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The G in ESG: an analysis of the impact of Corporate Governance indicators on firm performance

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Introduction

The corporate reporting environment has changed significantly in recent years, with a growing interest on the disclosure of non-financial information.

The increasing attention towards climate change and climate-related impacts on businesses has captivated a broad spectrum of stakeholders, including investors, shareholders, asset managers, civic society, and regulators. A pivotal moment occurred in August 2018 when a fifteen-year-old girl started spending her Fridays outside the Swedish Parliament protesting. She held a sign that said "Skolstrejk för klimatet", asking for stronger action on climate change (Brady, 2019). This event marked a turning point for the development of the environmental movement and prompted global consciousness, realizing the urgent need for sustainability. Sustainability is now representing one of the greatest challenges that human society has to face, particularly in the context of environmental concerns. Recent months have witnessed shocking and alarming events, ranging from unprecedented ocean temperatures rise to a record low extent of Antarctic sea ice. Many people have been confronted with extreme weather previously unseen, as climate impacts began to deviate from usual weather. Even though experts had foreseen changes and were not surprised by the fact that most of the northern hemisphere has had heatwaves this summer, the intensity of recent phenomena has exceeded expectations (Mistry and Mwatsama, 2023).

This evolving narrative underscores that sustainability is no longer a peripheral concern but a vital aspect with profound financial implications for businesses. For instance, global supply chains exacerbate the effects of climate change, deforestation, and water scarcity, all of which, in turn, pose substantial business risks. Companies heavily reliant on non-renewable energy are affected by the rising costs associated with fossil fuels. In addition, these companies may face regulatory challenges and public scrutiny due to their environmental impact.

The shocks of climate-related events emphasize the urgency for businesses to integrate sustainable practices, not merely as ethical considerations but as indispensable components of their long-term financial strategies. This shift can be seen as businesses are moving beyond reactive responses. Instead, they are increasingly focused on managing their environmental impact, the E of the ESG, particularly greenhouse gas emissions, through new monitoring and dashboarding solutions. Moreover, they are

taking proactive steps by incorporating internal measures focused on social and governance improvements (Mio, Venturelli and Leopizzi, 2015). It is important to keep in mind that ESG is not made solely of the E, but also of the S and the G. The S includes everything that is social, from diverse workplaces to safe communities and ethical engagement. The G refers to corporate structures and the relationships with their many stakeholders. One way to see how the three dimensions are interconnected can be that the ongoing exogenous collapse, triggered by catastrophic natural events, has amplified endogenous social and governance concerns within firms.

Climate-related risk management and ESG monitoring and reporting are integral strategies for operationalizing financial resilience and ensuring long-term success in the core business. Corporate social responsibility is therefore regarded as an essential business measure for dealing with the previously mentioned business risks (Lu et al., 2019). ESG reporting represents the new language of sustainability in current times, underlining the increasing importance of Environmental, Social, and Governance factors. Organizations are increasingly motivated to engage in ESG reporting, driven by stakeholders' pressure, both internal and external (Halkos and Nomikos, 2021), and the evolving regulatory environment (Welford, 2004). The global embrace of sustainability reporting is evident in the widespread adoption of frameworks and standards: The Global Reporting Initiative (GRI), International Sustainability Standards Board (ISSB), and Task Force on Climate-related Financial Disclosures (TCFD), to name a few. In response to the growing importance of disclosure, policymakers have recently reshaped regulatory landscapes surrounding ESG reporting. For instance, the European Sustainability Reporting Standards, which are being developed under the Corporate Sustainability Reporting Directive and the Corporate Sustainability Due Diligence Directive. These standards are designed to help boards of directors navigate the transition to sustainability, providing guidance and recommendations. This is a strategic imperative that goes beyond compliance and requires a pragmatic approach to ensure the long-term viability of the business. They also promote robust governance practices, transparency, and accountability, which are essential for preventing misconduct and encouraging ethical behavior. Recent corporate scandals resulting from inadequate corporate governance practices have refocused attention on the role of boards in fostering responsible leadership and balancing stakeholders' interests, as well as highlighting the importance of corporate governance as a core component of the ESG landscape.

