockenfels, A. (2000). ERC: A theory of equity, reciprocity, and competition. *American Economic Review*, *90*(1), 166–193. https://doi.org/10.1257/aer.90.1.166

Bowen, H. R. (1953). *Social responsibilities of the businessman*. Harper & Brothers.

Bradbury, M., Jia, J., & Li, Z. (2022). Corporate social responsibility committees and the use of corporate social responsibility assurance services. *Journal of Contemporary Accounting and Economics*, *18*(2), 1–18. https://doi.org/10.1016/j.jcae.2022.100317

Brammer, S., & Millington, A. (2006). Firm size, organizational visibility and corporate philanthropy: An empirical analysis. *Business Ethics: A European Review*, *15*(1), 6–18. https://doi.org/10.1111/j.1467-8608.2006.00424.x

Brennan, N. M., & Gray, S. J. (2005). The impact of materiality: Accounting's best kept secret. *Asian Academy of Management Journal of Accounting and Finance*, *1*(1), 1–31. https://web.usm.my/journal/aamjaf/vol%201/1-1.pdf

Brennan, N. M., & Solomon, J. (2008). Corporate governance, accountability and mechanisms of accountability: An overview. *Accounting, Auditing & Accountability Journal*, *21*(7), 885–906. https://doi.org/10.1108/09513570810907401

Breza, E., Kaur, S., & Shamdasani, Y. (2018). The morale effects of pay inequality. *Quarterly Journal of Economics*, *133*(2), 611–663. https://doi.org/10.1093/qje/qjx041

Bris, A. (2021, March 19). Danone's CEO has been ousted for being progressive – blame society not activist shareholders. *The Conversation*. https://theconversation.com/danones-ceo-has-been-ousted-for-being-progressive-blame-society-not-activist-shareholders-157383

British Petroleum. (2021). *Performing while transforming: BP annual report and form 20-F 2021*.https://www.bp.com/en/global/corporate/investors/results-reporting-and-presentations/annual-report.html

Brown-Liburd, H., & Zamora, V. L. (2015). The role of corporate social responsibility (CSR) assurance in investors' judgments when managerial pay is explicitly tied to CSR performance. *Auditing: A Journal of Practice & Theory*, *34*(1), 75–96. https://doi.org/10.2308/ajpt-50813

Burchman, S. (2018, November 12). How to tie executive compensation to sustainability. *Harvard Business Review*. https://hbr.org/2018/11/how-to-tie-executive-compensation-to-sustainability#:~:text=A%20logical%20measure%20for%20this,power%20to%20change%20leaders'%20behavior

Burke, J. J., Hoitash, R., & Hoitash, U. (2019). The heterogeneity of board-level sustainability committees and corporate social performance. *Journal of Business Ethics*, *154*(4), 1161–1186. https://doi.org/10.1007/s10551-017-3453-2

Burns, N., & Minnick, K. (2013). Does say-on-pay matter? Evidence from say-on-pay proposals in the United States. *Financial Review*, *48*(2), 233–258. https://doi.org/10.1111/fire.12002

Business Roundtable. (2019, August 19). *Business Roundtable redefines the purpose of a corporation to promote 'an economy that serves all Americans'*. Retrieved October 23, 2023, from https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans

Cadbury, A. (1992). *Report of the committee on the financial aspects of corporate governance*. Gee Publishing.

Cadman, B., & Carter, M. E. (2014). Compensation peer groups and their relation with CEO pay. *Journal of Management Accounting Research*, *26*(1), 57–82. https://doi.org/10.2308/jmar-50598

Card, D. E., Mas, A., Moretti, E., & Saez, E. (2012). Inequality at work: The effect of peer salaries on job satisfaction. *American Economic Review*, *102*(6), 2981–3003. https://dx.doi.org/10.1257/aer.102.6.2981

Cardoni, A., & Kiseleva, E. (2023). *Sustainable Governance: Concept, metrics and contexts* (1st ed.). Springer.

Cardoni, A., Kiseleva, E., & Lombardi, R. (2020). A sustainable governance model to prevent corporate corruption: Integrating anticorruption practices, corporate strategy and business processes. *Business Strategy and the Environment, 29*(3), 1173-1185. https://doi.org/10.1002/bse.2424

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, *4*(4), 497–505. https://doi.org/10.2307/257850

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*(4), 39–48. https://doi.org/10.1016/0007-6813(91)90005-G

Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & Society*, *38*(3), 268–295. https://doi.org/10.1177/000765039903800303

Carroll, A. B. (2008). A history of corporate social responsibility: Concepts and practices. In A. Crane, D. Matten, A. McWilliams, J. Moon, & D. S. Siegel (Eds.), *The Oxford handbook of corporate social responsibility* (pp. 19–46). Oxford University Press.

Carroll, A. B. (2016). Carroll's pyramid of CSR: Taking another look. *International Journal of Corporate Social Responsibility*, *1*, 1–8. https://doi.org/10.1186/s40991-016-0004-6

Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*, *12*(1), 85–105. https://doi.org/10.1111/j.1468-2370.2009.00275.x

Cavaco, S., Crifo, P., & Guidoux, A. (2020). Corporate social responsibility and governance: The role of executive compensation. *Industrial Relations: A Journal of Economy and Society*, *59*(2), 240–274. https://doi.org/10.1111/irel.12254

Cespa, G., & Cestone, G. (2007). Corporate social responsibility and managerial entrenchment. *Journal of Economics and Management Strategy*, *16*(3), 741–771. https://doi.org/10.1111/j.1530-9134.2007.00156.x

CFA. (2022). *Introduction to Financial Statement Analysis*. https://www.cfainstitute.org/en/membership/professional-development/refresher-readings/introduction-financial-statement-analysis

Chang, W., Dambra, M., Schonberger, B., & Suk, I. (2022). Does sensationalism affect executive compensation? Evidence from Pay Ratio disclosure reform. *Journal of Accounting Research*, *61*(1), 187-242. https://doi.org/10.1111/1475-679X.12458

Chapple, L., Chen, Z., & Zhang, Y. (2017, March). *Sustainability committee effectiveness and CSR assurance [Working paper]*. https://ssrn.com/abstract=2967165

Charreaux, G., & Desbrières, P. (2001). Corporate governance: Stakeholder value versus shareholder value. *Journal of Management and Governance*, *5*(2), 107–128. https://doi.org/10.1023/A:1013060105433

Cheffins, B. (2013). The history of corporate governance. In M. Wright, D. S. Siegel, K. Keasey, & I. Filatotchev (Eds.), *The Oxford Handbook of Corporate Governance* (pp. 46–64). Oxford University Press.

Chen, C. X., Matsumura, E. M., Shin, J. Y., & Wu, S. Y.-C. (2015). The effect of competition intensity and competition type on the use of customer satisfaction measures in executive annual bonus contracts. *Accounting Review*, *90*(1), 229–263. https://doi.org/10.2308/accr-50870

Cheng, Q., Ranasinghe, T., & Zhao, S. (2017, July). *Do high CEO pay ratios destroy firm value?* (Singapore Management University School of Accountancy Working Paper No. 2017-58). https://ssrn.com/abstract=2861680

Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of Financial Economics*, *87*(1), 157–176. https://doi.org/10.1016/j.jfineco.2006.10.006

Cho, M., & Ibrahim, S. (2022). Non-financial performance measures and pay-performance sensitivity. *Journal of Financial Reporting and Accounting*, *20*(2), 185-214. https://doi.org/10.1108/JFRA-01-2021-0018

Christensen, H. B., Hail, L., & Leuz, C. (2021). Mandatory CSR and sustainability reporting: Economic analysis and literature review. *Review of Accounting Studies*, *26*(3), 1176–1248. https://doi.org/10.1007/s11142-021-09609-5

City of Portland. (2017). *LIC-5.02 - Pay ratio surtax*. https://www.portland.gov/policies/licensing-and-income-taxes/fees/lic-502-pay-ratio-surtax#:~:text=Publicly%20traded%20companies%20that%20are,%2C%20the%20surtax%20is%2010%25

Coase, R. H. (1937). The nature of the firm. *Economica*, *4*(16), 386–405. https://doi.org/10.1111/j.1468-0335.1937.tb00002.x

Conlon, T., Corbet, S., & Hu, Y. (2022, December). *The collapse of the FTX Exchange: The end of cryptocurrency's age of innocence [Working paper]*. https://ssrn.com/abstract=4283333

Consolandi, C., Eccles, R. G., & Gabbi, G. (2022). How material is a material issue? Stock returns and the financial relevance and financial intensity of ESG materiality. *Journal of Sustainable Finance and Investment*, *12*(4), 1045-1068. https://doi.org/10.1080/20430795.2020.1824889

Conyon, M. J. (2014). Executive compensation and board governance in US firms. *Economic Journal*, *124*(574), 60–89. https://doi.org/10.1111/ecoj.12120

Conyon, M. J. (2016, March). *Shareholder say-on-pay voting and CEO compensation [Working paper]*. https://ssrn.com/abstract=2748645

