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The Relationship between Executive Compensation, Sustainability, and Performance: A Systematic Review

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Abstract

The paper addresses the crucial intersections between executive compensation, sustainability (represented by ESG factors), and financial performance. This area is gaining significant importance in corporate governance and strategic management. It also aims to fill identified research gaps, such as the need for literature testing these relationships in the banking sector and within the broader European context. This study is based on a systematic review of 149 articles published between 2000 and early 2022. From a theoretical perspective, agency and stakeholder theories are the most applicable theories for the relationship between compensation and sustainability and sustainability and performance. On the other hand, both agency and tournament theories are considered the most related to the relationship between compensation and performance. In addition, most of the literature shows a positive impact of compensation on both sustainability and performance. On the other hand, the literature revealed mixed results on the impact of sustainability on performance, depending on the factors and indicators used to represent the mentioned perspectives. Most of the literature used regression or correlation as the analysis tool. Furthermore, the literature revealed a gap in testing any of the relationships in the banking sector. Besides, more research is needed to study the relationships in the European context, as most of the studies are done in the USA, Asia, and individual European countries such as the UK. These findings may contribute to changing the compensation setup in the banking sector and have important implications for bank practitioners, decision-makers, regulators, auditors, professional firms, and policymakers.

Keywords

Executive Compensation, Sustainability, ESG Score, Performance,

Banking Sector

1. Introduction

Successful firms tend to emphasize social and environmental goals rather than exclusively focusing on short-term objectives tied to short-term financial indicators. By connecting executive compensation with sustainability performance, businesses demonstrate that sustainability brings value to the organization (Nigam et al., 2018). In contrast to financial performance indicators, which indicate a company's prioritization of the past, sustainability performance indicators reveal a company's commitments to the future. In addition, holding top executives accountable for sustainability performance indicates how serious firms are about becoming responsible corporate citizens (Brochet et al., 2012).

The traditional view of companies is that when their executives get the right rewards, they usually outperform their peers (Zuo et al., 2009). However, executives' short-term compensation was partially responsible for the global economic crisis resulting from the USA's collapse in market capitalization (Bebchuk & Spamann, 2010; Fahlenbrach & Stulz, 2011). Literature suggests that executive compensation practices have encouraged extreme risk-taking by banks and were one of the global 2007-2009 financial crisis factors by prioritizing short-term profits over long-term sustainability (Bennett et al., 2015).

On the contrary, not all companies have linked compensation with sustainability (Tonello, 2010). In 2011, Glass Lewis examined public companies from different countries such as France, Australia, Germany, the United Kingdom, and the USA and found that only 29% of companies linked compensation and sustainability (Nigam et al., 2018). This principle focuses on strengthening the relationship between the firm's performance and incentive pay (Banker et al., 2000; Belcredi & Ferrarini, 2013; Flammer & Bansal, 2016).

In addition, due to global crises and scandals and the need to compete effectively in the market, companies are shifting their focus to maximize their stakeholders' value and not only internal shareholders' wealth (Nigam et al., 2018). In addition, various non-financial indicators that address environmental, social, and governance sustainability factors have been established in recent decades (Docekalova & Kocmanova, 2016). Executive compensation packages or plans vary from cash compensation to stock options, depending on the company. The overall goal behind these plans was always to maximize the shareholders' value. Today, due to economic and financial scandals, the goals include other indicators and stakeholders, such as good corporate governance and retaining and attracting talented and key staff (Nguyen, 2015).

According to neoclassical economics (Berle & Means, 1932), a corporation's primary objective is to maximize shareholder wealth. Because of this emphasis on finances, corporations usually link top executives' compensation packages to financial performance. These incentive policies encourage chief executives to take risks. When the risks materialize, however, organizations are left without the means to absorb the failure. Consequently, these policies have been harshly criticized and are believed to have contributed to the 2007-2009 financial crisis (Lorsch & Khurana, 2010).

Kolk and Perego (2014) confirmed that the traditional economic measures related to executive compensation encouraged excessive risk-taking and irresponsible behavior and thus reflected government failure. Consequently, the EU High-Level Expert Group on Sustainable Finance (2018) has stressed the importance of including sustainability measures in designing remuneration contracts to direct managers' behavior towards long-term and social goals. Such metrics include customer satisfaction, corporate social responsibility, employee well-being, stakeholder engagement, and environmental performance (FSB, 2017). Among the companies that have addressed sustainability issues is Intel Company in 2008. Consequently, the company's gas emissions declined by 35% in 2012 while operations continued to grow (Nigam et al., 2018).

This paper aims to contribute to knowledge by investigating the direct relationships between the three perspectives: total executive compensation, sustainability, and performance. It will highlight any gaps in the related literature between 2000 and early 2022.

2. Definitions and Highlights

2.1. Executive Compensation

Executives are accountable for offering a balanced perspective on operational performance, financial assessments, and future strategies that may affect future success (Bassyouny & Abdelfattah, 2022). Despite the current economic downturn and financial crisis, executive compensation has grown dramatically, prompting public outcry and severe condemnation (Callan & Thomas, 2014). The purpose behind executive compensation is to incentivize executive and top-level management, "the decision-maker," to serve and perform within the shareholders' interest, strategically, and towards firm value creation (Nguyen, 2015).

As defined by Ntim et al. (2015), total executive compensation is the natural logarithm of yearly cash remuneration to bank executive directors scaled by the total number of directors who are executives in a fiscal year. In general, compensation includes a guaranteed package and short-term and long-term incentives. A salary, medical benefits, other allowances, and business pension fund contributions are frequently included in guaranteed packages (Van Wyk & Wesson, 2021).

On the other hand, executive management is crucial to the effective utilization of organizational resources in order to maximize shareholder value (Bussin, 2015), and their compensation is essential for investors to make investment decisions based on the production of sustained market returns (Correa & Lel, 2016). Executive remuneration is the sum of all monetary rewards and bonuses granted to executives in exchange for their contributions to the organization's performance (Theku, 2014). Regardless of the sector, structure, or company size, executive compensation incentivizes upper-level management to make choices and perform according to shareholder interests and as a means of retaining executives (Chaudhri, 2003).

Furthermore, executive remuneration in financial services organizations was ignored before the 2007-2009 financial crisis, and most empirical research on executive compensation routinely omitted financial services firms from their samples. Following the financial crisis, executive remuneration, particularly in the financial services industry, has resurfaced as a source of heated discussion among regulators, market players, the media, and academics (Tian & Yang, 2014).

2.2. Sustainability (ESG Scores)

The concept of sustainability encompasses the organization's entire value chain (Docekalova & Kocmanova, 2016). "sustainability" refers to ensuring long-term company success while contributing to social and economic growth, a clean environment, and a cohesive society (UNEP FI, 2020). Sustainability evolves all elements of the corporate environment, as well as social and governance challenges, to provide long-term shareholder value (Adams et al., 2013). From the firm's perspective, sustainability can be defined as addressing the requirements of a company's direct and indirect stakeholders without jeopardizing its capacity to accomplish its core business objectives (Dyllick & Hockerts, 2002). Thus, sustainability initiatives will enable the development of more effective internal control systems, and cost-cutting, leading to better decision-making (Adams, 2002).

Environmental, social, and governance (ESG) performance has drawn the attention of regulatory bodies and academics (Gallego, 2006; Ng & Nathwani, 2012; Kolsi et al., 2022). The ESG score is meant to assess ESG performance, effectiveness, and commitment, clearly and objectively across various categories based on publicly disclosed data. It combines environmental and social efforts with corporate governance metrics (Gerard, 2019; Shakil et al., 2019). The ESG score is among the most widely used sustainability indicators (Ahlklo & Lind, 2019).

Sustainability, ESG, and CSR have been increasingly used interchangeably (Nguyen, 2015). According to the reviewed literature, sustainability is represented as either sustainability or environmental, social, and governance (ESG) score and pillars.

2.2.1. Environmental Pillar

The environmental element involves how a business handles waste, carbon emissions, climate change, and pollution (Ahlklo & Lind, 2019). Environmental performance assesses a company's ability to decrease greenhouse gas emissions, use natural resources effectively in manufacturing processes, and fund research and development of environmentally friendly goods and services (Birindelli et al., 2018). An environmentally friendly business can experience numerous benefits, including enhanced corporate sustainability, strengthened partnerships with external stakeholders, and an enhanced public image (Hart, 1995; Bansal, 2005). In addition to distinguishing a business from its competition, promoting environmental practices can boost productivity and inspire innovation (Iraldo et al., 2009; Kook & Kang, 2011).

2.2.2. Social Pillar

The social aspect consists of how a business treats its employees and the community. Employee relations, working environment, local community, diversity conflict management, and health and safety are paramount (Ahlklo & Lind, 2019).

McKenzie (2004) defined social sustainability as the outcomes of an organization's socially sustainable strategies and policies. This social aspect of corporate sustainability describes how businesses can contribute to the social health of their societies by engaging with their stakeholders and addressing their particular needs, thereby ensuring their long-term viability and fostering exceptional customer and employee loyalty (Knoepel, 2001).

Furthermore, social performance assesses a company's ability to inspire employee confidence and loyalty, defend fundamental human rights conventions, protect public health, and produce products with additional value (Birindelli et al., 2018).

2.2.3. Governance Pillar

Governance addresses how a corporation is managed. Policies, corruption, donations, bribery, and lobbying are included (Ahlklo & Lind, 2019).

With the globalization of economies and the rise of major corporations, corporate governance disclosure has become a critical problem for managers and stakeholders. Governance transparency reacts to the current institutional context and impacts stakeholder decision-making (Singh & Gaur, 2013).

Furthermore, corporate governance measures a company's ability to function in the shareholders' best interests through its management structures and practices (Birindelli et al., 2018).

Although most research looks at the total ESG score rather than the individual ESG pillars, indicating that investors evaluate the three ESG pillars differently (Halbritter & Dorfleitner, 2015), a study of the particular impact of the environmental, social, and governance pillars on firm performance is required, given that the effects of each ESG pillar vary depending on the industry's sensitivity (Baldini et al., 2018). Researchers should undertake ESG and performance studies for industries rather than combining data from several sectors, as in previous studies (Godfrey & Hatch, 2007).

3. Performance

Scholars often have three alternatives for assessing business performance: accounting-based measurements, market-based indicators, or a combination of both. Several academics favor accounting-based performance measurements such as a firm's return on assets (ROA) and return on equity (ROE) (Chen et al., 2021). Others have used market-based metrics such as Tobin's Q (Wagner, 2010).

4. Related Theories behind the Relationships between the Three Perspectives

The literature has applied several theories to explain the relationship between the three perspectives. Some of these theories overlap, contradict, or complement each other.

4.1. The Impact of Compensation on Sustainability

No unified theory exists on the relationship between compensation and sustainability (Cai et al., 2011).

Agency Theory

The challenge of rewarding executives is a classic application of principal-agent theory. This theory's core assumption is to resolve the conflict of interest between shareholders and managers because of their self-interest maximization (Jensen & Meckling, 1979; Salehyan et al., 2014). The principal (the shareholder) wants the agent (the management) to maximize shareholder value, but he or she cannot appropriately assess the executive's response function. The executives' objectives may differ from those of the shareholders. For instance, managers may be more interested in defending personal power or maximizing their wealth (Bebchuk & Fried, 2004).

Abdelmotaal and Abdel-Kader (2015) concluded that the link between managers' compensation and sustainability practices might motivate executives to invest heavily in sustainability initiatives to receive extrinsic incentives. These activities can harm the shareholder's wealth maximization in the short term. Consequently, the optimal answer to this puzzle would be to connect the appetites of executive directors with those of shareholders through different types and levels of compensation.

Stewardship Theory

In contrast to agency theory, stewardship theory views managers as self-motivated and non-opportunistic. It is predicated on the notion that CEOs are motivated to act morally even when it is not in their best interests (Davis et al., 1997). CEOs profit from doing so on a fundamental level, independent of economic considerations (Berrone & Gomez-Mejia, 2009). According to Etzioni (1986), the CEOs' actions are motivated by a sense of moral obligation. Such

CEOs have a natural drive to steer the company toward objectives that are not in their best interests. These CEOs prioritize moral obligations over financial rewards to the extent that they serve as stewards of the environment, which lessens their interest in monetary rewards.