The thesis is organized in three chapters. The *first chapter* provides an overview of the ESG factors and the prevalent ESG reporting frameworks adopted by companies, with particular attention on the latest set of sustainability standards, exemplified by the European Sustainability Reporting Standards and the IFRS Sustainability Standards. The *second chapter* highlights the significance of the G factor within ESG, using the British Petroleum oil spill disaster of 2010 as a starting point. This study intends to shed light on critical challenges and consequences arising from poor corporate governance practices, exploring the theoretical foundation such as shareholder value primacy. The presentation of new corrective measures, particularly emphasizing the role of the board of directors in guiding a company towards more sustainable long-term growth, is a key focus. Finally, the *third chapter* brings evidence from the market, presenting two analyses aimed at explaining the relationship between corporate governance and firm performance.

Chapter 1. Overview of the sustainability reporting standards and frameworks

1.1. What are the ESG factors?

ESG represents three different areas of social concern. Investors, companies, and other stakeholders take them into account to assess a company's impact on society and the planet, and they are often used to make investment decisions.

From the company's perspective, the ESG criteria take the form of a social credit, where all three categories are used to illustrate the amount of risk a company poses to investors (Arvidsson, 2010). The ESG rating is usually calculated based on data and metrics about a company's intangible assets. Consequently, the investment decision is not only based on a company's economic performance but also on values such as respect for the environment and effective corporate governance.

The "E" specifically includes factors such as a company's impact on the environment, including its energy use, its handling of waste and other pollutants, its position on deforestation and other natural resource conservation issues, sustainability practices and the company's active contribution to climate change and efforts to reduce carbon emissions.

The "S" focuses on corporate social responsibility, diversity and inclusion, and community engagement. An important aspect is how the company treats its employees and whether it offers them fair remuneration and appropriate social benefits. In addition, the composition of a company's workforce is also assessed.

The "G" encompasses anti-corruption policies, tax transparency, board diversity and independence, financial disclosures, and treating minority shareholders fairly. A significant aspect here is represented by whether the company has sufficient controls in place to ensure that management serves the interests of, and is accountable to, various stakeholders[1].

Effective ESG disclosure improves transparency and information symmetry. Given that companies are already required to disclose their financial results using standardized frameworks and standards, it is reasonable to expect a similar level of transparency when it comes to the disclosure of sustainability information by management teams, and this is exactly what the regulatory environment implements. Disclosure of ESG information also supports progress towards a modern, resource-efficient economy and is in line with

[1] https://www.daato.net/articles/esg-what-it-is-and-why-its-important

initiatives such as the European Green Deal, which aims for zero net emissions of greenhouse gases by 2050 and economic growth without overexploitation of finite resources (European Commission, 2019). ESG analysis has become an increasingly important part of the investment process. The transition to a more sustainable economy will bring opportunities and risks that are not captured by traditional investment analysis, making the measurement and understanding of ESG critical to value creation. The core objective of corporations' socially accountable activities is to maximize shared value, which can indirectly produce investment returns for shareholders while avoiding unfavorable impacts on both society and the environment (Navickas and Kontaiutiene, 2012). Sustainable investing is critical to the sustainability of investing[2]. It can be seen as part of the evolution of investing. Increasingly, industry participants acknowledge that certain ESG factors hold economic significance, particularly in the long term. Consequently, there is a growing emphasis on incorporating these material factors into investment decisions and processes.

Research has indicated that of more than 1,000 global investors, 89% had adopted ESG in 2022, up from 84% in 2021 (Hicks, 2023). Deutsch Bank found that more than half of investors (53%) regarded climate change as the most important factor affecting their investment decisions in 2022, up from 47% in 2021. A PwC survey in 2022 found that ESG issues are now among investors' top five concerns. 83% of investors replied to the survey indicating that the top priority for business should be the development of innovative products, services, and ways of operating. Keeping a profitable financial performance is ranked second (69%). Furthermore, among investors' top concerns for a corporation are environmental, social, and governance (ESG) outcomes: data security and privacy rank third (51%), effective corporate governance is fourth (49%), and reducing greenhouse gas emissions (44%) rounds out the top five (PwC Survey, 2022).

Socially Responsible Investing (SRI) History

Socially Responsible Investing (SRI) is not a novelty, it has a historical foundation dating back to the 1960s-70s, which assisted the rise of the antiwar movement with people protesting against nuclear weapons and supported companies working on environmental

[2] https://www.cfainstitute.org/en/rpc-overview/esg-investing#:~:text=ESG%20stands%20for%20Environmental%2C%20Social,material%20risks%20and%20growth%20opportunities

issues, and green energy (Townsend, 2020). Traditional SRI was also influenced by the maturity of movements on women's rights, and racial equality (Carroll, 2021). These social and cultural influences, with these notably progressive American values, created the recipe for socially responsible investing in North America. In the early 1970s, the first mutual funds were created, reflecting the values of faith, civil rights movement sensibilities, and environmental concerns. Luther Tyson and Jack Corbett, who both worked for the United Methodist Church, pioneered the first socially responsible investing (SRI) mutual fund known as the Pax World Fund. Their initiative involved pooling funds for individuals who preferred not to invest in companies associated with the Vietnam War.