Conyon, M. J., Peck, S. I., & Sadler, G. V. (2009). Compensation consultants and executive pay: Evidence from the United States and the United Kingdom. *Academy of Management Perspectives*, *23*(1), 43–55. https://doi.org/10.5465/AMP.2009.37008002

Coombs, J. E., & Gilley, K. M. (2005). Stakeholder management as a predictor of CEO compensation: Main effects and interactions with financial performance. *Strategic Management Journal*, *26*(9), 827–840. https://doi.org/10.1002/smj.476

Cordeiro, J. J., & Sarkis, J. (2008). Does explicit contracting effectively link CEO compensation to environmental performance? *Business Strategy and the Environment*, *17*(5), 304–317. https://doi.org/10.1002/bse.621

Core, J. E., Holthausen, R. W., & Larcker, D. F. (1999). Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics*, *51*(3), 371–406. https://doi.org/10.1016/S0304-405X(98)00058-0

Cornelissen, T., Himmler, O., & Koenig, T. (2011). Perceived unfairness in CEO compensation and work morale. *Economics Letters*, *110*(1), 45–48. http://dx.doi.org/10.1016/j.econlet.2010.10.011

Cornett, M. M., Marcus, A. J., Saunders, A., & Tehranian, H. (2007). The impact of institutional ownership on corporate operating performance. *Journal of Banking and Finance*, *31*(6), 1771–1794. https://doi.org/10.1016/j.jbankfin.2006.08.006

Costanza, R., & Daly, H. E. (1992). Natural capital and sustainable development. *Conservation Biology, 6*(1), 37–46. https://doi.org/10.1046/j.1523-1739.1992.610037.x

Cowherd, D. M., & Levine, D. I. (1992). Product quality and pay equity between lower-level employees and top management: An investigation of distributive justice theory. *Administrative Science Quarterly, 37*(2), 302-320. https://doi.org/10.2307/2393226

Crawford, S. S., Nelson, K. K., & Rountree, B. R. (2021). Mind the gap: CEO-employee pay ratios and shareholder say-on-pay votes. *Journal of Business Finance and Accounting*, *48*(1–2), 308–377. https://doi.org/10.1111/jbfa.12500

Crifo, P., & Rebérioux, A. (2016). Corporate governance and corporate social responsibility: A typology of OECD countries. *Journal of Governance and Regulation*, *5*(2), 14–27. https://doi.org/10.22495/jgr_v5_i2_p2

Crosby, F. (1984). Relative deprivation in organizational settings. *Research in Organizational Behavior*, *6*, 51–93. https://psycnet.apa.org/record/1984-30207-001

Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management*, *15*(1), 1–13. https://doi.org/10.1002/csr.132

Davidson, K. (2014). A typology to categorize the ideologies of actors in the sustainable development debate. *Sustainable Development*, *22*(1), 1–14. https://doi.org/10.1002/sd.520

Davila, A., & Penalva, F. (2006). Governance structure and the weighting of performance measures in CEO compensation. *Review of Accounting Studies*, *11*(4), 463–493. https://doi.org/10.1007/s11142-006-9018-8

Davis, G. F. (2005). New directions in corporate governance. *Annual Review of Sociology*, *31*, 143–162. https://doi.org/10.1146/annurev.soc.31.041304.122249

Davis, J. H., Schoorman, D. F., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review*, *22*(1), 20–47. https://doi.org/10.2307/259223

De Jongh, J. (2011). Shareholder activists avant la lettre: The "complaining participants" in the Dutch East India Company, 1622-1625. In J. Koppell (Ed.), *Origins of Shareholder Advocacy* (pp. 61–87). Palgrave Macmillan.

Demb, A., & Neubauer, F. F. (1992). The corporate board: Confronting the paradoxes. *Long Range Planning*, *25*(3), 9–20. https://doi.org/10.1016/0024-6301(93)90307-2

Denes, M., Karpoff, J., & McWilliams, V. (2017). Thirty years of shareholder activism: A survey of empirical research. *Journal of Corporate Finance*, *44*, 405–424. https://doi.org/10.1016/0024-6301(93)90307-2

Denis, D. K., Jochem, T., & Rajamani, A. (2020). Shareholder governance and CEO compensation: The peer effects of say on pay. *Review of Financial Studies*, *33*(7), 3130–3173. https://doi.org/10.1093/rfs/hhz104

Derchi, G. B., Zoni, L., & Dossi, A. (2021). Corporate social responsibility performance, incentives, and learning effects. *Journal of Business Ethics*, *173*(3), 617–641. https://doi.org/10.1007/s10551-020-04556-8

DesJardine, M. R., & Durand, R. (2020). Disentangling the effects of hedge fund activism on firm financial and social performance. *Strategic Management Journal*, *41*(6), 1054–1082. https://doi.org/10.1002/smj.3126

DesJardine, M. R., Marti, E., & Durand, R. (2021). Why activist hedge funds target socially responsible firms: The reaction costs of signaling corporate social responsibility. *Academy of Management Journal*, *64*(3), 851–872. https://doi.org/10.5465/amj.2019.0238

Dietz, T., Ostrom, E., & Stern, P. C. (2003). The struggle to govern the commons. *Science*, *302*(5652), 1907–1912. https://doi.org/10.1126/science.1091015

Dillard, J., & Vinnari, E. (2019). Critical dialogical accountability: From accounting-based accountability to accountability-based accounting. *Critical Perspectives on Accounting*, *62*, 16–38. https://doi.org/10.1016/j.cpa.2018.10.003

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

Dion, M. (2016). Agency theory and financial crime: The paradox of the opportunistic executive. *Journal of Financial Crime*, *23*(3), 574–587. https://doi.org/10.1108/JFC-03-2015-0012

Dixon-Fowler, H. R., Ellstrand, A. E., & Johnson, J. I. (2017). The role of board environmental committees in corporate environmental performance. *Journal of Business Ethics*, *140*(3), 423–438. https://doi.org/10.1007/s10551-015-2664-7

Donaldson, L., & Davis, J. (1991). Stewardship theory or agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, *16*(1), 49–64. https://doi.org/10.1177/031289629101600103

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65–91. https://doi.org/10.2307/258887

Dyck, A., Lins, K. V., Roth, L., & Wagner, H. F. (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of Financial Economics*, *131*(3), 693–714. https://doi.org/10.1016/j.jfineco.2018.08.013

Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, *11*(2), 130–141. https://doi.org/10.4324/9781315259277-7

Eberhardt-Toth, E. (2017). Who should be on a board corporate social responsibility committee? *Journal of Cleaner Production*, *140*(3), 1926–1935. http://dx.doi.org/10.1016/j.jclepro.2016.08.127

Eccles, R. G. (2020, January 17). Dynamic materiality and core materiality: A primer for companies and investors. *Forbes*. https://www.forbes.com/sites/bobeccles/2020/01/17/dynamic-materiality-and-core-materiality-a-primer-for-companies-and-investors/#1c23b4a42e6a

Eccles, R. G. (2021, July 13). The international sustainability standards board as an ideological Rorschach test. *Forbes*. https://www.forbes.com/sites/bobeccles/2021/07/13/the-international-sustainability-standards-board-as-an-ideological-rorschach-test/

Eccles, R. G. (2022, February 19). A personal message to the cantankerous critics of the international sustainability standards board. *Forbes*. https://www.forbes.com/sites/bobeccles/2022/02/19/a-personal-message-to-the-cantankerous-critics-of-the-international-sustainability-standards-board/

Eccles, R. G., & Mirchandani, B. (2022, February 15). We need universal ESG accounting standards. *Harvard Business Review*. https://hbr.org/2022/02/we-need-universal-esg-accounting-standards

Eccles, R. G., Krzus, M. P., & Ribot, S. (2014). *The integrated reporting movement: Meaning, momentum, motives, and materiality*. John Wiley & Sons, Inc.

Eccles, R. G., Krzus, M. P., Rogers, J., & Serafeim, G. (2012). The need for sector-specific materiality and sustainability reporting standards. *Journal of Applied Corporate Finance*, *24*(2), 65–71. https://doi.org/10.1111/j.1745-6622.2012.00380.x

Edgley, C. (2014). A genealogy of accounting materiality. *Critical Perspectives on Accounting*, *25*(3), 255–271. http://dx.doi.org/10.1016/j.cpa.2013.06.001

Edmans, A. (2017, February 23). Why we need to stop obsessing over CEO pay ratios. *Harvard Business Review*. https://hbr.org/2017/02/why-we-need-to-stop-obsessing-over-ceo-pay-ratios

Edmans, A. (2020). Company purpose and profit need not be in conflict if we 'grow the pie.' *Economic Affairs*, *40*(2), 287–294. https://doi.org/10.1111/ecaf.12395

Edmans, A., Gabaix, X., & Jenter, D. (2017). Executive compensation: A survey of theory and evidence. In B. E. Hermalin & M. S. Weisbach (Eds.), *The Handbook of the Economics of Corporate Governance* (pp. 383–539). Elsevier.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*(1), 57–74. https://doi.org/10.5465/amr.1989.4279003

Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone Publishing.