Adopting contractual mechanisms to offer CEO incentives to serve stakeholders' interests presupposes that CEOs behave rationally and self-interestedly. However, individuals may have reasons for pursuing other goals that promote non-self-interested plans to obtain other emotional or social benefits (Sen, 1987). Thus, CEOs increase their self-image by following organizational goals and attributing corporate successes to themselves (Davis et al., 1997). Consequently, the commitment of CEOs to their shareholders and their accountability to other stakeholders can be explained by stewardship theory, such as the natural environment (Driscoll & Starik, 2004).

Stakeholder Theory

On the other hand, there is the stakeholder theory. According to Freeman (1984), stakeholders are any group or person that can influence or be affected by fulfilling the firm's objectives. This theory asserts that organizations could maximize the shareholder's value by considering all stakeholder rights and interests (Mele, 2008). An organization should consider the interests of its multiple stakeholders and its shareholders to be recognized as a socially responsible business (Freeman et al., 2004).

Abdelmotaal and Abdel-Kader (2015) concluded that sustainability practices support conflict resolution under stakeholder theory. Consequently, executives will only invest in sustainability activities to gain personal benefits.

Institutional Theory

Institutional theory examines how organizations interact with various formal and informal laws, from stringent controls to looser formal restrictions (DiMaggio & Powell, 1983).

Because establishing solid relationships with stakeholders and society takes time, such an improvement is more likely to occur in the long run (Donaldson & Preston, 1995). Consequently, tying CEO compensation to future financial performance may incentivize initiatives that strengthen relationships with stakeholders and the community (Donaldson & Preston, 1995).

4.2. The Impact of Sustainability on Performance

Agency Theory

Agency theory focuses solely on maximizing shareholders' wealth in the short term but has received global criticism (Hahn et al., 2010; Lenssen et al., 2010). This has prompted businesses to reconsider their strategy to accommodate the emergence of stakeholder theory (Friedman & Miles, 2002; Phillips, 2003).

Stakeholder Theory

Stakeholder theory indicates the link between sustainability and performance (Siueia et al., 2019). According to stakeholder theory, managers must have a positive connection with stakeholders to be successful (Tarmuji et al., 2016). Stakeholder theory asserts that organizations could maximize the shareholder's value by considering all stakeholder rights and interests (Mele, 2008). Organizations implementing sustainability practices have a competitive edge in the marketplace by attracting more investors and lowering operational expenses (Manrique & Marti-Ballester, 2017).

In addition, beyond creating profits for its shareholders, a company's obligation encompasses the interests and aspirations of all its stakeholders. All those involved in the value creation process, whether inside or outside the company, in addition to those directly or indirectly affected by a company's operations, such as society and the environment, must be fairly rewarded by the company (Nigam et al., 2018).

Institutional

Following institutional theory, meeting social expectations means achieving corporate legitimacy (Scott, 2004). Corporate legitimacy provides several economic and non-economic benefits, such as a reduced chance of incurring costly penalties and legal and social punishments, increased resource access, and an enhanced capacity to attract and keep superior personnel, suppliers, and consumers. Consequently, this may boost the company's long-term financial performance (Berrone & Gomez-Mejia, 2009).

Legitimacy Theory

The legitimacy theory proposes that organizations continually strive to function within the boundaries and standards of their societies (Deegan, 2000). It is predicated on the idea that a business operates in a community through social contracts, in which the company commits to undertake specific socially desirable actions in exchange for approval of its objectives (Haron et al., 2007). The community expects firms to set aside a portion of their revenues for environmental concerns, employee welfare, consumer protection, and community needs (Tinker & Nelmark, 1987).

In addition, legitimacy theory stresses that the firm must consider the rights of the whole public. Failure to comply with expectations may result in society imposing punishments. According to this view, a firm would report its activities willingly if its management believed those activities were anticipated by the communities in which it operates (Deegan, 2000).

Signaling Theory

Signaling theory indicates that firms that report on environmental issues, for example, send a signal that they are following a proactive environmental strategy since they are incentivized to voluntarily disclose more information to shareholders and other stakeholders (Clarkson et al., 1996; Bakar et al., 2011). Therefore, these positive signals increase the companies' appeal to stock market investors, positively impacting performance (Loh et al., 2017).

Value-Creating vs Value-Destroying Theories

Two opposing theories attempt to define the influence of sustainability on corporations' financial performance: value-creating and value-destroying. Value-creation theory posits that adopting environmental and social responsibility reduces a company's risk. In contrast, the value-destroying theory predicts that firms involved in environmental and social responsibility will lose focus on profitability and prioritize pleasing stakeholders over shareholders (Yu & Zhao, 2015).

Slack Resource and Good Management Theories

Waddock and Graves (1997) discovered that sustainability positively relates to past performance and that slack resource theory supports this conclusion. This idea asserts that the availability of financial and other (slack) resources due to more excellent financial performance may lead firms to invest in social areas such as employee and community relations and the environment (Jensen, 1986).

Sustainability was also positively associated with future performance, with good management theory explaining this. This theory suggests that the strong relationship between sustainability and excellent management practice is attributable to management's greater focus on sustainability domains, which improves relationships with stakeholders and, consequently, performance (Freeman, 1984).

4.3. The Impact of Compensation on Performance

Generally, executive compensation and performance links are based on two opposing but interconnected theoretical perspectives: agency and tournament (Elsayed & Elbardan, 2018).

Agency Theory

Nigam et al. (2018) explained that the incentive-based approach discussed in agency theory encourages management to engage in irresponsible risk-taking, which can be financially advantageous in the short term but disastrous for a company in the long term. In addition, it can encourage fraudulent behavior of managers and leaders to manipulate financial performance data, as was the case with Enron. Variable compensation can be granted in the form of equity, giving a percentage of ownership to executive directors. This could boost the executive directors' consideration of long-term performance in their decision-making (Angeli & Gitay, 2015).

Tournament Theory

In contrast to agency theory, as cited by Elsayed and Elbardan (2018), tournament theory must find a clear link between remuneration and performance. It provides a basic framework to support the idea that rewarding executive directors fosters excellent performance at the company level (Conyon & Sadler, 2001). As a result, providing substantial rewards to individuals at the top of the corporate ladder fosters excellent performance at all levels (Conyon et al., 2001).

Although it may appear counterintuitive, the premise is that higher knowledge leads to superior rewards that inspire junior staff. As a result, they will put forth more effort to meet the entity's goals. Executive pay will be more intricately linked to company performance (Elsayed & Elbardan, 2018).

Optimal Contracting vs Managerial Power Theories

Another two opposing theories are managerial power and optimal contracting (Murphy, 1999; Bebchuk & Fried, 2004; Cheng & Firth, 2006; Essen et al., 2012).

Optimal contracting theory considers effective managerial contracts, which help minimize agency problems by aligning the interests of managers and shareholders (Lin et al., 2012; Tang, 2012). Thus, this view predicts a positive relationship between executive compensation and performance, knowing executives have less control over determining their pay (Kato, 1997; Dong et al., 2010).

On the other hand, managerial power theory states that executive compensation relies on the close interpersonal relationships between weak corporate brands and influential executives (CEOs), which creates inefficient managerial contracts and increases the agency problems for the different interests of managers and shareholders (Sapp, 2008; Bebchuk & Weisbach, 2010). Bebchuk and Fried (2004) reported that the absence of a high number of shareholders enables CEOs to exert power over the board of directors, so choosing their own compensation may be at the shareholders' expense. Therefore, executive compensation does not affect corporate performance as per this theory, as executives set their pay (Bebchuk & Fried, 2004; Essen et al., 2012).

A summary of the main articles with related applied theories can be found in Appendix I.

5. Methodology

Researchers can map the current research domain and suggest a course for future study with the help of a systematic review of the literature (Tranfield, Denyer, & Smart, 2003). Mapping and assessing prior research in response to a research agenda is done through systematic review, which depends on repeatable procedures

To achieve the targets of this paper, the author followed four steps. First, identify the search scope. The scope was to cover the most relevant English language publications, focusing on peer-reviewed articles, for the three direct relationships between the three perspectives. Second, setting the search criteria. The literature search was based on certain criteria, including the keywords in the title such as: "the relationship between, the link, the impact of, the effect of, the association, 'executive' compensation, sustainability, ESG score, performance, and bank's performance." Third, setting the search period. In order to have a more reliable review and results. Fourth, the time frame was extended between the year 2000 and early 2022.

In addition, the publications were mainly collected from several academic platforms officially provided by Northampton University and Google Scholar.

The number of articles was lowered to 193 when conference papers, book chapters, and papers not published in English in business, management, and sustainability journals were disregarded. Forty-four papers were eliminated after the articles were personally edited to ensure they met the eligibility requirements for quality, article type, and topic relevance. Therefore, 149 papers were included for the content analysis in the review to address this topic.

The following sections illustrate the empirical studies or literature on the three direct relationships between executive compensation, sustainability, and performance.

6. The Relationship between Executive Compensation and Sustainability

While the emphasis on rewarding and incentivizing executives to achieve long-term sustainability goals is increasing (Nguyen, 2015; Al-Shaer & Zaman, 2019), less attention is paid to the impact of including sustainability in executive compensation (Hartikainen et al., 2021), and how this affects the firm and its value. Thus, there is still a gap regarding the effectiveness of incorporating such targets in the compensation plans (Nguyen, 2015).

There has recently been increased pressure on businesses to fulfill ESG goals and incorporate sustainability performance into CEO remuneration plans. Although linking CEO compensation to sustainable performance is not a new topic, it has gained traction in recent years as an indication of its commitment to integrating sustainability as a fundamental purpose. As a result, senior executives are held accountable for short-term goals linked to the company's financial success and long-term environmental and sustainability activities (Nigam et al., 2018). This is because tying compensation to ESG measures improves the long-term performance of companies. In addition, according to a 2013 survey by the UN and Accenture, more than 75% of executives believed that incorporating sustainability into core corporate operations would increase income and create new opportunities (Sullivan and Cromwell LLP, 2020).

On the other hand, scholars and practitioners have reservations about integrating incentives with sustainability, as there are adequate reasons not to integrate or link the two (Winschel & Stawinoga, 2019). Similarly, Maas and Rosendaal (2016) conducted a study to examine sustainability in executive remuneration on a sample from 11 global countries of 490 listed firms in different sectors. The study showed that 33% of the firms used sustainability in remuneration schemes.

Supporting that, the literature results on the relationship between executive compensation and sustainability are not confirmed; they are mixed between positive and negative, and there is no relationship (Al-Shaer & Zaman, 2019).

In addition, according to Winschel and Stawinoga (2019), by analyzing 37 empirical studies published between 1992 and 2018, they confirmed that most of the studies examine the relationship between compensation and sustainability in the USA, individual countries such as the UK, other international countries, but none in Europe. Furthermore, while all 37 studies used archival data, 35 used several quantitative research methods, such as different types of regression and correlation. However, only one used the Partial Least Square-Structural Equation Modeling (PLS-SEM) approach.

The following sub-sections illustrate the direct impact of executive compensation on sustainability from different perspectives as per the related literature.

6.1. A Direct Positive Impact of Executive Compensation on Sustainability

As illustrated by different authors, including sustainability measures in compensation plans has several benefits and positive results (Mahoney & Thorne, 2006; Callan & Thomas, 2014; Tsang et al., 2021). First, it allows management actions to focus on the long-term strategy, which will improve the firm's financial and non-financial performance (Ittner et al., 1997; Banker et al., 2000; Hassabelnaby et al., 2005; Velte, 2016; Flammer et al., 2019). Second, it will reduce the risk-taking by firms (Shin et al., 2020), neutralize the misconduct risk (FSB, 2017), and any unethical behavior such as manipulation of earnings (Hassabelnaby et al., 2010). Third, it helps strengthen the risk adjustment by measuring performance through a new lens (BCBS, 2011). In addition, the CEO of Novo Nordisk, who is among the best-performing CEOs worldwide, thinks that including CSR criteria in executive compensation is necessary as it enhances value creation in the long run and because social and environmental issues become financial issues in the long term (HBR, 2015).