Around 1970, the application of any "social" criteria to investments contradicted conventional thinking. The famous Milton Friedman of the University of Chicago can give us an idea of the common wisdom of the time: "The social responsibility of business is to increase its profits" (Friedman, 1970). Nonetheless, several events in the 1970s set a pattern that would become very familiar in the decades that followed. As society responded to nuclear energy, exploitation, Apartheid, climate change, human trafficking, the gender wage gap, the LGBTQ movement, and many other political movements and issues, socially responsible investors rushed into the industry (Townsend, 2020). Investors considering both the impact of their decisions on the world and society, alongside potential financial gains, was more of an inspirational action, was born as a matter of principle. Once Warren Buffett, an American economist and investor, inspired investors with this motto: "Don't invest in a company you don't understand. Don't invest in a company that conflicts with your values". This motto, said in the period when many Americans were questioning their values and were challenging themselves to which ones were the most important, gave an enormous impetus to investors. SRI retained a certain degree of subjectivity, as an investor's practice reflects their distinctive set of personal values and morals (S&P Global, 2020).

A growing interest in Socially Responsible Investing (SRI) persisted through the events of the 1980s, including the Chernobyl nuclear reactor disaster and the oil spill in Alaska. These incidents heightened awareness of social and environmental issues. Subsequently, the emergence of new SRI mutual funds was driven by concerns such as tropical deforestation and the greenhouse effect. By 1995, the USA alone had 55 SRI mutual funds, collectively managing $12 billion in assets actively invested in the market.

The modern history of ESG principles can be traced to early 2004 when it first took hold in Europe. During that time, United Nations Secretary-General Kofi Annan engaged over 50 CEOs from major financial institutions in a collaborative initiative to integrate ESG values into capital markets. He called on the largest asset owners to help create the United Nations Principles for Responsible Investment (PRI) to create a sustainable financial system. Approximately a year later, at the 2005 'Who Cares Wins' conference, the acronym 'ESG' was coined (The Global Compact, 2005). Three elements created the demand for ESG analysis. The first one was a strong intellectual and legal debate about the relationship between fiduciary duty and issues of sustainability; the second one was climate change and last but not least, poor corporate governance (Townsend, 2020). I will now explain briefly each one of them.

The first, it all started with the United Nations Environmental Program (UNEP) addressing the delicate balance between sustainability and fiduciary duty standing as "we should aim at development that meets the needs of the present without compromising the ability of future generations to meet their needs" (UNEP FI Statement, 2020). In 2005 UNEP commissioned a report by Freshfields Bruckhaus Deringer, a global law firm, exploring the integration of ESG issues into investment policies. The report concluded that ESG considerations are consistent with fiduciary duty and ignoring them may result in breaking this duty.

The growing concerns about climate change prompted considerable developments in environmental issues awareness. The Exxon Valdez oil spill in 1989 led to the formation of the Coalition for Environmentally Responsible Economies (CERES) and the Valdez Principles, a voluntary set of 10 principles for large companies to sign. Eventually, the acronym dropped and the coalition and the principles came together under the name Ceres. The oil industry provided a bridge between SRI in North America and the emerging ESG in Europe. Ceres set the groundwork for what came later, with the GRI and even later the SASB. Ceres also contributed to raising awareness of climate change after Hurricane Katrina, through the report on climate's impact on the insurance industry coinciding with Hurricane Katrina. In 2011, regulators in California, New York, and Washington began requiring climate risk disclosure for insurers. Increased disclosure of ESG information led to recognition of the impact of climate change on investment markets. Legal requirements for the disclosure of environmental information became critical to ensuring market stability.

Finally, the combination of climate change, corporate governance, and ethical failures during the subprime mortgage crisis led to raising awareness of poor governance within firms and the necessary intervention. The subprime mortgage crisis exposed the lack of disclosure, transparency, and ethics in the financial sector, leading to unprecedented government intervention. It was not the first time that something similar happened, the stock market crash of 1929, which led to the Great Depression of the 1930s, was another huge event. Separation of board CEO and chair and board independence suddenly became material for the long-term success. These crises made it clear to the largest asset owners that they needed a better framework to assess market risks, including climate change and corporate governance (Townsend, 2020).