Elkington, J. (2006). Governance for sustainability. *Corporate Governance: An International Review*, *14*(6), 522–529. https://doi.org/10.1111/j.1467-8683.2006.00527.x

Elmaghrabi, M. E. (2021). CSR committee attributes and CSR performance: UK evidence. *Corporate Governance: The International Journal of Business in Society*, *21*(5), 892–919. https://doi.org/10.1108/CG-01-2020-0036

Elmagrhi, M. H., Ntim, C. G., Wang, Y., Abdou, H. A., & Zalata, A. M. (2020). Corporate governance disclosure index–executive pay nexus: The moderating effect of governance mechanisms. *European Management Review*, *17(1),* 121-152. https://doi.org/10.1111/emre.12329

Elsayed, K. (2007). Does CEO duality really affect corporate performance? *Corporate Governance: An International Review*, *15*(6), 1203–1214. https://doi.org/10.1111/j.1467-8683.2007.00641.x

Emerton, P., & Jones, A. (2019). Perceptions of the efficacy of sustainability-related performance conditions in executive pay schemes. *Journal of Sustainable Finance and Investment*, *9*(1), 1–16. https://doi.org/10.1080/20430795.2018.1498616

Endrikat, J., de Villiers, C., Guenther, T. W., & Guenther, E. M. (2021). Board characteristics and corporate social responsibility: A meta-analytic investigation. *Business and Society*, *60*(8), 2099–2135. https://doi.org/10.1177/0007650320930638

Ertimur, Y., Ferri, F., & Muslu, V. (2011). Shareholder activism and CEO pay. *Review of Financial Studies, 24*(2), 535–592. https://doi.org/10.1093/rfs/hhq113

Ertimur, Y., Ferri, F., & Oesch, D. (2013). Shareholder votes and proxy advisors: Evidence from say on pay. *Journal of Accounting Research*, *51*(5), 951–996. https://doi.org/10.1111/1475-679X.12024

EU High-Level Expert Group on Sustainable Finance. (2018). *Financing a sustainable European economy.* https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf

European Commission. (2014). *Directive 2014/95/EU of the European parliament and of the council of 22 October 2014*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014L0095

European Commission. (2019). *Guidelines on reporting climate-related information*. https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf

European Commission. (2020). *Regulation (EU) 2020/852 of the European parliament and of the council of 18 June 2020*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32020R0852

EY. (2020). *Study on directors' duties and sustainable corporate governance*. https://op.europa.eu/en/publication-detail/-/publication/e47928a2-d20b-11ea-adf7-01aa75ed71a1/language-en

Faghani, M., Monem, R., & Ng, C. (2015). 'Say on pay' regulation and chief executive officer pay: Evidence from Australia. *Corporate Ownership & Control*, *12*(3), 28–39. https://doi.org/10.22495/cocv12i3p3

Faleye, O., Reis, E., & Venkateswaran, A. (2013). The determinants and effects of CEO-employee pay ratios. *Journal of Banking and Finance*, *37*(8), 3258–3272. https://dx.doi.org/10.1016/j.jbankfin.2013.03.003

Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *Journal of Finance*, *47*(2), 427–465. https://doi.org/10.2307/2329112

Fang, V. W., Noe, T. H., & Tice, S. (2009). Stock market liquidity and firm value. *Journal of Financial Economics*, *94*(1), 150–169. http://dx.doi.org/10.1016/j.jfineco.2008.08.007

Farmer, A. N., Orr, S. K., & Morawetz, J. (2022, May 11). *ISSB's proposed framework seeks to unify global sustainability disclosure standards*. Kirkland & Ellis. Retrieved October 23, 2023, from https://www.kirkland.com/-/media/publications/alert/2022/05/issbs-proposed-framework-seeks-to-unify-global-sus.pdf?rev=cc110e26a724470bb8a161d1097e38fc

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. *The Quarterly Journal of Economics*, *114*(3), 817–868. https://doi.org/10.1162/003355399556151

Ferri, F., & Maber, D. A. (2013). Say on pay votes and CEO compensation: Evidence from the UK. *Review of Finance*, *17*(2), 527–563. https://doi.org/10.1093/rof/rfs003

Fiandrino, S., Tonelli, A., & Devalle, A. (2022). Sustainability materiality research: a systematic literature review of methods, theories and academic themes. *Qualitative Research in Accounting and Management*, *19*(5), 665–695. https://doi.org/10.1108/QRAM-07-2021-0141

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

Flammer, C., Hong, B., & Minor, D. (2019). Corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: Effectiveness and

implications for firm outcomes. *Strategic Management Journal*, *40*(7), 1097–1122. https://doi.org/10.1002/smj.3018

Folger, R., & Martin, C. (1986). Relative deprivation and referent cognitions: Distributive and procedural justice effects. *Journal of Experimental Social Psychology*, *22*(6), 531–546. https://doi.org/10.1016/0022-1031(86)90049-1

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Freeman, R. E., Harrison, J. S., & Wicks, A. C. (2007). *Managing for stakeholders: Survival, reputation, and success*. Yale University Press.

Freiberg, D., Rogers, J., & Serafeim, G. (2020, November). *How ESG issues become financially material to corporations and their investors.* (Harvard Business School Accounting & Management Unit Working Paper No. 20-056). https://www.hbs.edu/ris/Publication%20Files/20-056_1c21f28a-12c1-4be6-94eb-020f0bc32971.pdf

Frentrop, P. (2019). The Dutch East India company: The first corporate governance debacle. In T. Clarke, J. O'Brien, & C. R. T. O'Kelley (Eds.), *The Oxford Handbook of the Corporation* (pp. 51–74). Oxford University Press.

Fried, J. M., & Wang, C. C. Y. (2021). Short-termism, shareholder payouts and investment in the EU. *European Financial Management*, *27*(3), 389–413. https://doi.org/10.1111/eufm.12305

Friedman, M. (1970, September 13). A Friedman doctrine - The social responsibility of business is to increase its profits. *New York Times*. https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html

Frydman, C., & Jenter, D. (2010). CEO compensation. *Annual Review of Financial Economics*, *2*, 75–102. https://doi.org/10.1146/annurev-financial-120209-133958

FTSE. (2022). *Russell US indexes characteristics*. https://www.lseg.com/content/dam/ftse-russell/en_us/documents/other/russell-us-indexes-characteristics-product-highlights.pdf

Gabel, L. H., & Sinclair-Desgagné, B. (1993). Managerial incentives and environmental compliance. *Journal of Environmental Economics and Management*, *24*(3), 229–240. https://doi.org/10.1006/jeem.1993.1015

García-Sánchez, I. M., Gómez-Miranda, M. E., David, F., & Rodríguez-Ariza, L. (2019). Board independence and GRI-IFC performance standards: The mediating effect of the CSR committee. *Journal of Cleaner Production*, *225*, 554–562. https://doi.org/10.1016/j.jclepro.2019.03.337

Garriga, E., & Melé, D. (2004). Corporate social responsibility theories: Mapping the territory. *Journal of Business Ethics*, *53*(1/2), 51–71. https://doi.org/10.1023/B:BUSI.0000039399.90587.34

Gelinas, U. J., Dull, R. B., & Wheeler, P. R. (2014). *Accounting information systems* (10th ed.). Cengage Learning.

Gennari, F., & Salvioni, D. M. (2019). CSR committees on boards: The impact of the external country level factors. *Journal of Management and Governance*, *23*(3), 759–785. https://doi.org/10.1007/s10997-018-9442-8

Georgescu-Roegen, N. (1971). *The entropy law and the economic process*. Harvard University Press.

Gillan, S. L., & Starks, L. T. (2007). The evolution of shareholder activism in the United States. *Journal of Applied Corporate Finance*, *19*(1), 55–73. https://doi.org/10.1111/j.1745-6622.2007.00125.x

Giner, B., & Luque-Vílchez, M. (2022). A commentary on the "new" institutional actors in sustainability reporting standard-setting: A European perspective. *Sustainability Accounting, Management and Policy Journal*, *13*(6), 1284–1309. https://doi.org/10.1108/SAMPJ-06-2021-0222

Giorgino, M. C., Supino, E., & Barnabè, F. (2017). Corporate disclosure, materiality, and integrated report: An event study analysis. *Sustainability*, *9*(12), 1–15. https://doi.org/10.3390/su9122182

Gladwin, T. N., Kennelly, J. J., & Krause, T. - S. (1995). Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of Management Review*, *20*(4), 874–907. https://doi.org/10.2307/258959

Goergen, M. (2022). Governance through ownership and sustainable corporate governance. In *Oxford Research Encyclopedia of Business and Management*. Oxford University Press.