Starting with studies done within different international countries and regions and in several industries using secondary data, Miniaoui et al. (2022), in their recent study based on 324 Anglo-Saxon and 310 European-listed corporations from 2006 to 2016, found that compensation is positively correlated to CSR disclosure, the higher CEO compensation, the better CSR disclosure. Shin et al. (2020) found in their recent study on 917 different companies between 2006 and 2018 a positive connection between compensation and non-financial measures by motivating managers to engage less in short-term oriented behaviors. The same results were found earlier by Ibrahim and Lloyd (2011) in their study on 357 global companies in 2004 data. In their empirical study, Nigam et al. (2018) included 16 companies or cases from four continents for the years 2014 and 2015. They concluded that incorporating sustainability goals in executive compensation would result in a more effective framework for long-term corporate health. They added that executives who fail to support such sustainability goals are unlikely to frame optimum corporate policies. Earlier, Jian and Lee (2015) found a positive connection between compensation and CSR in their study on 1,680 global companies between 1992 and 2011.

Other studies applied one single-country approach in different sectors using secondary data. Radu and Smaili (2021), using a sample of 164 Canadian enterprises from 2012-2018, found a positive impact of CSR-linked compensation on CSR performance. Abdelmotaal and Abdel-Kader (2015) researched a sample of 212 UK firms from the FTSE 350 between 2009 and 2011. Their study confirmed a positive relationship between sustainability incentives in executive compensation and environmental, social, and governance pillars. In addition, Tahir et al. (2019), in their study on 188 different companies in the UK between 2005 and 2014, found that incorporating non-financial long-term targets in executive contracts encourages executives to work towards the long-term benefit and success of the organization. In Germany, two studies were conducted. The first is by Velte (2016), who applied an empirical quantitative analysis to a sample of listed German companies on the Frankfurt Stock Exchange from 2010 to 2014. He concluded that sustainable compensation positively impacts ESG performance. Claassen and Ricci (2015) undertook the second study one year earlier. Their analysis of 126 DAX and MDAX companies between 2010 and 2012 revealed a positive connection between executive compensation and CSR.

Furthermore, many studies have been done in the USA. Derchi et al. (2021) found that CSR-linked compensation contracts for executives promote CSR performance in their empirical investigation of a sample of 746 publicly traded firms from 2002 to 2013. Veniero (2020), in his study on 472 companies between 2012 and 2018, found a positive correlation between compensation and ESG performance. Hong et al. (2015) predicted in their study, including 2,561 executive-level observations, that there is a direct connection between executive compensation contracts and CSR activity. They suggested that providing executives with direct CSR incentives effectively increases the firm social performance. Nguyen (2015) found the same results. Three companies were selected as cases to evaluate the relationship: Intel Corporation, Xcel Energy, and the Hershey Company. Intel and Xcel showed improved and positive results from CSR metrics in their compensation packages, but Hershey proved successful without utilizing CSR metrics. Thus, he concluded that companies' success in sustainability initiatives stems from the intrinsic benefits these activities offer to their image or worth rather than compensation.

From the European perspective, little literature was done in Europe, as cited earlier by Winschel and Stawinoga (2019), and most research was done in the Americas, the Netherlands, and other countries worldwide (Al-Shaer & Zaman, 2019). Using data from 13 industrialized firms and 4379 firm-year observations covering 2002 to 2016, Haque and Ntim (2020) found a positive impact of compensation on process-oriented carbon performance with a positive effect on market value. Baraibar-Diez et al. (2019), in their study on 205 companies between 2005 and 2015, found a positive impact of sustainable compensation policy on ESG performance.

Furthermore, banking studies addressing the connection between executive compensation and sustainability are rare, which presents a rich topic for additional research (Kartadjumena & Rodgers, 2019; Haque & Ntim, 2020). D'Apolito et al. (2019) studied 42 banks between 2013 and 2017 and found a positive association between compensation and ESG performance. Kartadjumena and Rodgers (2019) found a positive impact of compensation on the environmental pillar in their research on Indonesian listed commercial banks throughout 2007-2014 data.

6.2. A Direct Negative Impact of Executive Compensation on Sustainability

On the other hand, there are several reasons for the lack of sustainability in remuneration. Firms looking to embed ESG measures into their compensation policies should also be careful to avoid unintended consequences by executives pursuing specific ESG metrics regardless of how their cost to the business might lead to difficult-to-resolve disagreements between different stakeholder groups (Sullivan and Cromwell LLP, 2020).

Stanwick and Stanwick (2001), in their study of 186 firms in 1990 and 188 in 1991, found a negative relationship between compensation and environmental reputation. Comparable results were also concluded later by Francoeur et al. (2017) in their study on 520 global companies on 2009 data.

6.3. No or Weak Direct Impact of Executive Compensation on Sustainability

Furthermore, some studies found no or partial evidence on the link between compensation and sustainability. For example, McGuire, Dow, and Argheyd (2003) used the KLD (Kinder, Lydenberg, Domini Research and Analytics) rating and found no relationship between incentives and social performance.

In addition, Cordeiro and Sarkis (2008) discovered incomplete evidence of a correlation between CEO salary and environmental performance, suggesting that US corporations likely use this correlation as a management communication technique to maintain their relationships with stakeholders.

In conclusion, organizations should carefully weigh the benefits and dangers of adopting ESG benchmarks in pay plans to evaluate if implementing such standards would be advantageous. Firms should also ensure that they have the resources and skills required to effectively monitor and evaluate the performance of executives based on non-financial measures (Sullivan and Cromwell LLP, 2020).

Furthermore, from a theoretical background, according to stakeholder theory, a company's responsibility extends beyond maximizing profits for its shareholders to encompass the interests and expectations of its stakeholders (Freeman, 1984; Nigam et al., 2018). All those who participate in the value creation process, whether within the firm (managers, shareholders, employees) or outside the firm (customers, suppliers), as well as those who are directly or indirectly affected by a company's operations (society, local communities, the environment, and future generations), must be considered stakeholders and should be compensated appropriately by the company (Nigam et al., 2018).

On the other hand, the link between managers' compensation and sustainability practices could, according to agency theory, lead executives to overinvest in sustainability activities in order to receive extrinsic incentives. These practices can hurt the short-term pursuit of shareholder wealth maximization (Abdelmotaal & Abdel-Kader, 2015).

Appendix II summarises the main articles on the relationship between compensation and sustainability.

7. The Relationship between Sustainability and Performance

According to the literature, the relationship between sustainability and performance has the most significant portion or share. Broadly, and as Rajput et al. (2012) explained, the sustainability literature indicates three different thoughts. The first one supports sustainability and claims that it improves the corporate image and sales and positively impacts customer loyalty. The second opposes sustainability and shows that it reduces earnings and increases expenses. It leads to a lack of business concentration, which could be better utilized for the profitable operation of the organization. The third is neutral to sustainability and demonstrates that it is an exceptional charitable social act that does not affect profitability.

Alshehhi et al. (2018) revealed in their study on the relationship between sustainability and performance in 132 journal papers published between 2002 and 2017 that the USA, Spain, and China dominated that country-wise. No publication related to the banking industry, most studies used regression analysis, and only one study used the Partial Least Square (PLS) method. Similarly, in an earlier study based on 101 research papers published between 1992 and 2011 on the relationship between sustainability and firm performance by Goyal et al. (2013), only four articles were conducted in the banking sector (Moufty et al., 2021), and none was done on overall Europe. Besides, the existing literature on this topic primarily focuses on the USA context, pre-crisis time window, and non-financial firms (D'Apolito et al., 2019; Moufty et al., 2021). In addition, previous research examined the relationship between ESG and firm value by focusing on a specific pillar, such as the environment (Moufty et al., 2021) or social events (Li et al., 2018).

Earlier studies established no obvious and precise relationship between sustainability and performance. Results are inconsistent and even contradicting exhibiting positive, negative, insignificant, or mixed relationships (Surroca et al., 2010; Garay & Font, 2011; Shamil, 2012; Goyal et al., 2013; Madsen & Rodgers, 2015; Fatemi et al., 2015; Karim, Lee, & Suh, 2018; Brooks & Oikonomou, 2018; Shakil et al., 2019). Moreover, investigating the relationship between ESG performance and corporate performance is still inconclusive (Wang et al., 2016).

7.1. A Direct Positive Impact of Sustainability on Performance

This will start with studies conducted in different international countries or regions and various industries. Most of these studies considered accounting and market-based indicators for performance. Using a systematic review of 21 studies published between 2003 and 2019 in Australia and New Zealand, Huang's (2021) study showed that the relationship between ESG and performance is positive and statistically significant but economically modest. The impact of the environmental pillar is more substantial than the social or governance pillars. The impact of ESG on ROA is more substantial than on ROE, which is, in turn, stronger than Tobin's Q. Alshehhi et al. (2018) revealed in their study on the relationship between sustainability and performance in 132 journal papers published between 2002 and 2017 78% of publications reported a positive relationship between sustainability and performance. Busch and Friede (2018), in their study of 25 meta-analyses and one million observations, concluded a positive impact of environmental and social performance on ROA, ROE, and Tobin's Q. Lopez-Arceiz et al. (2018), in their meta-analysis of 83 papers found a positive relationship between sustainability and performance. Using meta-analytical techniques on data from 31,773 East Asian firms reported in 28 empirical studies, Hou et al. (2016) discovered a positive association between ESG and performance, with the environmental pillar having a more substantial impact than the social pillar and social practice has a more substantial positive effect on ROA than on ROE. In addition, Orlitzky et al. (2003) conducted a meta-analysis of 52 studies containing 33,878 observations. They concluded that the relationship between corporate social performance and market value is positive. Finally, Albertini (2013), in his meta-analysis study covering 15 years (1996 to 2010), revealed a positive relationship between environmental and performance represented by ROA, ROE, and Tobin's Q indicators.

Other studies were done in international countries, regions, and industries, but secondary data and regression or correlation were used as analysis tools. Few studies considered ROA as performance. For example, Alsayegh et al. (2020), on a sample of 1244 Asian companies from 2005 to 2017, found that environmental and social performance are positively related to ROA and more robust than the governance pillar. Similarly, Lys et al. (2015), in their study on 5,928 different international companies between 2002 and 2010, revealed a positive impact of CSR on ROA. In addition, Jo and Harjoto (2011) found a positive impact on ROA and Tobin's Q. Similarly, but considering ROE, Aouadi and Marsat (2018) found that ESG controversies have an unexpectedly positive influence on the business value represented by ROE and Tobin's Q, using a dataset of over 4,000 enterprises from 58 countries from 2002 to 2011. Furthermore, Yu and Zhao (2015) confirmed that sustainability minimizes conflicts among various stakeholders, resulting in less risky corporate behavior and stable growth. Overall, sustainability helps businesses maintain their market positions over the long term, opening them up to more lucrative investment opportunities.

In addition, different studies were done in other industries but in specific countries using regression or correlation methods. Some of these studies considered one measure for performance, while others used more than one. For example, Velte (2019), in his study on 775 German companies between 2010 and 2018, found a positive effect of ESG on ROA. Similarly, analyzing 500 Ghanaian cases between 2009 and 2013, Chen et al. (2016) recognized a positive relationship between CSR and ROA. Considering Tobin's Q measure, Swarnapali (2018) examined data from 220 firms listed on the Colombo Stock Exchange (CSE) in Sri Lanka over four years and discovered a positive correlation between both variables. Similarly, Cormier et al. (2009) found in their research on Canadian enterprises that disclosing social and environmental information decreases information asymmetry and streamlines investment decisions, positively affecting performance. Besides, according to 2013 research on the Korean market, a company's MSCI ESG score is associated with stock returns and Tobin's Q (Kim et al., 2013).

Other studies considered more than one performance indicator in their research. Huang and Yang (2014), in their sample of 71 companies in Taiwan region from 2001 to 2005, revealed a positive impact of corporate social performance on ROA and ROE. Similarly, Rose (2016) showed that governance disclosure positively influenced ROA and ROE in Germany. In addition, Li et al. (2018), in their sample of 241 UK-listed companies from 2004 to 2013, found a positive impact of ESG on ROA and Tobin's Q.

Furthermore, some researchers used overall performance or value terms. For example, using a sample of 351 UK firms from FTSE350 from 2002 to 2018, Ahmad et al. (2021) revealed that ESG score positively impacts corporate performance. From 2010 to 2014, Tarmuji et al. (2016) collected non-financial data from Malaysia and Singapore. They discovered that social and governance approaches influenced economic performance positively. In their study in China, Deng and Cheng (2019) found a positive impact of ESG on stock market performance. Besides, Landi and Sciarelli (2019), in their research on 40 Italian firms between 2011 and 2019, revealed a positive impact of ESG on market premium.