Historical events such as the subprime mortgage crisis and the global economic crisis not only underscored the need for robust governance frameworks, but also paved the way for the development of socially responsible investing (SRI) and the emergence of environmental, social, and governance (ESG) considerations in the financial landscape, as pointed out in the study exploring Italian Blue Chips firms' increased interest after these moments of crisis (Landi and Sciarelli, 2019). The quantitative global increase in annual disclosures of non-financial reports has been followed by a consequent proliferation of studies on non-financial reporting practices. In contrast to the initial wave of research, which predominantly employed quantitative approaches to assess the primary determinants of corporate reporting practices, recent years have seen academics considering managerial implications tied to the implementation of non-financial reporting systems (Bebbington and Unerman, 2020; Unerman, 2008). Scholars widely acknowledge the existence of multiple externalities linked to this type of disclosure. Numerous studies have explored the connections between sustainability reporting and various functional areas, such as marketing, logistics or finance (Mio, Venturelli and Leopizzi, 2015). In the last area of interest, the study explores the integration of corporate social responsibility effectively into business operations, through management incentive schemes. These transformative phases laid the groundwork for the current era of increased stakeholder pressure and the growing importance of ESG reporting. Companies that have learned from the lessons of past crises are now under increasing scrutiny from investors, asset managers, policymakers, regulators, and other stakeholders, urging transparency about their ESG practices and performance. This trend is set to persist as

ESG factors continue to prove their importance for long-term investment success and societal well-being (OECD, 2019).

1.1.1 Stakeholders' pressure for sustainability-related information reporting

Freeman defined stakeholders as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, 25). Stakeholders can be divided into internal stakeholders, who are formally connected to the company, such as managers and employees, and external stakeholders, such as investors, customers, regulators, communities, and competitors, who can influence the company from the external environment. Harrison and St. John (1997) argue that external stakeholders should be prioritized due to their ability to impact the environmental uncertainty faced by the company. Mitchell et al. (1997) developed a stakeholder identification model for corporate management to better understand who are the stakeholders that can have more power on the firm and can have a significant effect on it, and subsequently prioritize their claims instead of others. Three attributes can help in this definition: 1) the stakeholder's power to influence the firm; 2) the urgency of the stakeholder's claim; and 3) the legitimacy of the stakeholder's relationship with the company (Wong, Teh and Tan, 2023).

In developing and studying the so-called stakeholder identification model mentioned above, several theoretical frameworks have come to help and I am going to present the crucial conclusions that came out of them.

The central theoretical framework is the stakeholder theory, which states that "a company has a responsibility to develop relationships and create as much value as possible for stakeholders, without resorting to trade-offs" (Freeman, 2010). The application of this theory helps corporate managers to understand which stakeholders actually count to companies in relation to ESG reporting (Buniamin, 2020) and, as a result, the content of the report is strongly influenced by perceptions of the managers (Lindrianasari and Adriyanto, 2010). In the stakeholder literature, there are two main branches: the moral branch and the strategic branch. The moral branch supports the company in finding a balance between the different interests of the stakeholders, regardless of financial implications. Examples of how it can be applied in practice are the following: employees are more likely to implement Corporate Social Responsibility (CSR) practices when their managers/owners have a strong moral commitment to CSR

practices, or the CEO's ethical leadership can encourage businesses to accept corporate social obligation. Emphasizing sustainability not only boosts employee engagement and productivity but also fosters a positive workplace culture. Employees are motivated and are proud of working for a company aligned with their values. For instance, employees are found to be one of the most powerful stakeholders as perceived by the managers, alongside shareholders and the government (Buniamin, 2020; Halkos and Nomikos, 2021).

The strategic branch emphasizes the financial benefits of good stakeholder relationship management. Companies are motivated to disclose ESG information to overcome the pressure from powerful stakeholders (Gray, Owen and Adams, 1996). The more important the stakeholder to the organization, the more effort will be exerted in managing the relationship (Gray, Owen and Adams, 1996, 45). They can implement a communication strategy that emphasizes the tremendous efforts they are making to implement sustainable practices, even though they are not. Companies can avoid disclosing this type of information or can act in this way to save their reputation and reduce reporting costs. On the other hand, companies that truly prioritize ethical and sustainable practices will be happy to report such information. They can both retain and attract customers who are increasingly aware of the environmental and social impact of their purchases, conforming to various particular stakeholders, thus building strong relationships with their stakeholders and consequently creating more value for shareholders. The importance of disclosing ESG (especially social and governance) information plays a central role in building and maintaining brand loyalty (Jin Lee and Rhee, 2023).