Goergen, M., & Tonks, I. (2019). Introduction to special issue on sustainable corporate governance. *British Journal of Management*, *30*(1), 3–9. https://doi.org/10.1111/1467-8551.12325

Gond, J. P., & Moon, J. (2011). Corporate social responsibility in retrospect and prospect: Exploring the life-cycle of an essentially contested concept. In J. - P. Gond, & J. Moon (Eds.), *Corporate Social Responsibility: A Reader* (Vol. 1, pp. 1-28). Routledge.

Gond, J. P., Grubnic, S., Herzig, C., & Moon, J. (2012). Configuring management control systems: Theorizing the integration of strategy and sustainability. *Management Accounting Research*, *23*(3), 205–223. http://dx.doi.org/10.1016/j.mar.2012.06.003

Gosling, T., & O'Connor, P. (2021, April 12). Executive pay and ESG performance. *Harvard Law School Forum on Corporate Governance*. https://corpgov.law.harvard.edu/2021/04/12/executive-pay-and-esg-performance/

Gray, R., Adams, C. A., & Owen, D. (2014). *Accountability, social responsibility, and sustainability: Accounting for Society and the Environment*. Pearson.

Green, C. T., & Zhou, D. (2019, July). *Pay inequality, job satisfaction, and firm performance*. (Baruch College Zicklin School of Business Working Paper No. 2019-07-03). https://ssrn.com/abstract=3415937

Gregory-Smith, I., Thompson, S., & Wright, P. W. (2014). CEO pay and voting dissent before and after the crisis. *Economic Journal*, *124*(574), 22-39. https://doi.org/10.1111/ecoj.12108

Grewal, J., Hauptmann, C., & Serafeim, G. (2021). Material sustainability information and stock price informativeness. *Journal of Business Ethics*, *171*(3), 513–544. https://doi.org/10.1007/s10551-020-04451-2

Grewal, J., Serafeim, G., & Yoon, A. (2016, July). *Shareholder activism on sustainability issues*. (Harvard Business School Working Paper No. 17-003). http://nrs.harvard.edu/urn-3:HUL.InstRepos:27864360

GRI. (2022). *The materiality madness: Why definitions matter*. https://www.globalreporting.org/media/r2oojx53/gri-perspective-the-materiality-madness.pdf

Grosse, M., Kean, S., & Scott, T. (2017). Shareholder say on pay and CEO compensation: three strikes and the board is out. *Accounting and Finance*, *57*(3), 701–725. https://doi.org/10.1111/acfi.12176

Guerrera, F. (2009, March 12). Welch condemns share price focus. *Financial Times*. https://www.ft.com/content/294ff1f2-0f27-11de-ba10-0000779fd2ac

Guiso, L., Sapienza, P., & Zingales, L. (2015). The value of corporate culture. *Journal of Financial Economics, 117*(1), 60–76. https://doi.org/10.1016/j.jfineco.2014.05.010

Hadley, B. (2017). Determinants of disclosures of alternative pay measures and their role in say on pay approval. *Managerial Finance*, *43*(2), 263–280. https://doi.org/10.1108/MF-01-2016-0023

Hahn, T., & Figge, F. (2011). Beyond the bounded instrumentality in current corporate sustainability research: Toward an inclusive notion of profitability. *Journal of Business Ethics*, *104*(3), 325–345. https://doi.org/10.1007/s10551-011-0911-0

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2010). Trade-offs in corporate sustainability: You can't have your cake and eat it. *Business Strategy and the Environment*, *19*(4), 217–229. https://doi.org/10.1002/bse.674

Hahn, T., Figge, F., Pinkse, J., & Preuss, L. (2018). A paradox perspective on corporate sustainability: Descriptive, instrumental, and normative aspects. *Journal of Business Ethics*, *148*(2), 235–248. https://doi.org/10.1007/s10551-017-3587-2

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Cengage.

Hallstedt, S., Ny, H., Robèrt, K. H., & Broman, G. (2010). An approach to assessing sustainability integration in strategic decision systems for product development. *Journal of Cleaner Production*, *18*(8), 703–712. https://doi.org/10.1016/j.jclepro.2009.12.017

Haque, F. (2017). The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. *British Accounting Review*, *49*(3), 347–364. http://dx.doi.org/10.1016/j.bar.2017.01.001

Haque, F., & Ntim, C. G. (2020). Executive compensation, sustainable compensation policy, carbon performance and market value. *British Journal of Management*, *31*(3), 525–546. http://dx.doi.org/10.1111/1467-8551.12395

Hart, S. L., & Ahuja, G. (1996). Does it pay to be green? An empirical examination of the relationship between emission reduction and firm performance. *Business Strategy and the Environment*, *5*(1), 30–37. https://doi.org/10.1002/(SICI)1099-0836(199603)5:1<30::AID-BSE38>3.0.CO;2-Q

Hartikainen, H., Järvenpää, M., & Rautiainen, A. (2021). Sustainability in executive remuneration - A missing link towards more sustainable firms? *Journal of Cleaner Production*, 324, 129224, Advance online publication. https://doi.org/10.1016/j.jclepro.2021.129224.

Hashmi, M. A., Damanhouri, A., & Rana, D. (2015). Evaluation of sustainability practices in the United States and large corporations. *Journal of Business Ethics*, *127*(3), 673–681. https://doi.org/10.1007/s10551-014-2056-4

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guildford Publications.

Healy, P. M., & Palepu, K. G. (2003). The Fall of Enron. *Journal of Economic Perspectives*, *17*(2), 3–26. https://doi.org/10.1257/089533003765888403

Helfaya, A., & Moussa, T. (2017). Do board's corporate social responsibility strategy and orientation influence environmental sustainability disclosure? UK evidence. *Business Strategy and the Environment*, *26*(8), 1061–1077. https://doi.org/10.1002/bse.1960

Henderson, A. D., & Fredrickson, J. W. (2001). Top management team coordination needs and the CEO pay gap: A competitive test of economic and behavioral views. *Academy of Management Journal*, *44*(1), 96–117. https://doi.org/10.2307/3069339

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of directors as an endogenously determined institution: A survey of the economic literature. *Economic Policy Review*, *9*(1), 7–26. https://faculty.haas.berkeley.edu/hermalin/601herma.pdf

Hicks, E. L. (1964). Materiality. *Journal of Accounting Research*, *2*(2), 158–171. https://doi.org/10.2307/2489998

Hill, C. W., & Jones, T. M. (1992). Stakeholder-agency theory. *Journal of Management Studies*, *29*(2), 131–154. https://doi.org/10.1111/j.1467-6486.1992.tb00657.x

Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: What's the bottom line? *Strategic Management Journal*, *22*(2), 125–139. https://doi.org/10.1002/1097-0266(200101)22:2<125::AID-SMJ150>3.0.CO;2-H

Hines, R. D. (1988). Financial accounting: In communicating reality, we construct reality. *Accounting, Organizations and Society*, *13*(3), 251–261. https://doi.org/10.1016/0361-3682(88)90003-7

Hobbs, A. (2023, February 21). *How corporate governance can help build a more sustainable world.* EY. Retrieved October 23, 2023, from https://www.ey.com/en_uk/public-policy/how-corporate-governance-can-help-build-a-more-sustainable-world

Holmes, W. (1972). Materiality-Through the looking glass. *Journal of Accountancy (Pre-1986)*, *133*(2), 44-49. https://egrove.olemiss.edu/cgi/viewcontent.cgi?filename=8&article=1000&context=dl_proceedings&type=additional

Holmstrom, B. (1979). Moral hazard and observability. *The Bell Journal of Economics*, *10*(1), 74–91. https://doi.org/10.2307/3003320

Hong, B., Li, Z., & Minor, D. (2016). Corporate governance and executive compensation for corporate social responsibility. *Journal of Business Ethics*, *136*(1), 199–213. https://doi.org/10.1007/s10551-015-2962-0

Hopwood, A., Unerman, J., & Fries, J. (2010). *Accounting for sustainability: Practical insights*. Routledge.