Other studies were done in a specific country and industry using secondary data. Two studies occurred in Pakistan, and the others were conducted in China. From Pakistan, Javeed and Lefen (2019), in their research on a sample of 133 firms in 8 Pakistani manufacturing sectors, revealed a positive link between CSR and firm performance (ROA and ROE). Using a selection of 76 Pakistani manufacturing firms listed on the Karachi Stock Exchange from 2009 to 2012, Afza et al. (2015), the study revealed a positive impact of CSR on both short-term and long-term performance represented by ROA and Tobin's Q. In China, Zhao et al. (2018) found a positive impact of ESG on ROA and ROE from their study of 20 power generation firms from 8 Groups in China. Another study by Liu and Zhang (2017) found a positive impact of CSR on ROE and Tobin's Q.

The context of the USA also has a part in the literature. Hannah et al. (2021), on a sample of 1180 covering the period from 2004 to 2012, found a positive impact of ESG dimensions on the market value represented by Tobin's Q. The study examined 74 firms within the KEJI indexes from 2004 to 2008 and concluded a positive correlation between corporate value and economic contribution. Fatemi et al. (2018) found that ESG increases a firm's value in terms of ROA and Tobin's Q in their study of 403 companies between 2006 and 2011. Albuquerque et al. (2019), in their sample of 4670 from 2003 till 2015, found a positive impact of CSR on ROA and Tobin's Q. Nollet et al. (2016) used Bloomberg's Environmental, Social, and Governance (ESG) Disclosure score covering the S&P 500 firms from 2007-2011. A sample of Fortune 500 firms revealed positive results on the relationship between the management of social sustainability practices and improved ROA in firms (Sroufe & Gopalakrishna-Remani, 2019). Flammer (2013) discovered that adopting CSR suggestions might result in positive announcement returns and satisfying performance due to the correlation between such adoption and enhanced labor productivity and sales.

In addition, other researchers considered Europe the scope of their research. Paolone et al. (2020), on a sample of 41 European listed companies in the pharmaceutical industry 2019 data, found that ESG pillars positively impact marketing performance, especially the governance pillar. De Lucia et al. (2020), in their study on a sample of 1038 companies on 2018 and 2019 data, revealed a positive impact of ESG score on ROA and ROE. Similarly, from a selection of 150 listed companies from 2014 to 2017 applying the PLS-SEM method, Taliento et al. (2019) revealed a positive impact of ESG on ROA and ROE. Chen et al. (2015), In their study of 75 corporations employing structured content analysis, the researchers found a positive association between disclosure of corporate social performance and ROE. Similarly, De Villiers and Marques (2016) found that CSR positively impacts ROA.

Furthermore, the relationship between ESG and performance has been extensively investigated in different areas, with a few inconclusive studies in the banking sector that investigated the impact of individual environmental, social, and governance pillars and performance measures such as ROA, ROE, and Tobin's Q (La Torre et al., 2021). Some studies considered one performance indicator. For example, Platonova et al. (2018) examined 24 banks in five Gulf Cooperation Council nations and found a positive correlation between sustainability and ROA. Other studies considered ROE as a measure of performance. Akanbi and Ofoegbu (2012) conducted a case study on Lagos's United Bank for Africa (UBA). They verified that CSR positively affects organizational performance (ROE) and other non-financial indicators such as employee satisfaction, loyalty, public image, and goodwill. The same was concluded in a study by Mallin et al. (2014), which revealed a positive association between CSR and ROE. Earlier, Simpson and Kohers (2002) discovered a favorable association between CSR and ROE based on a sample of banks.

Moreover, other researchers considered more than one measure in their studies. Maqbool and Zameer (2018) looked at the same relationship in a sample of 28 Indian banks from 2007 to 2016 and found a positive effect of CSR on ROA and ROE. Finally, Siueia et al. (2019) looked at the same connection in a sample of ten banks in two African nations, South Africa and Mozambique, from 2012 to 2016. They showed that sustainability and ROA and ROE have a positive connection. Moreover, the empirical findings of Wu and Shen's (2013) analysis of 162 banks in 22 nations demonstrated a positive correlation between CSR and performance in terms of ROA, ROE, and other economic indicators. Szegedi et al. (2020) indicated that sustainability positively impacted ROA and ROE in 20 Pakistani banks from 2008 to 2018. Cornett et al. (2014) investigated the impact of social performance on the performance of 190 banks in the USA and found a positive impact on ROA and ROE. Shen et al. (2016), in their sample of 6125 international banks for the period 2000 to 2009, found a positive impact of CSR on both ROA and ROE. Wu et al. (2017) used a sample of 162 banks from 2003 to 2009 in an international selection of 22 countries, the results showed that banks engaged in CSR tend to have better performance and that sustainability has a positive influence on both ROA and ROE.

7.2. A Direct Negative Impact of Sustainability on Performance

Opposite to the previous view, Yu and Zhao (2015) believed that sustainable involvement could divert resources and investment to activities not in shareholders' best interests. According to this viewpoint, implementing sustainability initiatives may reduce a company's value. Another opposing view is agency theory, in which a manager is inclined to deploy business resources above the optimal level of CSR to earn private benefits, resulting in decreased firm value due to heightened agency conflict amongst investors (Choi et al., 2009).

Different studies were done in different countries and industries using archived data and applying regression, correlation, or PLS-SEM. Duque-Grisales and Aguilera-Caracuel (2019) found in their research on 104 multinationals between 2011 and 2015 a negative impact of ESG score on ROA, ROE, and Tobin's Q. Kartadjumena and Rodgers (2019) used a partial least square-structural equation model during the period 2007 to 2014 in Indonesian banks, found that corporate sustainability negatively influences both the firm's financial health and market value regarding environmental concerns. Nekhili et al. (2021), using data from 91 companies in France from 2007 to 2017, found a negative impact of ESG on Tobin's Q. Amritha and Balasubramanian (2019) found that ESG negatively impacted Tobin's Q in their study on 35 Indian companies from 2014 and 2018. Besides, a negative impact of sustainability practices on ROA and ROE is revealed in Lopez et al. (2007) analysis of two groups of 55 homogenous industry firms listed on the DJSI and Dow Jones Global Index (DJGI) between 1998 and 2004. Smith et al. (2007) discovered a negative connection between environmental disclosure and performance represented by ROA and ROE, using a sample of 40 Malaysian firms on 2001 data.

Barnea and Rubin (2010) proposed a similar concept using data from a sample of 2650 Americans in 2013. They stated that managers may over-invest in social responsibility efforts at the expense of shareholders for their gain and to enhance their reputations as socially responsible leaders. Furthermore, according to Moneva and Cuellar (2009), disclosing environmental information decreases profits and market value while increasing expenses. For instance, they sampled 44 companies in Spain between 1996 and 2004. They discovered that environmental information investors provide does not influence their investment decisions and is deemed irrelevant.

7.3. A Weak or No Impact of Sustainability on Performance

Starting with studies that found a weak impact of sustainability on performance, on a list of the top 300 Australian Securities Exchange listed companies for the three years 2008 to 2010, Balatbat et al. (2012) found a weak impact of ESG score on ROA and ROE. Siregar and Bachtiar (2010) found a weak effect of CSR on ROA and ROE in their study of 87 Indonesian listed companies in 2003 data. Cormier and Magnan (2007) found no correlation between the disclosure of environmental information and the market value of Canadian and French enterprises. In their analysis of 87 USA companies between 2001 and 2008, Guidry and Patten (2010) discovered that the announcement of the release of sustainability reports did not generate any meaningful market reaction. Gallardo-Vazquez et al. (2019) found a weak impact of CSR on ROE based on a meta-analysis using 95 studies between 1982 and 2018.

From another point of view, some researchers explained that there is no relationship between sustainability and performance. Some researchers considered one performance measure. Nega (2017), from a sample of 119 large companies in the USA, found no impact of CSR on ROE. Using a selection of 90 banks in Indonesia between 2012 and 2016, Mangantar (2019) found that neither corporate social responsibility nor corporate governance affected ROA. While Surroca et al. (2010), using a sample of 599 industrial firms between 2001 and 2005, found no impact of CSR on Tobin's Q.

Other researchers considered more than one measure of performance. Some studies considered accounting-based measures only. For example, Mukhibad et al. (2020) looked at the impact of CSR through 12 Islamic banks in Indonesia from 2012 to 2018 and found no effect on ROA or ROE. Using 629 firm-year observations of the FTSE350 index, Qiu et al. (2016) confirmed no relationship between environmental disclosure and ROA or ROE. Nor et al. (2016) revealed no impact of the environmental pillar on ROE or ROA, using data from 100 Malaysian firms in 2011. In a sample of 42 firms in South Africa f*rom* 2004 to 2013, Chetty et al. (2015) found no impact of CSR on ROA or ROE. In a recent study, La Torre et al. (2021), using panel estimation methods of 600 European listed banks between 2008 and 2019, discovered no causal relationship between ESG score and ROA or ROE.

Other studies have also considered both accounting and market-based performance measures. For example, Atan et al. (2018), in a sample of 54 Malaysian firms between 2010 and 2013, found no impact of ESG on ROE or Tobin's Q.

From a selection of 267 stock-year observations of Nordic firms, Ahlklo and Lind (2019), found no relationship between ESG score and accounting nor market-based performance. The environmental pillar showed the most robust relation to performance. Besides, no conclusions can be drawn regarding financial performance. Schreck (2011) found no impact of social performance on ROE or Tobin's Q in his study of 128 firms on 2006 data. Johansson et al. (2015), in their study of 167 Swedish firms between 2006 and 2009, found no impact of CSR on ROA or Tobin's Q.

7.4. Mixed Findings on the Impact of Sustainability on Performance

Using a meta-analysis of over 1000 studies published between 2015 and 2020, Whelan et al. (2021) discovered a favorable association between ESG and financial success for 58% of "business" studies focusing on operational measures such as ROE, ROA, or stock price. In addition, 13% demonstrated a neutral impact, 21% showed mixed results (the same study found positive, neutral, and negative results), and only 8% showed a negative relationship. Earlier, using a meta-analysis reviewing 32 previous studies between 1996 and 2013, mixed and inconsistent results exist in the literature regarding the relationship between sustainability and corporate performance. Nevertheless, other academics contend that a generalizable, unidirectional link applies to all organizations in all circumstances does not exist (Grewatsch & Kleindienst, 2017).

Different studies were done on different international countries and industries. Buallay (2020), using data from 3000 firms and 80 countries from 2008 to 2017, found that ESG score negatively impacts ROA. However, each of the pillars has a positive impact on ROA separately. On the other hand, there is no impact of ESG score on ROE or Tobin's Q. Despite the lack of a correlation between ESG score and accounting-based financial success (ROA), Dahlberg and Wiklund (2018) discovered a positive link between ESG score and Tobin's Q. using 108 firms and 995 firm-year observations between 2007 to 2017. A different study by Han et al. (2016) of the Korean market yielded other conclusions. Distinct ESG variables have different relationships to market-based financial success, according to this empirical research of 94 businesses listed on the Korean Stock Exchange. The governance component had a positive relationship with ROE, but the environmental factor had a negative relationship. The social component was neutral since no connection was found. Sahut and Pasquini-Descomps (2015) examined monthly stock excess performance for several Swiss, US, and UK firms and their linked news-based ratings in key ESG areas, spanning five years from 2007 to 2011. They discover a neutral or slightly negative association with the overall ranking for the UK but not for the USA or Switzerland.

Other studies were done in the context of the USA. Alareeni and Hamdan (2020), using a sample covering the USA S&P 500 listed companies from 2009 to

2018, found that ESG score positively impacts performance measures. However, at the ESG pillars level, environmental and social harm ROA and ROE, and a positive effect on Tobin's Q. Furthermore, the governance pillar has a positive impact on ROA and Tobin's Q. and a negative impact on ROE. Qureshi et al. (2021), employing a sample of "100 best corporate citizens" in the USA from 2009 to 2018, confirmed a positive impact of ESG score and pillars on ROE and Tobin's Q, the higher impact of environmental pillar, and no effect on ROA. Delmas et al. (2015), on a sample of 1095 USA banks from 2004 to 2008, found a positive impact of the environmental pillar on Tobin's Q and a negative effect on ROA.

Furthermore, several studies were done in the banking sector, some of which considered accounting-based measures only. For example, according to Simsek and Cankaya (2021), banks' environmental and governance pillars negatively impacted ROA and ROE, while social pillars positively impacted ROA and ROE. Shakil et al. (2019), using 93 emerging market banks from 2015 to 2018, found a positive impact of environmental and social performance on ROA and ROE but no influence on governance performance.

Other studies considered both accounting and market-based measures. For example, another study conducted in the European banking sector on 342 banks from 2007 to 2016 found a high environmental and social disclosure impact on Tobin's Q and no impact on governance disclosure (Buallay, 2019b). Buallay et al. (2020) used a sample of 59 banks to explore the same connection in 18 MENA nations. According to the empirical data, sustainability positively affects Tobin's Q, ROA, and ROE. However, the social pillar has a negative impact on Tobin's Q, ROA, and ROE. Miralles-Quiros et al. (2019), on a sample of 166 banks from 2010 to 2015, found a positive association between environmental and governance performance and Tobin's Q. On the other hand, there is a negative association between social performance and Tobin's Q. Daszynska-Zygadlo et al. (2021), on a sample of 2693 banks for the period 2009 to 2016, confirmed the results that environmental and social pillars have a negative effect on performance and partly confirmed that governance pillar has a positive effect on performance.

Moreover, a few studies have been done in the banking sector, but only in the European context. Using a sample of 235 European banks from 2007 to 2016, Buallay (2019a) determined that combining ESG positively affected performance. However, environmental disclosure positively affects ROA and Tobin's Q, whereas social disclosure negatively impacts the three dimensions. In addition, corporate governance disclosure has a negative impact on ROA and ROE. In contrast, it has a positive impact on Tobin's Q dimension. Batae et al. (2021), using data from 39 European banks for the period 2010 to 2019, showed a positive relationship between the environmental pillar and performance, no impact of the social pillar, and a negative impact of the governance pillar.

Furthermore, from a theoretical background, agency theory is founded on the supposition that the company's primary goal is to increase the wealth of its owners. As a result, other stakeholders are only significant when doing so is necessary to enhance shareholder value (Seifert et al., 2003). Thus, with the shareholders' approval, companies engaging in sustainability initiatives create clarity, which ultimately results in an agency issue that could result in a decline in performance (Afza et al., 2015). On the other side, according to stakeholder theory and as argued by Freeman (1984), the company's management now has a responsibility that extends beyond profitability and requires them to consider social issues when making choices. This is because the corporation is responsible for considering and satisfying all stakeholders, not just shareholders.

Appendix III summarises the main articles on the relationship between sustainability and performance.

8. The Relationship between Executive Compensation and Performance

The previous literature has shown different findings regarding the relationship between executive compensation and performance: positive, negative, and no relationship (Kirsten & Toit, 2018; Rodgers et al., 2019). Studies carried out in the USA, as well as studies in the banking industry in general, are rare (Nascimento et al., 2020).

The global corporate scandals and financial problems have shifted the subject of whether high executive compensations are worthwhile to boost business performance and prevent financial deterioration (Kartadjumena & Rodgers, 2019).

Different studies have demonstrated the significant impact of CEO compensation packages on the performance of businesses. Nevertheless, there are often contradictory results (Jha, 2013; Nikolov & Whited, 2014). Moreover, most studies have been undertaken inside a single country or corporate governance setting (the USA or the Anglo-American model).

Besides, several studies have analyzed the most effective forms of compensation. However, the link between compensation and corporate performance is still weak for several reasons (Canarella & Nourayi, 2008; Dong et al., 2010; Elsila et al., 2013; Kabir, Li, & Veld-Merkoulova, 2013). First, corporate governance is one of several reasons for reducing agency conflicts (Borisova et al., 2012). Second, countries have differences in executive pay regarding cultural, institutional, and corporate governance practices (Conyon & Murphy, 2000).

8.1. A Direct Positive Impact of Executive Compensation on Performance

Some studies were conducted on international listed firms. Wang et al. (2021) found in their recent study on a sample of 212 energy companies for the period 2010 to 2019 that compensation has a positive impact on ROA, ROE, and Tobin's Q. Yang et al. (2014) in their study between 1992 and 2011 on 3286 different firms and 6242 different CEOs revealed a positive relationship between total executive compensation and accounting-based performance represented by ROA in the pre-crisis and post-crisis periods. Stanwick and Stanwick (2001), in their study on 186 firms in 1990 and 188 in 1991, found a strong positive relationship between total compensation and performance represented by ROE.

Other studies were done in a specific country and different sectors. Raithatha and Komera (2016) found in their analysis of 3,100 firms in India between 2002 and 2012 that compensation positively impacts ROA, ROE, and Tobin's Q. In addition, Bussin and Ncube (2017) also found a positive relationship between executive remuneration and company performance in entities in South Africa. The positive association was noted in absolute profitability measurements such as ROA, ROE, and net profit. Another study in South Africa by Ndlovu et al. (2017), using a sample of 359 firms between 2010 and 2015, revealed a positive impact of CEO compensation on ROA and ROE. Similarly, De Wet (2013) studied CEO Compensation in South Africa. The results showed a positive link between compensation and both ROA and ROE. In the UK, Elsayed and Elbardan (2018), using data period (2010 to 2014) for 350 listed companies, found a positive impact of compensation on ROA and Tobin's Q. Another recent study in the UK, by Boakye et al. (2021), using a sample of 201 Alternative Investment Market listed firms from 2011 to 2016, revealed that the chief executive officer (CEO) remuneration positively impacted both accounting and market-based measures of financial performance. Moving to China, Conyon and He (2012) discovered a favorable association between executive compensation and accounting and stock value using data collected from 2000 to 2010 from China's publicly traded enterprises. In their study of 15,512 CEOs from 1993 to 2006, Banker et al. (2012) found a positive correlation between current remuneration on one side and past and future value on the other.

In addition, on a sample of USA insurance companies, Sun et al. (2013) observed a positive correlation between company efficiency and overall compensation, as well as between revenue efficiency and cash compensation, based on the efficiency aspect. In Europe, in their sample of 1594 firms and databases from 2019, Noja et al. (2020) found that management incentives positively impacted European firms regarding value and earnings.

Furthermore, a few studies were done in the banking sector. Van Blerck (2013), using data on 16 banks in the USA and South Africa between 2001 and 2011, revealed a positive impact of executive remuneration on economic value. In Bangladesh, for the period 2010 to 2020, using a 2SLS estimator, Ahmed (2022) revealed a positive impact of compensation on bank performance represented by ROE.

8.2. Other Findings on the Impact of Executive Compensation on Performance

Many studies indicated a negative relationship between executive compensation and firm performance (Lam et al., 2013; Usman et al., 2015). For example, several studies found that performance-based remuneration leads to decreased motivation, increased fraud, and employee bullying in the workplace (Aguinis et al., 2013; Samnani & Singh, 2014). Bussin and Nel (2015), using a sample of 30 South African firms between 2006 and 2011, concluded a negative relationship between CEO-guaranteed pay and ROE.

Other studies found a weak or no relationship or impact of compensation on performance.

Ozkan (2007) found comparable results after performing a study on 390 non-financial UK firms from 1999 to 2005. The results indicated that a 10% increase in shareholder return corresponds to a rise of only 0.75% in CEO compensation. Another study by Kirsten and Toit (2018) examined listed companies on the Johannesburg Stock Exchange in South Africa. They concluded that executive compensation is not causally related to profitability represented by either ROA or ROE. Earlier, Duffhues and Kabir (2007) found the same results with ROA and ROE and Tobin's Q measure in their study on Netherlands firms between 1998 and 2001. Lindstrom and Svensson (2016), in their research on 900 Swedish companies between 2010 and 2014, found no impact of compensation on ROA and ROE.

Furthermore, from a theoretical background, two primary, opposing, yet interconnected theories have been presented to explain the relationship between executive compensation and performance, as well as agency and tournament theories (Elsayed & Elbardan, 2018). The agency theory emphasizes the conflicting goals of executive directors (the agents), who are hypothesized to seek great rewards with minimal effort, and owners (the principles), whose goal is to maximize returns from ownership (Elsayed & Elbardan, 2018). Tournament theory provides a basic framework in favor of the belief that high compensation for senior directors motivates success at all organizational levels (Conyon & Sadler, 2001).

Appendix IV summarises the main articles on the relationship between compensation and performance.

9. Conclusion

The results showed a positive impact of total executive compensation on all sustainability factors represented by ESG score, environmental pillar score, social pillar score, and governance pillar score. Incorporating ESG pillars in CEOs' or executives' remuneration means increasing the value for internal shareholders and different stakeholders. New forms of contracting should be created and followed. Accordingly, related policies and procedures should be revised or built based on these findings.

In addition, the results showed mixed outcomes regarding the relationship between sustainability and performance. While the results revealed a positive impact of ESG score on all performance dimensions, the results for the individual pillars were mixed between accepted and rejected. In addition, the environmental pillar does not impact any of the performance dimensions. Not all shareholders, owners, or management know the concept of sustainability and its implications. The results, whether at the ESG score or specifically at the social and governance pillars level, send the bank a clear indicator of the added value or positive impact of sustainability on short-term and long-term performance and value. Accordingly, boards of directors should start the process of sustainability awareness for their banks and businesses.

Furthermore, the results showed a positive impact of total executive compensation on performance. Most compensation and rewards are related to or built on short-term measures or key performance indicators (KPIs). The added value in these results is that banks should consider accounting-based indicators and market-based measures that should be counted in setting performance targets and performance appraisals for executives.

These findings have some implications for decision-makers regarding the link between executive compensation and sustainability factors. Decision-makers should consider this positive link to set contracts for executives and CEOs based on banks' sustainability factors, investment, and long-term objectives. Accordingly, policies and procedures should either include these factors or be updated. The same can be applied in Europe, the USA, or even globally, as well as in any other sector, not just the banking industry. In addition, the results of this thesis have some implications regarding the link between sustainability and performance. Decision-makers and policymakers should consider this association by setting long-term objectives and targets for their banks and firms. Consequently, policymakers in various countries, such as the Securities and Exchange Commission, should work to offer precise standards for sustainable banking reporting to promote sustainable banking disclosures.

Furthermore, the results revealed a positive impact of compensation on performance. The same is a clear signal for boards and decision-making in banks and other industries to link executives' compensation to short-term and long-term performance indicators and results.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Appendix I: Summary of Main Articles with Related Applied Theories

Author(s)	Year	Theories Applied			
The relationship between compensation and sustainability		Agency	Stakeholder	Institutional	Stewardship
Jian and Lee	2015		Stakeholder		
Radu and Smaili	2021		Stakeholder		
Baraibar-Diez et al.	2019	Agency	Stakeholder	Institutional	
Haque and Ntim	2020	Agency	Stakeholder	Institutional	
McGuire et al.	2003	Agency	Stakeholder		Stewardship
Veniero	2020	Agency	Stakeholder		
Nigam et al.	2018	Agency	Stakeholder		
Abdelmotaal and Abdel-Kader	2015	Agency	Stakeholder		
Velte	2016	Agency	Stakeholder		
Karim et al.	2018	Agency	Stakeholder		
Kartadjumena and Rodgers	2019	Agency	Stakeholder		
Cai et al.	2011	Agency	Stakeholder		
Miniaoui et al.	2022	Agency	Stakeholder		
Francoeur et al.	2017	Agency		Institutional	Stewardship
Claassen and Ricci	2015	Agency		Institutional	
Berrone and Gomez-Mejia	2009	Agency		Institutional	
D'Apolito et al.	2019	Agency			
Flammer et al.	2019	Agency			
Derchi et al.	2021	Agency			

Author(s)	Year	Theories Applied						
The relationship between sustainability and performance		Agency	Stakeholder	Legitimacy	Institutional	Signaling	Slack Resource and Good Management	Value Creating vs Value Destroying
Loh et al.	2017	Agency		Legitimacy		Signaling		
De Villiers and Marques	2016	Agency		Legitimacy				
Flammer et al.	2019	Agency						
Liu and Zhang	2017	Agency						
Alareeni and Hamdan	2020	Agency						
Alsayegh et al.	2020	Agency	Stakeholder	Legitimacy		Signaling		
Siueia et al.	2019	Agency	Stakeholder	Legitimacy				