Hussain, N., Rigoni, U., & Orij, R. P. (2018). Corporate governance and sustainability performance: Analysis of triple bottom line performance. *Journal of Business Ethics*, *149*(2), 411–432. https://doi.org/10.1007/s10551-016-3099-5

Iacobucci, D., Saldanha, N., & Deng, X. (2007). A meditation on mediation: Evidence that structural equations models perform better than regressions. *Journal of Consumer Psychology*, *17*(2), 139–153. https://doi.org/10.1016/S1057-7408(07)70020-7

Ibrahim, S., & Lloyd, C. (2011). The association between non-financial performance measures in executive compensation contracts and earnings management. *Journal of Accounting and Public Policy*, *30*(3), 256–274. https://doi.org/10.1016/j.jaccpubpol.2010.10.003

ICAEW. (2021, April 30). *It's time for chartered accountants to save the world*. Retrieved October 23, 2023, from https://www.icaew.com/insights/insights-specials/when-chartered-accountants-save-the-world/its-time-for-chartered-accountants-to-save-the-world

IFRS. (2018). *Definition of material: Amendments to IAS 1 and IAS 8*. https://www.ifrs.org/content/dam/ifrs/project/definition-of-materiality/definition-of-material-feedback-statement.pdf

IFRS. (2021, November 3). *IFRS foundation announces international sustainability standards board, consolidation with CDSB and VRF, and publication of prototype disclosure requirements*. IFRS. Retrieved October 23, 2023, from https://www.ifrs.org/news-and-events/news/2021/11/ifrs-foundation-announces-issb-consolidation-with-cdsb-vrf-publication-of-prototypes/

Ikram, A., Li, Z., & Minor, D. (2019). CSR-contingent executive compensation contracts. *Journal of Banking and Finance, 151*(105655), Advance online publication. https://doi.org/10.1016/j.jbankfin.2019.105655

Impact Management Project. (2020). *Statement of intent to work together towards comprehensive corporate reporting*. https://impactmanagementproject.com/structured-network/statement-of-intent-to-work-together-towards-comprehensive-corporate-reporting/

Ioannou, I., & Serafeim, G. (2021, January). *Corporate sustainability: A strategy?* (Harvard Business School Accounting & Management Unit Working Paper No. 19–065). https://ssrn.com/abstract=3312191

IOSCO. (2008). *The role of credit rating agencies in structured finance markets*. https://www.iosco.org/library/pubdocs/pdf/IOSCOPD270.pdf

Irlbeck, S. (2019, September). *The effect of the pay ratio mandate on CEO compensation [Working paper]*. https://ssrn.com/abstract=3451429

Ittner, C. D., & Larcker, D. F. (2001). Assessing empirical research in managerial accounting: a value-based management perspective. *Journal of Accounting and Economics*, *32*(1-3), 349–410. https://doi.org/10.1016/S0165-4101(01)00026-X

Ittner, C. D., Larcker, D. F., & Meyer, M. W. (2003). Subjectivity and the weighting of performance measures: Evidence from a balanced scorecard. *Accounting Review*, *78*(3), 725–758. https://doi.org/10.2308/accr.2003.78.3.725

Jadoon, I. A., Ali, A., Ayub, U., Tahir, M., & Mumtaz, R. (2021). The impact of sustainability reporting quality on the value relevance of corporate sustainability performance. *Sustainable Development*, *29*(1), 155–175. https://doi.org/10.1002/sd.2138

Jarboui, A., Ben Hlima, N. D., & Bouaziz, D. (2022). Do sustainability committee characteristics affect CSR performance? Evidence from India. *Benchmarking: An International Journal*. *30*(2), 628-652. https://doi.org/10.1108/BIJ-04-2021-0225

Jensen, M. C. (2001). Value maximisation, stakeholder theory, and the corporate objective function. *European Financial Management*, *7*(3), 297–317. https://doi.org/10.1111/1468-036X.00158

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

Jensen, M. C., & Murphy, K. J. (1990a, May-June). CEO Incentives — It's not how much you pay, but how. *Harvard Business Review*. https://hbr.org/1990/05/ceo-incentives-its-not-how-much-you-pay-but-how

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

Johnson, R. A., & Greening, D. W. (1999). The effects of corporate governance and institutional ownership types on corporate social performance. *Academy of Management Journal*, *42*(5), 564–576. https://doi.org/10.5465/256977

Johnson, T. B. (2022). The effects of the mandated disclosure of CEO-to-employee pay ratios on CEO pay. *International Journal of Disclosure and Governance*, *19*(1), 67–92. https://doi.org/10.1057/s41310-021-00128-y

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, *20*(2), 404–437. https://doi.org/10.5465/amr.1995.9507312924

Kaiser, L. (2020). ESG integration: value, growth and momentum. *Journal of Asset Management*, *21*(1), 32–51. https://doi.org/10.1057/s41260-019-00148-y

Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate governance and board composition: Diversity and independence of Australian boards. *Corporate Governance: An International Review*, *15*(2), 194–207. https://doi.org/10.1111/j.1467-8683.2007.00554.x

Kaplan, S. E., & Zamora, V. I. (2018). The effects of current income attributes on nonprofessional investors' say-on-pay judgments: Does fairness still matter? *Journal of Business Ethics*, *153*(2), 407–425. https://doi.org/10.1007/s10551-016-3315-3

Karpoff, J. M. (2021). On a stakeholder model of corporate governance. *Financial Management, 50*(2), 321-343. https://doi.org/10.1111/fima.12344

Kavadis, N., & Thomsen, S. (2023). Sustainable corporate governance: A review of research on long-term corporate ownership and sustainability. *Corporate Governance: An International Review, 31*(1), 198–226. https://doi.org/10.1111/corg.12486

Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *Accounting Review*, *91*(6), 1697–1724. https://doi.org/10.2308/accr-51383

Khenissi, M., Hamrouni, A., & Ben Farhat, N. (2022). Executive compensation indexed to corporate social responsibility and firm performance: Empirical evidence from France. *Finance Research Letters*, *50*, 1–9. https://doi.org/10.1016/j.frl.2022.103213

Khenissi, M., Jahmane, A., & Hofaidhllaoui, M. (2022). Does the introduction of CSR criteria into CEO incentive pay reduce their earnings management? The case of companies listed in the SBF 120. *Finance Research Letters*, *48*, 1-8. https://doi.org/10.1016/j.frl.2022.102880

Kim, B., & Lee, S. (2020). The impact of material and immaterial sustainability on firm performance: The moderating role of franchising strategy. *Tourism Management*, *77*, 1–13. https://doi.org/10.1016/j.tourman.2019.103999

Kimbro, M. B., & Xu, D. (2016). Shareholders have a say in executive compensation: Evidence from say-on-pay in the United States. *Journal of Accounting and Public Policy*, *35*(1), 19–42. https://doi.org/10.1016/j.jaccpubpol.2015.08.003

Knudsen, C. (2005). Pluralism, scientific progress, and the structure of organization theory. In H. Tsoukas & C. Knudsen (Eds.), *The Oxford Handbook of Organization Theory* (pp. 262–286). Oxford University Press.

Knust, L., & Oesch, D. (2020, July). *On the consequences of mandatory CEO Pay ratio disclosure [Working paper].* https://ssrn.com/abstract=3540009

Kock, C. J., Santaló, J., & Diestre, L. (2012). Corporate governance and the environment: What type of governance creates greener companies? *Journal of Management Studies*, *49*(3), 492–514. https://doi.org/10.1111/j.1467-6486.2010.00993.x

Kolk, A., & Perego, P. (2014). Sustainable bonuses: Sign of corporate responsibility or window dressing? *Journal of Business Ethics*, *119*(1), 1–15. https://doi.org/10.1007/s10551-012-1614-x

Kose, A. M., Lakatos, C., Ohnsorge, F., & Stocker, M. (2017). *The global role of the U.S. economy: Linkages, policies, spillovers*. https://documents1.worldbank.org/curated/en/649771486479478785/pdf/WPS7962.pdf

Kotsantonis, S., & Bufalari, V. (2019). *Do sustainable banks outperform? Driving value creation through ESG practices*. KKS Advisors. http://www.gabv.org/wp-content/uploads/Do-sustainable-banksoutperform.pdf

KPMG. (2014). *The essentials of materiality assessment*. https://assets.kpmg.com/content/dam/kpmg/pdf/2014/10/materiality-assessment.pdf

Kuh, T., Shepley, A., Bala, G., & Flowers, M. (2020, January). *Dynamic materiality: Measuring what matters [Working paper].* https://ssrn.com/abstract=3521035

Lai, A., Melloni, G., & Stacchezzini, R. (2017). What does materiality mean to integrated reporting preparers? An empirical exploration. *Meditari Accountancy Research*, *25*(4), 533–552. https://doi.org/10.1108/MEDAR-02-2017-0113

Lamberton, G. (2005). Sustainable sufficiency - An internally consistent version of sustainability. *Sustainable Development*, *13*(1), 53–68. https://doi.org/10.1002/sd.245

Larcker, D. F., & Tayan, B. (2011). *Corporate governance matters: A closer look at organisational choices and their consequences*. Pearson.