Javeed and Lefen	2019	Agency	Stakeholder					
Afza et al.	2015	Agency	Stakeholder					
Li et al.	2018	Agency	Stakeholder					
Jo and Harjoto	2011	Agency	Stakeholder					
Tarmuji et al.	2016	Agency	Stakeholder					
Maqbool and Zameer	2018	Agency	Stakeholder					
Shakil et al.	2019	Agency	Stakeholder					
Wang et al.	2016	Agency	Stakeholder					
Batae et al.	2021	Agency	Stakeholder					
Kartadjumena and Rodgers	2019	Agency	Stakeholder					
Surroca et al.	2010	Agency	Stakeholder					
Huang	2021		Stakeholder	Legitimacy				
Qureshi et al.	2021		Stakeholder	Legitimacy				
Gallardo-Vazquez et al.	2019		Stakeholder	Legitimacy				
Chen et al.	2015		Stakeholder		Institutional			
Taliento et al.	2019		Stakeholder		Institutional			
Velte	2019		Stakeholder					
Huang and Yang	2014		Stakeholder					
Orlitzky et al.	2003		Stakeholder					
Sroufe and Gopalakrishna-Remani	2019		Stakeholder					
Landi and Sciarelli	2019		Stakeholder					
Aouadi and Marsat	2018		Stakeholder					
Kim et al.	2013		Stakeholder					
Szegedi et al.	2020		Stakeholder					
Platonova et al.	2018		Stakeholder					
Ahmad et al.	2021		Stakeholder					
Lopez-Arceiz et al.	2018		Stakeholder					
Boaventura et al.	2012		Stakeholder					
Qureshi et al.	2019		Stakeholder					
Sahut and Pasquini-Descomps	2015		Stakeholder					
Miralles-Quiros et al.	2019		Stakeholder					
Whelan et al.	2021		Stakeholder					
Atan et al.	2018		Stakeholder					

Johansson et al.	2015		Stakeholder					
Ahlklo and Lind	2019		Stakeholder					
Nega	2017		Stakeholder					
Nekhili et al.	2021		Stakeholder					
Balatbat et al.	2012		Stakeholder					
Paolone et al.	2020			Legitimacy	Institutional			
Mukhibad et al.	2020			Legitimacy				
Rose	2016			Legitimacy				
Hou et al.	2016				Institutional	Signaling		
Duque-Grisales, and Aguilera-Caracuel	2019				Institutional			
Chetty et al.	2015						Slack Resource and Good Management	
Alshehhi et al.	2018							Value Creating vs Value Destroying
Swarnapali	2018							Value Creating vs Value Destroying
Yu and Zhao	2015							Value Creating vs Value Destroying

Author(s)	Year	Theories Applied		
The relationship between compensation and performance		Agency	Tournament	Managerial Power
Elsayed and Elbardan	2018	Agency	Tournament	
Wang et al.	2021	Agency	Tournament	
Boakye et al.	2021	Agency	Tournament	
Bussin and Nel	2015	Agency		Managerial power
Duffhues and Kabir	2008	Agency		Managerial power
Raithatha and Komera	2016	Agency		
Noja et al.	2020	Agency		
Theeravanich	2013	Agency		
Bussin and Ncube	2017	Agency		
Lindstrom and Svensson	2016	Agency		

De Wet	2013	Agency		
Conyon and He	2012	Agency		
Van Blerck	2012	Agency		
Li et al.	2018	Agency		
Ahmed	2022	Agency		

Appendix II: Summary of Main Articles Related to the Relationship between Compensation and Sustainability

Title	Year	Author(s)	Industry	Country	Tool	Sample	Period	Data collection	Source, Dataset	Sustainability Factor	Relationship
Getting compensation right—The choice of performance measures in CEO bonus contracts and earnings management	2019	Tahir et al.	Different	UK	Regression	188	2005-2014	Archived	FTSE350 Index	Non-financial measures	Positive
The use of non-financial performance measures in CEO compensation contracts and stock price crash risk	2020	Shin et al.	Different	Global	Regression	917	2006-2018	Archived	S&P 500 index	Non-financial measures	Positive
The association between non-financial performance measures in executive compensation contracts and earnings management	2011	Ibrahim and Lloyd	Different	Global	Regression	357	2004	Archived	Proxy statements	Non-financial measures	Positive
Sustainable compensation and performance: an empirical analysis of European banks	2019	D'Apolito et al.	Banking	Europe	Regression and correlation	42	2013-2017	Archived	Eikon-Thomson Reuters	ESG	Positive
CEOs compensation schemes: the mediating effect of ESG performance on finance performance	2020	Veniero	Different	USA	Regression	472	2012-2018	Archived	S&P 500 index	ESG	Positive
Can linking executive compensation to sustainability performance lead to a sustainable business model? Evidence of implementation from enterprises around the world	2018	Nigam et al.	Different	Global	Empirical study	16	2014-2015	Annual reports	Proxy statements and annual reports	ESG	Positive
The use of sustainability incentives in executive remuneration contracts Firm characteristics and impact on the share-	2015	Abdelmotaal and Abdel-Kader	Different	UK	Regression	212	2009-2011	Archived	FTSE 350 index. ASSET4	ESG	Positive

holders' returns											
Sustainable compensation policies and its effect on environmental, social, and governance scores	2019	Baraibar-Diez et al.	Different	Europe	Regression	205	2005-2015	Archived	DataStream	ESG	Positive
Sustainable management compensation and ESG performance – the German case	2016	Velte	Different	Germany	Regression	677 firm-year observations	2010-2014	Archived	Frankfurt Stock Exchange	ESG	Positive
Corporate Governance and CSR Disclosure: International Evidence for the Period 2006–2016	2022	Miniaoui et al.	Different	Anglo-Saxon and European	Regression	324 Anglo-Saxon and 310 European	2006-2016	Archived	Listed	CSR	Positive
Corporate Governance and the Rise of Integrating Corporate Social Responsibility Criteria in Executive Compensation: Effectiveness and Implications for Firm Outcomes	2019	Flammer et al.	Different	USA	Regression	4,533 firm-year observations	2004-2013	Annual proxy statements	Annual proxy statements	CSR	Positive
The Use of Sustainability Metrics in Executive Compensation Plans and Their Effect on Corporations	2015	Nguyen	Different	USA		3 cases		Annual reports	Case studies	CSR	Positive
Executive compensation, sustainable compensation policy, carbon performance and market value	2020	Haque and Ntim	Different	Europe	Fixed-effects regressions	494	2002-2016	Archived	Thomson Reuters, Worldscope database	E (carbon reduction)	Positive
CEO compensation structure and corporate social performance	2015	Claassen and Ricci	Different	Germany	Regression	126	2010-2012	Annual reports and archived	Annual report, Thomson Reuters	CSR	Positive
Corporate social responsibility and CEO compensation structure	2018	Karim et al.	Different	USA	Regression	4,344	1998–2012	Archived	Compustat, KLD, Execucomp	CSR	Positive
CEO compensation and corporate social responsibility	2015	Jian and Lee	Different	Global	Regression	1,680	1992-2011	Archived	Execucomp	CSR	Positive
Exploring the locus of profitable pollution	2002	King and Lenox	Manufacturing	USA	Regression	614	1991-1996	Archived	Annual reports	Environment	Positive

reduction											
Environmental performance and executive compensation: An integrated agency-institutional perspective	2009	Berrone and Gomez-Mejia	Polluting industries	USA	Regression	469	1997–2003	Archived	ExecuComp, S&P 1500 index	Environment	Positive
Corporate Governance and Executive Compensation for Corporate Social Responsibility	2015	Hong et al.	Different	USA	Regression	2,561 executive-level observations	2015	Archived	2014 Proxy Statements	CSR	Positive
Executive Compensation, Sustainability, Climate, Environmental Concerns, and Company Financial Performance: Evidence from Indonesian Commercial Banks	2019	Kartadjumena and Rodgers	Banking	Indonesia	PLS-SEM	252	2007-2014	Archived	(IDX) website, DataStream	Environment	Positive
CEO compensation: does it pay to be green?	2001	Stanwick and Stanwick	Different		Regression	168 and 188		Archived	Annual reports	Environment	Negative
Green or Greed? An Alternative Look at CEO Compensation and Corporate Environmental Commitment	2017	Francoeur et al.	Different	Global	OLS regression model with industry-fixed effects	520	2009	Archived	Osiris, SIRI pro, BoardEx	Environment	Negative
Vice or Virtue? The Impact of Corporate Social Responsibility on Executive Compensation	2011	Cai et al.	Different	USA	Regression	1,946	1996-2010	Archived	ExecuComp, S&P 500 firms	CSR	No relationship
CEO incentives and corporate social performance	2003	McGuire et al.	Different	Global	Regression	374	1999	Archived	KLD, S&P, ExecuComp	CSR	No relationship
Does explicit contracting effectively link CEO compensation to environmental performance?	2008	Cordeiro and Sarkis	Different	USA	Regression	207	1997	Survey and archived	Survey, S&P 500 firms	Environment	Partial

Appendix III: Summary of Main Articles Related to the Relationship between Sustainability and Performance

Title	Year	Author(s)	Industry	Country/ Region	Tool	Sample	Period	Data collection	Source, Dataset	Sustainability factor	Firm value	Relationship
Sustainable management compensation and ESG performance – the German case	2016	Velte	Different	Germany	Regression and correlation	677 firm-year observations	2010-2014	Archived	Frankfurt Stock Exchange	ESG	ROA	Positive
An empirical analysis on value relevance of corporate social responsibility activities by firm size	2011	Na and Hong	different	USA	OLS regressions	600	1993-2000	Archived	KLD	CSR	ROA	Positive
Executive compensation, sustainable compensation policy, carbon performance and market value	2020	Haque and Ntim	Different	Europe	Fixed-effects regressions	494	2002-2016	Archived	Thomson Reuters, Worldscope database	E (Carbone reduction)	Market value	Positive
Firm performance and comply or explain disclosure in corporate governance	2016	Rose	Different						Annual reports	G	ROA, ROE	Positive
How do ESG pillars impact firms' marketing performance? A configurational analysis in the pharmaceutical sector	2020	Paolone et al.	Pharma	Europe		41	2019		Annual reports	ESG	Marketing performance	Positive
Does CEO power moderate the link between ESG performance and financial performance?	2019	Velte		Germany	Regression and correlation	775	2010-2018	Archived	Thomson Reuters	ESG	ROA	Positive
An Analysis of Corporate Social Responsibility and Firm Performance with Moderating Effects of CEO Power and Ownership Structure: A Case Study of the Manufacturing Sector of Pakistan	2019	Javeed and Lefen	manufacturing	Pakistan		133	2008-2017	Archived	SBP, SECP, PSX	CSR	ROA, ROE	Positive
Corporate social performance: why it matters? Case of	2014	Huang and Yang		Taiwan region	Multiple regression	71	2005-2011	Archived	Taiwan Economic Journal	CSP	ROA, ROE	Positive

Taiwan					analysis				database			
Corporate Social Responsibility behavior: Impact on Firm's Financial Performance in an information technology driven society	2016	Chen et al.	Different	Ghana	Regression	500	2009-2013	Archived	GIPC, GRCD, GSE	CSR	ROA	Positive
Does CSR practice pay off in East Asian firms? A meta-analytic investigation	2016	Hou et al.		East Asia	Meta-Analysis	28			Empirical studies	ESG	ROA, ROE, Tobin's Q	Positive
Whether Companies Need to be Concerned about Corporate Social Responsibility for their Financial Performance or Not? A Perspective of Agency and Stakeholder Theories	2015	Afza et al.	Manufacturing	Pakistan	least squares method	76	2009-2012	Archived	Karachi Stock Exchange, Balanced panel data	CSR	ROA, Tobin's Q	Positive
A Study of Management Perceptions of the Impact of Corporate Social Responsibility on Organizational Performance in Emerging Economies: The Case of Dubai	2009	Rettab et al.	Different	UAE	Regression	280		Survey	Survey	CSR	ROA	Positive
Sustainability and firm valuation: an international investigation	2015	Yu and Zhao	Different	Global	Regression	2,544	1999-2011	Archived	Annual lists of DJSI	ESG	Tobin's Q	Positive
The impact of environmental, social, and governance disclosure on firm value: The role of CEO power	2018	Li et al.		UK	Regression	241	2004-2013	Archived	Bloomberg	ESG	ROA, Tobin's Q	Positive
corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: effectiveness and implications for firm outcomes	2019	Flammer et al.	Different	USA	Regression	4533 firm-year observations	2004-2013	Archived	Annual proxy statements	CSR	ROA, Tobin's Q	Positive