Lazear, E. P., & Rosen, S. (1981). Rank-order tournaments as optimum labor contracts. *Journal of Political Economy*, *89*(5), 841–864. https://doi.org/10.3386/w0401

Li, Z., & Thibodeau, C. (2019). CSR-contingent executive compensation incentive and earnings management. *Sustainability*, *11*(12), 1-12. https://doi.org/10.3390/su11123421

Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *British Accounting Review*, *47*(4), 409–424. https://doi.org/10.1016/j.bar.2014.01.002

Lin-Hi, N., & Blumberg, I. (2011). The relationship between corporate governance, global governance, and sustainable profits: Lessons learned from BP. *Corporate Governance: The International Journal of Business in Society*, *11*(5), 571–584. https://doi.org/10.1108/14720701111176984

Liu, X. S. (2019). A probabilistic explanation of Pearson's correlation. *Teaching Statistics*, *41*(3), 115–117. https://doi.org/10.1111/test.12204

Liu, Y., Padgett, C., & Varotto, S. (2017). Corporate governance, bank mergers and executive compensation. *International Journal of Finance & Economics, 22*(1), 12-29. https://doi.org/10.1002/ijfe.1565

Loh, J. (2017). Could the pay ratio disclosure backfire? Examining the effects of the SEC's Pay Ratio disclosure rule. *Texas A&M Law Review*, *4*(3), 417–448. https://doi.org/10.37419/LR.V4.I3.5

Lozano, R. (2008). Envisioning sustainability three-dimensionally. *Journal of Cleaner Production*, *16*(17), 1838–1846. https://doi.org/10.1016/j.jclepro.2008.02.008

Maas, K. (2018). Do corporate social performance targets in executive compensation contribute to corporate social performance? *Journal of Business Ethics*, *148*(3), 573–585. https://doi.org/10.1007/s10551-015-2975-8

Maas, K., & Rosendaal, S. (2016). Sustainability targets in executive remuneration: Targets, time frame, country and sector specification. *Business Strategy and the Environment*, *25*(6), 390–401. https://doi.org/10.1002/bse.1880

MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research*, *30*(1), 41–62. https://doi.org/10.1207/s15327906mbr3001_3

MacMillan, D., & Ingram, J. (2021, December 15). Elizabeth Warren asks SEC to investigate compensation at fossil fuel giants. *The Washington Post*. https://www.washingtonpost.com/business/2021/12/15/elizabeth-warren-sec/

Madison, N., & Schiehll, E. (2021). The effect of financial materiality on ESG performance assessment. *Sustainability*, *13*(7), 1–21. https://doi.org/10.3390/su13073652

Maley, J. (2014). Sustainability: The missing element in performance management. *Asia-Pacific Journal of Business Administration*, *6*(3), 190–205. https://doi.org/10.1108/APJBA-03-2014-0040

Mallin, C. A. (2019). *Corporate Governance* (6th ed.). Oxford University Press.

Mallin, C. A., & Michelon, G. (2011). Board reputation attributes and corporate social performance: An empirical investigation of the US best corporate citizens. *Accounting and Business Research*, *41*(2), 119–144. https://doi.org/10.1080/00014788.2011.550740

Maniora, J. (2018). Mismanagement of sustainability: What business strategy makes the difference? Empirical evidence from the USA. *Journal of Business Ethics*, *152*(4), 931–947. https://doi.org/10.1007/s10551-018-3819-0

Martin, J. (1981). Relative deprivation: A theory of distributive injustice for an era of shrinking resources. In L. L. Cummings & B. M. Staw (Eds.), *Research in Organizational Behavior: An Annual Series of Analytical Essays and Critical Reviews* (Vol. 3, pp. 53–107). JAI Press.

Mason, C., & Simmons, J. (2014). Embedding corporate social responsibility in corporate governance: A stakeholder systems approach. *Journal of Business Ethics*, *119*(1), 77–86. https://doi.org/10.1007/s10551-012-1615-9

McCahery, J. A., Sautner, Z., & Starks, L. T. (2016). Behind the scenes: The corporate governance preferences of institutional investors. *Journal of Finance*, *71*(6), 2905–2932. https://doi.org/10.1111/jofi.12393

McGuire, J., Dow, S., & Argheyd, K. (2003). CEO incentives and corporate social performance. *Journal of Business Ethics*, *45*(4), 341–359. https://doi.org/10.1023/a:1024119604363

McWilliams, A., & Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, *26*(1), 117–127. https://doi.org/10.2307/259398

Meadows, D. H., Meadows, D. L., & Randers, J. (1992). *Beyond the limits: Global collapse or sustainable future*. Earthscan.

Meadows, D. H., Meadows, D. L., Randers, J., & Behrens, W. W. (1972). *The limits to growth: A report for the Club of Rome's project on the predicament of mankind*. Universe Books.

Mehmetoglu, M. (2018). medsem: A Stata package for statistical mediation analysis. *International Journal of Computational Economics and Econometrics*, *8*(1), 63–78. https://doi.org/10.1504/IJCEE.2018.10007883

Messier, W. F., Martinov-Bennie, N., & Eilifsen, A. (2005). A review and integration of empirical research on materiality: Two decades later. *Auditing: A Journal of Practice and Theory*, *24*(2), 153–187. https://doi.org/10.2308/aud.2005.24.2.153

Michelon, G., & Parbonetti, A. (2012). The effect of corporate governance on sustainability disclosure. *Journal of Management and Governance*, *16*(3), 477–509. https://doi.org/10.1007/s10997-010-9160-3

Miller Perkins, K., & Serafeim, G. (2015). Chief sustainability officers: Who are they and what do they do? In R. Henderson, R. Gulati, & M. Tushman (Eds.), *Leading Sustainable Change: An Organisational Perspective* (pp. 196-221). Oxford University Press.

Miller, J. S., Wiseman, R. M., & Gomez-Mejia, L. R. (2002). The fit between CEO compensation design and firm risk. *Academy of Management Journal*, *45*(4), 745–756. https://doi.org/10.5465/3069308

Mishel, L., & Wolfe, J. (2019). *CEO compensation has grown 940% since 1978.* Economic Policy Institute. https://files.epi.org/pdf/171191.pdf

Mishra, S., & Modi, S. B. (2013). Positive and negative corporate social responsibility, financial leverage, and idiosyncratic risk. *Journal of Business Ethics*, *117*(2), 431–448. https://doi.org/10.1007/s10551-012-1526-9

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review*, *22*(4), 853–886. https://doi.org/10.5465/AMR.1997.9711022105

Montiel, I. (2008). Corporate social responsibility and corporate sustainability: Separate pasts, common futures. *Organization and Environment*, *21*(3), 245–269. https://doi.org/10.1177/1086026608321329

MSCI. (2023). *Who will regulate ESG?* Retrieved October 23, 2023, from https://www.msci.com/who-will-regulate-esg

Murphy, K. J. (1999). Executive compensation. In O. C. Ashenfelter & D. E. Card (Eds.), *Handbook of Labor Economics* (Vol. 3, Issue Part B, pp. 2485–2563). Elsevier.

Murphy, K. J. (2013). Executive compensation: Where we are, and how we got there. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), *Handbook of the Economics of Finance* (Vol. 2 Part A, pp. 211–356). Elsevier.

Murphy, K. J., & Jensen, M. C. (2018). The politics of pay: The unintended consequences of regulating executive compensation. *Journal of Law, Finance, and Accounting*, *3*(2), 189–242. https://doi.org/10.1561/108.00000030

Murphy, K. J., & Sandino, T. (2020). Compensation consultants and the level, composition, and complexity of CEO pay. *Accounting Review*, *95*(1), 311–341. https://doi.org/10.2308/accr-52439

Neu, D. (1992). The social construction of positive choices. *Accounting, Organizations and Society*, *17*(3–4), 223–237. https://doi.org/10.1016/0361-3682(92)90022-K

Nigam, N., Benetti, C., & Mbarek, S. (2018). Can linking executive compensation to sustainability performance lead to a sustainable business model? Evidence of implementation from enterprises around the world. *Strategic Change*, *27*(6), 571–585. https://doi.org/10.1002/jsc.2240

Nobes, C. (2015). Accounting for capital: The evolution of an idea. *Accounting and Business Research*, *45*(4), 413–441. https://doi.org/10.1080/00014788.2015.1033130

NYU. (2019). *Sustainability materiality matrices explained*. https://www.stern.nyu.edu/sites/default/files/assets/documents/NYUSternCSBSustainabilityMateriality_2019_0.pdf

O'Connell, V., & O'Sullivan, D. (2014). The influence of lead indicator strength on the use of nonfinancial measures in performance management: Evidence from CEO compensation schemes. *Strategic Management Journal*, *35*(6), 826–844. https://doi.org/10.1002/smj.2124

O'Reilly, C. A., Main, B. G., & Crystal, G. S. (1988). CEO compensation as tournament and social comparison: A tale of two theories. *Administrative Science Quarterly*, *33*(2), 257–274. https://doi.org/10.2307/2393058

Obermann, J., & Velte, P. (2018). Determinants and consequences of executive compensation-related shareholder activism and say-on-pay votes: A literature review and research agenda. *Journal of Accounting Literature*, *40*, 116–151. https://doi.org/10.1016/j.acclit.2018.02.001

Orazalin, N. (2020). Do board sustainability committees contribute to corporate environmental and social performance? The mediating role of corporate social responsibility strategy. *Business Strategy and the Environment*, *29*(1), 140–153. https://doi.org/10.1002/bse.2354

Ortiz-De-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organisational resilience through sustainable business practices. *Strategic Management Journal*, *37*(8), 1615–1631. https://doi.org/10.1002/smj.2410

Ott, K. (2003). The case for strong sustainability. In K. Ott & P. P. Thapa (Eds.), *Greifswald's environmental ethics* (Vol. 14, pp. 59–64). Steinbecker Verlag Ulrich Rose.