Corporate social responsibility and financial performance in Islamic banks	2014	Mallin et al.	Islamic Banks	Global	OLS regression	90	2010-2011	Archived	Annual reports, Banker database	CSR	ROE	Positive
Management, Social Sustainability, Reputation, and Financial Performance Relationships: An Empirical Examination of U.S. Firms	2019	Sroufe and Gopalakrishna-Remani	Different	USA	SEM	Fortune 500 firms simultaneously list	2009-2011	Archived	Fortune 500 listed in the Newsweek Green Rankings, The Corporate Knights Global 100, and the 100 Best Corporate Citizens lists	S	ROA	Positive
Application of multi-level matching between financial performance and corporate social responsibility in the banking industry	2017	Wu et al.	Banking	Global	Regression and correlation	22	2003-2009	Archived	194 depository-type banks	CSR	ROA, ROE	Positive
corporate sustainability reporting and firm value: evidence from a developing country	2018	Swarna pali	Different	Sri Lanka	Regression	220	2012-2016	Archived	CSE	Sustainability reporting	Tobin's Q	Positive
Sustainability Reporting and Firm Value: Evidence from Singapore-Listed Companies	2017	Loh et al.	Different	Singapore	Regression and correlation	502		Archived	Bloomberg, Osiris and company disclosures	Sustainability reporting	Market value	Positive
The relationship between disclosures of corporate social performance and financial performance: Evidences from GRI reports in manufacturing industry	2015	Chen et al.	Manufacturing	Europe, Asia and America	Content analysis and correlation	75	2012	Archived	Database DataStream, GRI report	CSP	ROE	Positive
ESG performance and firm value: The moderating role of disclosure	2018	Fatemi et al.	Different	USA	Cross-correlations and regression	403	2006-2011	Archived	KLD and Bloomberg	ESG	ROA, Tobin's Q	Positive
Effects of "Best Practices" of envi-	2000	Christman	Chemical	USA	Regression and	512 only 88 re-		Questionnaire	Survey	E	CFP	Positive

ronmental Management on Cost Advantage					wave analysis	sponses						
Revisiting the corporate social performance-financial performance link: A replication of Waddock and Graves	2016	Zhao and Murrell			Regression and correlation	25,502 firm-year observations	1991-2013	Archived	KLD	CSP	Tobin's Q	Positive
Attributes of social and human capital disclosure and information asymmetry between managers and investors	2009	Cormier et al.	Different	Toronto	Regression	131	2005	Archived	Toronto Stock Exchange, 2004 proxy statement	E, S	Tobin's Q	Positive
Do Corporate Standards Global Create Environmental or destroy Market Value?	2000	Dowell et al.	Manufacturing	Global	Regression and correlation	89	1994-1997	Archived	IRRC, S&P 500 list	E	Tobin's Q	Positive
The Effect of Corporate Environmental Strategy Choice and Environmental Performance on Competitiveness and Economic Performance: An Empirical Study of EU Manufacturing	2004	Wagner and Schaltegger	Different	Germany and UK	Regression and correlation	1000 UK and 2000 Germany	1998-2000	Survey	Survey	E	CFP	Positive
Corporate Social Responsibility: Country-Level Predispositions and the Consequences of Choosing a Level of Disclosure	2016	De Villiers and Marques	Different	Europe	Regression and correlation	366	2007-2010	Archived	GRI reports	CSR	ROA	Positive
Corporate Governance and Firm Value: The Impact of Corporate Social Responsibility	2011	Jo and Harjoto	Different		Regression	2,952	1993-2004	Archived	KLD	CSR, E	ROA, Tobin's Q	Positive
Corporate social and financial performance: A meta-analysis	2003	Orlitzky et al.			Meta-analysis	33,878 observation			Studies	CSR	CFP	Positive
The relationship between CSR and financial performance: A quantitative study examining	2015	Johansson et al.	Different	Sweden	Regression	167	2006-2009	Archived	FIFCR	CSR	ROA, Tobin's Q	Positive

Swedish publicly traded companies												
Impact of corporate social responsibility on bank performance in Nigeria	2012	Akanbi and Ofoegbu	Banking	Nigeria	Regression		2010-2014	Archived	Annual reports	CSR	ROE	Positive
The link between corporate social and financial performance: Evidence from the banking industry	2002	Simpson and Kohers	Banking	global	Regression	385	1993/1994	Archived	FDIC	CSP	ROA	Positive
To engage or not to engage in corporate social responsibility: Empirical evidence from global banking sector	2016	Shen et al.	Banking	global	Regression	6,125	2000-2009	Archived	FTSE4Good	CSR	ROA, ROE	Positive
Does Environmental Management Improve Financial Performance? A Meta-Analytical Review	2013	Albertini et al.	Different	Global	Meta-analysis	52	1972-1995, 1996-2008	Archived	ScienceDirect, EJS Ebsco, EconLit, JSTOR, Emerald, SSRN, AoM, and Cairn databases	E	ROA, ROE, Tobin's Q	Positive
Climate Change and Financial Performance in Times of Crisis	2014	Gallego-Alvarez et al.	Intensive greenhouse gas/CO2 emissions	Global	Regressions	855	2006-2009	Archived	local regulators, press reports	E	ROA	Positive
Corporate Social Responsibility and Firm Risk: Theory and Empirical Evidence	2019	Albuquerque et al.	Different	USA	Regression	4,670	2003-2015	Archived	KLD	CSR	Firm value (Tobin's Q)	Positive
Can ESG Indices Improve the Enterprises' Stock Market Performance?—An Empirical Study from China	2019	Deng and Cheng		China	Regression		2011-2019	Archived	WIND database	ESG	Stock market performance	Positive
Towards a more ethical market: the impact of ESG rating on corporate financial performance	2019	Landi and Sciarelli	Different	Italy	Panel data analysis	40	2007-2015	Archived	Thomson Reuters database, publicly accessible dataset from standard	ESG	Market premium	Positive

									ethics agency			
ESG and Corporate Financial Performance: Empirical Evidence from China's Listed Power Generation Companies	2018	Zhao et al.	Power Generation	China	Regression		2008-2012	Archived	Thomson Reuters	ESG	ROA, ROE	Positive
Do ESG Controversies Matter for Firm Value? Evidence from International Data	2018	Aouadi et al.	Different	Global	Regression	4,000	2022-2011	Archived	Thomson Reuters	ESG	ROE, Tobin's Q	Positive
The Impact of Environmental, Social and Governance Practices (ESG) on Economic Performance: Evidence from ESG Score	2016	Tarmuji et al.		Malaysia and Singapore	Regression	Malaysia 35 and Singapore 45	2010-2014	Archived	ASSET4 database	ESG	EP	Positive
Corporate Social Responsibility and Financial Performance: The impact of the MSCI ESG Ratings on Korean Firms	2013	Kim et al.	Different	Korea	Regression	96	2011	Archived	MCSI	CSR	Tobin's Q	Positive
Signaling through corporate accountability reporting	2015	Lys et al.	Different		Regression	5,928	2002-2010	Archived	ASSET4 database	CSR	ROA	Positive
Corporate governance, social responsibility information disclosure, and enterprise value in China	2017	Liu and Zhang	Heavy-pollution industries	China	Regression	968	2008-2014	Archived	CSMAR database	CSR	ROE, Tobin's Q	Positive
Corporate Social Responsibility and its Impact on Financial Performance: Investigation of U.S. Commercial Banks	2014	Cornett et al.	Banking	USA	Regression	277	2003-2011	Archived	MSCI ESG Stats	CSR	ROA, ROE	Positive
Corporate Social Responsibility and Financial Performance: Evidence from Pakistani Listed Banks	2020	Szegedi et al.	Banking	Pakistan	Regression	20	2008-2018	Archived	Annual reports	CSR	ROA, ROE	Positive
The Impact of Corporate Social Responsibility Disclosure on Financial	2018	Platonova et al.	Banking	GCC	Regression	24	2000-2014	Archived	Annual reports	CSR	ROA	Positive

Performance: Evidence from the GCC Islamic Banking Sector												
Corporate social responsibility in the banking industry: Motives and financial performance	2013	Wu and Shen	Banking	Global	Regression	162	2003-2009	Archived	Reputation SBD index (REIRIS database)	CSR	ROA, ROE	Positive
Corporate Social Responsibility and financial performance: A comparative study in the Sub-Saharan Africa banking sector	2019	Siueia et al.	Banking	South Africa and Mozambique	Regression	10	2012-2016	Archived	Annual reports	CSR	ROA, ROE	Positive
Corporate social responsibility and financial performance: An empirical analysis of Indian banks	2018	Maqbool and Zameer	Banking	India	Regression	28	2007-2016	Archived	Bombay Stock Exchange	CSR	ROA, ROE	Positive
Corporate social responsibility and financial performance: Fact or fiction? A look at Ghanaian banks	2014	Ofori et al.	Banking	Ghana	Regression	22	2009	Questionnaire survey SBD	Survey	CSR	ROA, ROE	Positive
Environmental, social and governance (ESG) activity and firm performance: a review and consolidation	2021	Huang	Studies	Australia and New Zealand	Correlation	21	1980-2019	Archived	Systematic	ESG	CFP	Positive
Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis	2021	Ahmad et al.	Different	UK	GLS regression	351	2002-2018	Archived	FTSE350, ASSET4 databases	ESG	CFP	Positive
Corporate Economic, Environmental, and Social Sustainability Performance Transformation through ESG Disclosure	2020	Al-sayegh et al.	Different	Asia	Regression and correlation	1,244	2005-2017	Archived	Thomas Reuters	ESG	ROA	Positive
Twenty Years of Research on the Relationship Between Economic and Social Perfor-	2018	Lopez-Arceiz et al.	Different	Global		678/83			Web of Science, Scopus, and ABI/Inform	CSP	CFP	Positive

mance: A Meta-analysis Approach												
The robustness of the corporate social and financial performance relation: a second-order meta-analysis	2018	Busch and Friede	Different	Global		25 (one million observations)		Archived	Studies	E, S	CFP	Positive
Corporate social responsibility and financial performance: A non-linear and disaggregated approach	2016	Nollet et al.	Different	USA	Panel regression	all firms listed in the SandP500 stock market index	2007-2011	Archived	Bloomberg, KLD	ESG, CSR	ROA	Positive
Does Corporate Social Responsibility Lead to Superior Financial Performance? A Regression Discontinuity Approach	2013	Flammer	Different	USA	Regression	2,729	1997-2011	Archived	Risk Metrics and Shark Repellent	CSR	ROA, ROE, Tobin's Q	Positive
The Impact of Sustainability Practices on Corporate Financial Performance: Literature Trends and Future Research Potential	2018	Alshehhi et al.	Studies	Global	Content analysis	132	2002-2007	Archived	Top-tier journals	Corporate sustainability	ROA, ROE, Tobin's Q	Positive
Corporate Financial Performance and Corporate Social Performance: Methodological Development and the Theoretical Contribution of Empirical Studies	2012	Boaventura et al.	Studies		Regression	58	1996-2010	Archived	Ebsco, ProQuest, and ISI	CSP	ROA, ROE, Tobin's Q	Positive
Do environmental, social and governance performance affect the financial performance of banks? A cross-country study of emerging market banks	2019	Shakil et al.	Banking	Global	Correlation	93	2015-2018	Archived	Asset4 ESG database	ESG	ROA, ROE	Mixed
Is sustainability reporting (ESG) associated with performance? Evidence from the European banking	2019	Buallay	Banking	Europe	Regression and correlation	235	2007-2015	Archived	Bloomberg	ESG	ROA, ROE, Tobin's Q	Mixed