Otten, J. A. (2007, December). *Theories on executive pay: A literature overview and critical assessment [Working paper].* https://ssrn.com/abstract=1088272

Paine, L. S., & Srinivasan, S. (2019, October 14). A guide to the big ideas and debates in corporate governance. *Harvard Business Review*. https://hbr.org/2019/10/a-guide-to-the-big-ideas-and-debates-in-corporate-governance

Palazzo, G., & Scherer, A. G. (2006). Corporate legitimacy as deliberation: A communicative framework. *Journal of Business Ethics*, *66*(1), 71–88. https://doi.org/10.1007/s10551-006-9044-2

Pan, Y., Pikulina, E. S., Siegel, S., & Wang, T. Y. (2022). Do equity markets care about income inequality? Evidence from Pay ratio disclosure. *Journal of Finance*, *77*(2), 1371–1411. https://doi.org/10.1111/jofi.13113

Park, A., & Ravenel, C. (2013). Integrating sustainability into capital markets: Bloomberg LP and ESG's quantitative legitimacy. *Journal of Applied Corporate Finance*, *25*(3), 62-67. https://doi.org/10.1111/jacf.12030

Peters, G. F., & Romi, A. M. (2015). The association between sustainability governance characteristics and the assurance of corporate sustainability reports. *Auditing: A Journal of Practice and Theory*, *34*(1), 163–198. https://doi.org/10.1080/0969160X.2016.1273453

Pfeffer, J., & Langton, N. (1993). The effects of wage dispersion on satisfaction, productivity, and working collaboratively: Evidence from college and university faculty. *Administrative Science Quarterly*, *38*(3), 382–407. https://doi.org/10.2307/2393373

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.

Porter, M. E., Serafeim, G., & Kramer, M. (2019, October 16). Where ESG Fails. *Institutional Investor*.https://www.institutionalinvestor.com/article/2bswdin8nvg922puxdzwg/opinion/where-esg-fails

Preacher, K. J., & Leonardelli, G. J. (2001). *Calculation for the Sobel test: An interactive calculation tool for mediation tests*. https://quantpsy.org/sobel/sobel

PRI. (2016). *Integrating ESG issues into executive pay*. https://www.unpri.org/download?ac=1798#:~:text=The%20inclusion%20of%20ESG%20metrics,metric%20in%20determining%20executive%20pay

Przychodzen, W., & Gómez-Bezares, F. (2021). CEO–employee pay gap, productivity and value creation. *Journal of Risk and Financial Management*, *14*(5), 1–17. https://doi.org/10.3390/jrfm14050196

Puroila, J., & Mäkelä, H. (2019). Matter of opinion: Exploring the socio-political nature of materiality disclosures in sustainability reporting. *Accounting, Auditing and Accountability Journal*, *32*(4), 1043–1072. https://doi.org/10.1108/AAAJ-11-2016-2788

Qin, B., & Yang, L. (2022). CSR contracting and performance-induced CEO turnover. *Journal of Corporate Finance*, *73*, 1–24. https://doi.org/10.1016/j.jcorpfin.2022.102173

Radu, C., & Smaili, N. (2022). Alignment versus monitoring: An examination of the effect of the CSR committee and CSR-linked executive compensation on CSR performance. *Journal of Business Ethics, 180*(1), 145-163. https://doi.org/10.1007/s10551-021-04904-2

Rambaud, A., & Richard, J. (2015). The "triple depreciation line" instead of the "triple bottom line": Towards a genuine integrated reporting. *Critical Perspectives on Accounting*, *33*, 92–116. https://doi.org/10.1016/j.cpa.2015.01.012

Rasche, A., Morsing, M., & Moon, J. (2017). *Corporate Social Responsibility: Strategy, Communication, Governance*. Cambridge University Press.

Redclift, M. (2005). Sustainable development (1987-2005): An oxymoron comes of age. *Sustainable Development*, *13*(4), 212–227. https://doi.org/10.1002/sd.281

Rediker, K. J., & Seth, A. (1995). Boards of directors and substitution effects of alternative governance mechanisms. *Strategic Management Journal*, *16*(2), 85–99. https://doi.org/10.1002/smj.4250160202

Refinitiv. (2022). *Environmental, social and governance score from Refinitiv*. https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

Ribando, J. M., & Bonne, G. (2010). *A new quality factor: Finding alpha with Asset4 ESG data*. Thomson Reuters. https://www.thomsonreuters.com/content/dam/openweb/documents/pdf/tr-com-financial/report/starmine-quant-research-note-on-asset4-data.pdf

Rinaldi, L. (2019). Accounting for sustainability governance: The enabling role of social and environmental accountability research. *Social and Environmental Accountability Journal*, *39*(1), 1–22. https://doi.org/10.1080/0969160X.2019.1578675

Ringe, W. G., & Gözlügöl, A. A. (2022). A critique of EU policymaking on sustainable corporate governance and finance. *RED*, *4*(1), 127–134. https://www.cairn-int.info/load_pdf.php?ID_ARTICLE=E_RED_004_0148&download=1

Roberts, D. R. (1956). A general theory of executive compensation based on statistically tested propositions. *The Quarterly Journal of Economics*, *70*(2), 270–294. https://doi.org/10.2307/1884268

Rodrigue, M., Magnan, M., & Cho, C. H. (2013). Is environmental governance substantive or symbolic? An empirical investigation. *Journal of Business Ethics*, *114*(1), 107–129. https://doi.org/10.1007/s10551-012-1331-5

Roe, M. J. (2006). *Political determinants of corporate governance: Political context, corporate impact*. Oxford University Press.

Roe, M. J. (2022, August). *What is stock market short-termism?* (European Corporate Governance Institute - Law Working Paper No. 658/2022). https://www.ecgi.global/sites/default/files/working_papers/documents/roefinal.pdf

Roe, M. J., & Vatiero, M. (2018). Corporate Governance and Its Political Economy. In J. N. Gordon & W.- G. Ringe (Eds.), *The Oxford Handbook of Corporate Law and Governance* (pp. 56-85). Oxford University Press.

Roe, M. J., Spamann, H., Fried, J. M., & Wang, C. C. Y. (2021, April). *The European commission's sustainable corporate governance report: A critique.* (European Corporate Governance Institute - Law Working Paper No. 553/2020). https://www.ecgi.global/sites/default/files/working_papers/documents/roespamannfriedwangfinal_0.pdf

Roodman, D. (2009). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, *71*(1), 135–158. https://doi.org/10.1111/j.1468-0084.2008.00542.x

Rosenbaum, E. (2021, January 16). Apple's new executive bonus formula is designed for the fast-changing world we live in. *CNBC*. https://www.cnbc.com/2021/01/16/apple-ceo-tim-cook-cash-bonus-not-tied-to-sales-profits.html

Roth, W. D., & Mehta, J. D. (2002). The Rashomon effect: Combining positivist and interpretivist approaches in the analysis of contested events. *Sociological Methods & Research*, *31*(2), 131–173. https://doi.org/10.1177/004912402237292

Rouen, E. (2020). Rethinking measurement of pay disparity and its relation to firm performance. *Accounting Review*, *95*(1), 343–378. https://doi.org/10.2308/accr-52440

Ryan, H. E., & Wiggins, R. A. (2001). The influence of firm-and manager-specific characteristics on the structure of executive compensation. *Journal of Corporate Finance*, *7*(2), 101–123. https://doi.org/10.1016/S0929-1199(00)00021-3

Sarhan, A. A., Ntim, C. G., & Al-Najjar, B. (2019). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance & Economics*, *24*(2), 761-786. https://doi.org/10.1002/ijfe.1690

SASB. (2021). *Fundamentals of sustainability accounting (FSA) credential: Level 1 study guide*. https://sasb.org/fsa/

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Schaltegger, S., Beckmann, M., & Hansen, E. G. (2013). Transdisciplinarity in corporate sustainability: Mapping the field. *Business Strategy and the Environment*, *22*(4), 219–229. https://doi.org/10.1002/bse.1772

Scherer, A. G., & Palazzo, G. (2011). The new political role of business in a globalized world: A review of a new perspective on CSR and its implications for the firm, governance, and democracy. *Journal of Management Studies*, *48*(4), 899–931. https://doi.org/10.1111/j.1467-6486.2010.00950.x

Schiehll, E., & Bellavance, F. (2009). Boards of directors, CEO ownership, and the use of non-financial performance measures in the CEO bonus plan. *Corporate Governance: An International Review*, *17*(1), 90–106. https://doi.org/10.1111/j.1467-8683.2008.00723.x

Schiehll, E., & Kolahgar, S. (2021). Financial materiality in the informativeness of sustainability reporting. *Business Strategy and the Environment*, *30*(2), 840–855. https://doi.org/10.1002/bse.2657

Schoen, E. J. (2017). The 2007–2009 financial crisis: An erosion of ethics: A case study. *Journal of Business Ethics*, *146*(4), 805–830. https://doi.org/10.1007/s10551-016-3052-7

Seal, W., Rohde, C., Garrison, R., & Noreen, E. (2018). *Management Accounting* (6th ed.). McGraw-Hill Education.