sector												
When Does It Pay to be Good? Moderators and Mediators in the Corporate Sustainability–Corporate Financial Performance Relationship: A Critical Review	2017	Grewatsch and Kleindienst	Studies	USA		32			Studies	Corporate Sustainability	CFP	Mixed
Do ESG Endeavors Assist Firms in Achieving Superior Financial Performance? A Case of 100 Best Corporate Citizens	2021	Qureshi et al.	Different	USA	Regression	100	2009-2018	Archived	3BL Media	ESG	ROA, ROE, Tobin's Q	Mixed
The Level of Sustainability Reporting and Its Impact on Firm Performance: The Moderating Role of a Country's Sustainability Reporting Law	2020	Buallay	Different	Global	Regression	3,000	2008-2017	Archived	Bloomberg	ESG	ROA, ROE, Tobin's Q	Mixed
ESG Investing In Nordic Countries: An analysis of the Shareholder view of creating value	2018	Dahlberg and Wiklund	Different	The Nordic countries	Regression	108	2007-2017	Archived	Thomson Reuters database	ESG	ROA, Tobin's Q	Mixed
Are CSR Disclosures Value Relevant? Cross-Country Evidence	2016	Cahan, et al.	Different	Global	Regression	2,170	2008	Archived	2008 KPMG Survey, Bloomberg	CSR	Tobin's Q	Mixed
Empirical study on relationship between corporate social responsibility and financial performance in Korea	2016	Han et al.		Korea	Regression	94	2008-2014	Archived	Bloomberg	ESG	ROE	Mixed
ESG and financial performance: aggregated evidence from more than 2000 empirical studies	2015	Friede et al.	Studies	Global	Correlation	2,200	1970-2014	Review study	Studies	ESG	CFP	Mixed
ESG Impact on Market Performance of Firms: International Evidence	2015	Sahut and Pasquini-Descomps	Different	UK, US and Swiss	Regression	618	2007-2015	Archived	Thomson Reuters	ESG	Market performance	Mixed
Between cost and value: Investigating	2019	Buallay	Banking	Global	regression	342	2007-2016	Archived	SDG Index	ESG	ROA, ROE,	Mixed

the effects of sustainability reporting on a firm's performance											Tobin's Q	
Sustainability reporting and performance of MENA banks: is there a trade-off?	2020	Buallay et al.	Banking	MENA	Regression	59	2008-2017		Bloomberg	ESG	ROA, ROE, Tobin's Q	Mixed
ESG Performance and Shareholder Value Creation in the Banking Industry: International Differences	2019	Miralles-Quiros et al.	Banking	Global		166	2010-2015		Thomson Reuters	ESG	Value creation-Tobin's Q	Mix
A Meta-Analytic Review of Corporate Social Responsibility and Corporate Financial Performance: The Moderating Effect of Contextual Factors	2016	Wang et al.	studies		Meta-analytic framework	42	2004-2011	Archived	ABI/INFORM database	CSR	ROA, ROE, Tobin's Q	Mixed
Dynamics of Environmental and Financial Performance: The Case of Greenhouse Gas Emissions	2015	Delmas et al.	Different	USA	Regression	1,095	2004-2008	Archived	Trucost	E	ROA, Tobin's Q	Mixed
The effects of corporate social responsibility on profitability	2016	Lee and Jung	Manufacturing	Korea	OLS regression	576		Survey	Korean manufacturing survey	CSR	ROA	Mixed
The impact of environmental, social and governance factors on firm performance: Panel study of Malaysian companies	2018	Atan et al.		Malaysia	Regression	54	2010-2013	Archived	Bloomberg	ESG	ROE, Tobin's Q	No relationship
Environmental and social disclosures: Link with corporate financial performance	2016	Qiu et al.	Different	Global	Regression	629	2005-2009	Archived	Thomson Reuters	E, S	ROA, ROE, market value	No relationship
The relationship between CSR and financial performance	2015	Johansson et al.	Different	Sweden	Regression	167	2006-2009	Archived	Annual reports	CSR	ROA, Tobin's Q	No relationship
E, S or G? A study of ESG score and financial performance	2019	Ahlklo and Lind			Regression	267	2014-2018	Archived	Nordic stocks and the Sustainalytics	ESG	ROA, Tobin's Q	No relationship

									ESG rank			
The Role of Corporate Social Responsibility Disclosure in Improving Financial Performance (Case study in Indonesian Islamic Bank)	2020	Mukhibad et al.	Banking	Indonesia	Panel data regression and Fixed Effect Model		2012-2018	Archived	Annual reports	CSR	ROA, ROE	No relationship
The Relationship Between Financial Performance, Firm Size, Leverage and Corporate Social Responsibility	2017	Nega		USA	Regression	119		Archived	Bloomberg	CSR	ROE	No relationship
The Influence of Corporate Social Responsibility and Corporate Governance on Banking Financial Performance	2019	Mangantar	Banking	Indonesia	Regression	90	2012-2016	Archived	Annual reports	CSR, CG	ROA	No relationship
Reviewing the Business Case for Corporate Social Responsibility: New Evidence and Analysis	2011	Schreck	Different		Regression and correlation	128	2006	Archived	Oekom rating	CSP	ROE, Tobin's Q	No relationship
The Effects of Environmental Disclosure on Financial Performance in Malaysia	2016	Nor et al.		Malaysia	Multiple regression analysis	100	2011	Archived	Annual reports	E	ROA, ROE	No relationship
The Impact of Corporate Social Responsibility on Firms' Financial Performance in South Africa	2015	Chetty et al.		South Africa	OLS regression	42	2004-2013	Archived	McGregorBFA database	CSR	ROA, ROE	No relationship
corporate responsibility and financial performance: the role of intangible resources	2010	Surroca et al.		Global	Regression	599	2001-2005	Archived	COMPUSTAT Global Vantage	CSR	Tobin's Q	No relationship
Environmental, Social and Governance (ESG) Scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International Diversification and Financial Slack	2019	Duque-Grisales, and Aguilera-Caracuel	Different	Latin America	Regression	104	2011-2015	Archived	Thomson Reuters	ESG	ROA, ROE, Tobin's Q	Negative

Executive Compensation, Sustainability, Climate, Environmental Concerns, and Company Financial Performance: Evidence from Indonesian Commercial Banks	2019	Kartadjumena and Rodgers	Banking	Indonesia	PLS-SEM	252	2007-2014	Archived	(IDX) website, DataStream	E	Tobin's Q	Negative
ESG performance and market value: the moderating role of employee board representation	2021	Nekhili et al.		France	Regression	91	2007-2017	Archived	Thomson One	ESG	Tobin's Q	Negative
a study on relationship between corporate financial performance and environmental social and governance score (ESG score	2019	Amritha and Balasubra manian		India	Regression	35	2014-2018	Archived	Yahoo Finance and financial data from Prowess IQ	ESG	Tobin's Q	Negative
Sustainable Development and Corporate Performance	2007	Lopez et al.	Homogeneous industry	Europe	Regression	110 firms	1998-2004	Archived	DJSI, DJGI	CSR	ROA, ROE	Negative
Environmental disclosure and performance reporting in Malaysia	2007	Smith et al.		Malaysia		40	2001		Annual report	E	ROA, ROE	Negative
Corporate social responsibility as a conflict between shareholders	2010	Barnea and Rubin	Different	USA	Regression	2,650		Archived	KLD, proxy statements, 13F schedules, CRSP, Com pustat, and Execucomp	CSR	firm value	Negative
The Value Relevance of Financial and Non-Financial Environmental Reporting	2009	Moneva and Cuellar		Spain	Regression	44	1996-2004	Archived	IBEX-35 index, annual reports, Compustat Global Data database	E	Financial environmental disclosures	Negative
ESG scores and its influence on firm performance: Australian evidence	2012	Balatbat et al.	Different	Australian		300	2008-2010	Archived	Australian Securities Exchange	ESG	ROA, ROE	Weak
Corporate social reporting: empirical evidence from Indonesia Stock Exchange	2010	Siregar and Bachtiar		Indonesia	Regression	87	2003	Content analysis	Annual report	CSR	ROA, ROE	Weak
The revisited contribution of envi-	2007	Cormier and	different	Canada, France	Regression			Archived	Datastream and annual	E	Stock market	Weak

ronmental reporting to investors' valuation of a firm's earnings: An international perspective		Magnan		and Germany					reports		valuation	
Market Reactions to the First-Time Issuance of Corporate Sustainability Reports: Evidence that Quality Matters	2010	Guidry and Patten	different	USA	Regression	37	2001-2008	Archived	Academic Universe Lexis-Nexis database	Sustainability reporting	Market reaction	Weak
Corporate social reporting in European Banks: The effects on a firm's market value	2012	Carnevale et al.	Banking	Europe	Cross-country Analysis and regression	130	2002-2008	Survey	Survey	CSR	Market value	Weak

Appendix IV: Summary of the Articles Related to the Relationship between Compensation and Performance

Title	Year	Author(s)	Industry	Country	Tool	Sample	Period	Data collection	Source, Dataset	Firm value	Relationship
Executive compensation and firm performance: Evidence from Indian firms	2016	Raithatha and Komera	Different	India	Regression	3100	2002-2012	Archived	e PROWESS database	ROA, ROE, Tobin's Q	Positive
CEO compensation: does it pay to be green?	2001	Stanwick and Stanwick	Different		Regression	186 and 188	1999 and 1991	Archived	Business ethic magazine	ROE	Positive
Executive Compensation and Firm Performance in New Zealand: The Role of Employee Stock Option Plans	2021	Ding and Chea	Different	New Zealand	Regression	84		Archived	DataStream, Bloomberg, and NZX Company Research	ROA, ROE, Tobin's Q	Positive
Management Financial Incentives and Firm Performance in a Sustainable Development Framework: Empirical Evidence from European Companies	2020	Noja et al.	Different	Europe	Regression	1594	2019	Archived	Thomson Reuters	EBITDA, EBIT, EV	Positive
Chief Executive Officer and Chief Financial Officer compensation relationship to company performance in state-owned entities	2017	Bussin and Ncube	Different	South Africa	Correlation and multiple regression	2	2010/2014	Archived	Annual reports	ROA, ROE	Positive
Executive remuneration and company performance	2017	Ndlovu et al.	Different	South Africa	Regression and correlation	359	2010/2015	Archived	McGregor BFA database	ROA, ROE	Positive
Investigating the associ-	2018	Elsayed	Different	UK	Regression	1,462	2010-2014	Archived	FTSE 350	ROA,	Positive

ations between executive compensation and firm performance: Agency theory or tournament theory		and El-bardan							index	Tobin's Q	
Executive compensation and the EVA and MVA performance of South African listed companies	2013	De Wet	Different	South Africa	Regression		2006-2010	Archived	McGregor BFA	ROA, ROE	Positive
CEO Compensation and Corporate Governance in China	2012	Conyon and He	Different	China	Regression	2,024	2005/2006	Archived	GTA	ROA	Positive
CEO compensation and firm performance: Evidence from the US property and liability insurance industry	2013	Sun et al.	Insurance	USA			2000-2006	Archived	Annual reports	ROA	Positive
The Relation between CEO Compensation and Past Performance	2012	Banker et al.	Different	China	Regression and correlation	2,498	1993-2006	Archived	Compusat ExecuComp	ROE	Positive
The relationship between executive remuneration at financial institutions and economic value added	2013	Van Blerck	Banking	USA, South African	Correlation	16	2002-2011	Archived	Annual reports	ROA, ROE	Positive
Director compensation in emerging markets: A case study of Thailand	2013	Theeravanich	different	Thailand	Regression and correlation	363	2002-2008	Archived	SETSMART	ROA, Tobin's Q	Mixed
Relationship between CEO remuneration and company financial performance in the South African retail and consumer goods sector	2015	Bussin and Nel	Retail and consumer goods		Regression and correlation	30	2006-2011	Archived	JSE	ROE	Negative
The relationship between remuneration and financial performance for companies listed on the Johannesburg Stock Exchange	2018	Kirsten and Toit	Different	South Africa	Regression	42	2006-2015	Archived	JSE, INET BFA	ROA, ROE	No relationship
Top management compensation and firm performance—A matter of context?	2016	Lindstrom and Svensson	Different	Sweden	Regression	900	2010-2014	Archived	Retriever Business	ROA, ROE	No relationship
Is the pay–performance relationship always positive? Evidence from the Netherlands	2007	Duffhues and Kabir	Different	Netherlands			1998-2001		Annual reports	ROA and Tobin's Q	No relationship