SEC. (2015). *Pay ratio disclosure*. https://www.sec.gov/files/rules/final/2015/33-9877.pdf

SEC. (2022, October 31). *Edgar - Search and access*. Retrieved October 23, 2023, from https://www.sec.gov/edgar/search-and-access

Shakespeare, W. (2000). *The merchant of Venice*. Wordsworth Editions.

Shaukat, A., Qiu, Y., & Trojanowski, G. (2016). Board attributes, corporate social responsibility strategy, and corporate environmental and social performance. *Journal of Business Ethics*, *135*(3), 569–585. https://doi.org/10.1007/s10551-014-2460-9

Shaw, J. D., Gupta, N., & Delery, J. E. (2002). Pay dispersion and workforce performance: Moderating effects of incentives and interdependence. *Strategic Management Journal*, *23*(6), 491–512. https://doi.org/10.1002/smj.235

Shaw, K. W., & Zhang, M. H. (2010). Is CEO cash compensation punished for poor firm performance? *Accounting Review*, *85*(3), 1065–1093. https://doi.org/10.2308/accr.2010.85.3.1065

Shin, J. Y., Kang, S. - C., Hyun, J. - H., & Kim, B. - J. (2015). Determinants and performance effects of executive pay multiples: Evidence from Korea. *Industrial and Labour Relations Review*, *68*(1), 53–78. https://doi.org/10.1177/0019793914556242

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737–783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Smith, A. (2022). *The wealth of nations*. Fall River Press.

Sobel, M. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, *13*, 290–312. https://doi.org/10.2307/270723

Solomon, J. (2020). *Corporate governance and accountability* (5th ed.). Wiley Publications.

Song, K. K., & Whang, E. (2020). Pay inequality and job satisfaction of law firms: the role of strategic positioning. *Journal of Accounting and Organizational Change*, *16*(2), 189–213. https://doi.org/10.1108/JAOC-07-2019-0080

Staiger, D., & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica*, *65*(3), 557–586. https://doi.org/10.2307/2171753

Stout, L. (2012). *The shareholder value myth: How putting shareholders first harms investors, corporations, and the public*. Berrett-Koehler Publishers.

Sundvik, D. (2019). The impact of principles-based vs rules-based accounting standards on reporting quality and earnings management. *Journal of Applied Accounting Research*, *20*(1), 78–93. https://doi.org/10.1108/JAAR-05-2018-0063

Supiot, A. (2017). *Governing by numbers: The making of a legal model of allegiance*. Hart Publishing.

Täger, M. (2021, April 21). *'Double materiality': what is it and why does it matter?* The London School of Economics and Political Science. Retrieved October 23, 2023, from https://www.lse.ac.uk/granthaminstitute/news/double-materiality-what-is-it-and-why-does-it-matter/

Trevor, C. O., Reilly, G., & Gerhart, B. (2012). Reconsidering pay dispersion's effect on the performance of interdependent work: Reconciling sorting and pay inequality. *Academy of Management Journal*, *55*(3), 585–610. https://doi.org/10.5465/amj.2006.0127

Tricker, R. (2019). *Corporate governance - principles, policies, and practices* (4th ed.). Oxford University Press.

Tsang, A., Wang, K. T., Liu, S., & Yu, L. (2021). Integrating corporate social responsibility criteria into executive compensation and firm innovation: International evidence. *Journal of Corporate Finance*, *70*, 1-27. https://doi.org/10.1016/j.jcorpfin.2021.102070

Uyar, A., Kuzey, C., Kilic, M., & Karaman, A. S. (2021). Board structure, financial performance, corporate social responsibility performance, CSR committee, and CEO duality: Disentangling the connection in healthcare. *Corporate Social Responsibility and Environmental Management*, *28*(6), 1730–1748. https://doi.org/10.1002/csr.2141

Valente, M. (2017). Corporate responsibility strategies for sustainability. In A. Rasche, M. Morsing, & J. Moon (Eds.), *Corporate Social Responsibility: Strategy, Communication, Governance* (pp. 86-109). Cambridge University Press.

Van Hoorn, V. (2021, November 17). The EU, the ISSB and the quest for better sustainability data: substance and materiality are more important than international alignment. *Responsible Investor*. https://www.responsible-investor.com/the-eu-the-issb-and-the-quest-for-better-sustainability-data-substance-and-materiality-are-more-important-than-international-alignment/

Vance, D. E. (2011). A meta-analysis of empirical materiality studies. *Journal of Applied Business Research*, *27*(5), 53–72. https://doi.org/10.19030/jabr.v27i5.5592

Velte, P., & 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), 333–377. https://doi.org/10.1007/s00187-020-00308-x

Wade, J. B., O'Reilly, C. A., & Pollock, T. G. (2006). Overpaid CEOs and underpaid managers: Fairness and executive compensation. *Organization Science*, *17*(5), 527–544. https://doi.org/10.1287/orsc.1060.0204

Walker, D. I. (2022). *The economic (in) significance of executive pay ESG incentives*. (Boston University School of Law Working Paper No. 2–2022). https://ssrn.com/abstract=4034877

Wang, T., Zhao, B., & Thornhill, S. (2015). Pay dispersion and organizational innovation: The mediation effects of employee participation and voluntary turnover. *Human Relations*, *68*(7), 1155–1181. https://doi.org/10.1177/0018726715575359

Wang, Y., Abbasi, K., Babajide, B., & Yekini, K. C. (2020). Corporate governance mechanisms and firm performance: Evidence from the emerging market following the revised CG code. *Corporate Governance: The International Journal of Business in Society, 20*(1), 158–174. https://doi.org/10.1108/CG-07-2018-0244

Warren, M. (2014). Accountability and democracy. In M. Bovens, R. Goodin, & T. Schillemans (Eds.), *The Oxford handbook of public accountability* (pp. 39–54). Oxford University Press.

Weisbach, M. S. (2007). Optimal executive compensation versus managerial power: A review of Lucian Bebchuk and Jesse Fried's pay without performance: The unfulfilled promise of executive compensation. *Journal of Economic Literature*, *45*(2), 419–428. https://doi.org/10.1257/jel.45.2.419

Whitehead, J. (2017). Prioritizing sustainability indicators: Using materiality analysis to guide sustainability assessment and strategy. *Business Strategy and the Environment*, *26*(3), 399–412. https://doi.org/10.1002/bse.1928

Wiersum, K. F. (1995). 200 years of sustainability in forestry: Lessons from history. *Environmental Management*, *19*(3), 321–329. https://doi.org/10.1007/BF02471975

Williamson, O. E. (1975). *Markets and hierarchies: Analysis and antitrust implications*. Free Press.

Williamson, O. E. (1984). The economics of governance: Framework and implications. *Zeitschrift Für Die Gesamte Staatswissenschaft / Journal of Institutional and Theoretical Economics*, *140*(1), 195–223. https://www.jstor.org/stable/40750687

Williamson, O. E. (2008). Transaction cost economics: The precursors. *Economic Affairs*, *28*(3), 7–14. https://doi.org/10.1111/j.1468-0270.2008.00838.x

Winschel, J., & Stawinoga, M. (2019). Determinants and effects of sustainable CEO compensation: a structured literature review of empirical evidence. *Management Review Quarterly*, *69*(3), 265–328. https://doi.org/10.1007/s11301-019-00154-9

Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics*, *105*(3), 581–606. https://doi.org/10.1016/j.jfineco.2012.03.005

Wooldridge, J. M. (2015). *Introductory econometrics: A modern approach* (6th ed.). Cengage Learning.

World Bank - IFC. (2021). *Sustainability committees: Structure and practices*. https://www.ifc.org/content/dam/ifc/doc/mgrt/focus-15-sustainability-committees.pdf

World Commission for Environment and Development. (1987). *Our common future*. Oxford University Press.

World Economic Forum. (2020). *Embracing the new age of materiality - Harnessing the pace of change in ESG*. https://www3.weforum.org/docs/WEF_Embracing_the_New_Age_of_Materiality_2020.pdf

Worthington-Smith, M., & Giamporcaro, S. (2021). ESG materiality insights from the South African investment industry. In I. Y. Gok (Ed.), *Handbook of research on global aspects of sustainable finance in times of crises*. IGI Global.

Wulfson, M. (2001). The ethics of corporate social responsibility and philanthropic ventures. *Journal of Business Ethics*, *29*(1/2), 135–145. https://doi.org/10.1023/A:1006459329221

Young, W., & Tilley, F. (2006). Can businesses move beyond efficiency? The shift effectiveness and equity in the corporate sustainability debate. *Business Strategy and the Environment*, *15*(6), 402–415. https://doi.org/10.1002/bse.510

Zattoni, A., & Pugliese, A. (2021). Corporate governance research in the wake of a systemic crisis: Lessons and opportunities from the COVID-19 pandemic. *Journal of Management Studies*, *58*(5), 1405–1410. https://doi.org/10.1111/joms.12693