In line with this managerial branch of stakeholder theory, corporate reporting is a way of demonstrating conformity with the expectations of particular stakeholders' groups, especially those that are recognized as to be powerful due to their control over resources essential to the organization's operations (Ullman, 1985). ESG reporting is supposed to be demand-driven and used as the company's strategy to respond to their stakeholders (Buniamin, 2020).

The legitimacy theory is another important lens, it can be defined as "a generalized perception or assumption that actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions". It is based on a social contract between the firm and the society, which may be both legislated

and non-legislated (Mathews, 1993, 26). However, societal dynamics involve various groups with varying levels of power and influence over the activities of other groups. It is important to note the substantial overlap between the legitimacy theory and the stakeholder theory (Hahn and Kuhnen, 2013). Stakeholder theory explicitly states that different stakeholders have different views about how the organization should conduct its operations, and have different ability to affect an organization (Deegan 2002, 295). Integrating the two theories, external stakeholders can compel companies to disclose more ESG information based on the institutional legitimacy of their claims and normative authority (Wong, Teh and Tan, 2023). For instance, global governments are enforcing more stringent environmental regulations, placing companies adhering to sustainability practices in a favorable position for compliance, thus avoiding legal issues and associated financial penalties. Companies that disclose non-financial information, as a legitimacy tool, can have better access to financial resources, better manage capital costs, and influence the public policy process.

The resource-based theory asserts that the competitive advantage of a firm, its growth, and its profit are affected by the availability and the heterogeneity of resources. The more the company's resources are valuable, rare, unique, and difficult to imitate, the more the company gains a competitive advantage (Barney, 1991, 99-120). If companies develop a sustainable competitive advantage by elaborating complex strategies based on intangible assets are likely to outperform other companies. Companies should take advantage of the resources and capabilities inherent in the network of relationships built by their stakeholders to obtain more resources. This holds for existing (and potential) customers, employees, and partners within the supply chain. Under the resource-based view, a firm's strong reputation provides it with more stable resources and favorable agreements. ESG performance serves as a measure of a firm's intangible resources, which are often perceived as markers of respect and reputation. Investing in ESG initiatives can be the same as investing in the firm's reputation (Sharma, Bhattacharya and Thukral, 2019).

These conceptual frameworks help us to understand the power exercised by stakeholders, in particular external ones, towards an organization, and how a company proactively discloses ESG information to engage with stakeholders and understand their expectations and concerns, maintain legitimacy, and secure competitive advantage. To effectively engage with stakeholders and share with them non-financial information,

companies need to give them access to information about the integration of ESG considerations into companies' structures and operations.

1.2 ESG disclosure: from voluntary reporting to mandatory reporting

According to a study by Bloomberg Intelligence, global ESG assets are projected to exceed $53 trillion by 2025, accounting for more than a third of the projected $140.5 trillion in total assets under management (Diab and Martin Adam, 2021). Sustainable assets, as reported by the US Forum for Sustainable and Responsible Investment (US SIF), reached $17.1 trillion in 2020 in the US. This mirrored a global trend, with the value of sustainable assets in the US, Canada, Europe, Australia, and Japan increasing from $22.8 trillion in 2016 to $35.3 trillion in 2020 (GSIA, 2020).

The number of listed companies publishing sustainability reports has risen from fewer than 20 in the early 1990s to more than 10,000 today, and around 90% of the Fortune Global 500 have set carbon emissions targets, up from 30% in 2009 (Grewal and Serafeim, 2020).

The world's largest asset manager, Blackrock, Inc. has had the opportunity to develop a better understanding of financially relevant ESG information thanks to the increasing availability and accessibility of ESG data from corporate disclosures. With access to over 2,000 categories of ESG metrics from multiple providers, Blackrock has recognized ESG data's importance in driving both enhanced investment returns and risk mitigation strategies (Cifrino and McDermott, 2023).

1.2.1 Voluntary disclosure

ESG metrics are not typically part of mandatory financial reporting, although companies are increasingly providing disclosures in their annual report or in a standalone sustainability report. Much of the ESG data available to investors has historically been obtained through voluntary cooperation. Companies either responded to survey questionnaires or published voluntary sustainability reports based on a series of frameworks and reporting standards created by various organizations (Zamil and Ramakrishnan, 2023).

Over the last two decades, there have been many developments in increasing organizational transparency but still voluntary disclosure practices are not adopted in many countries.

According to a paper reviewing the determinants of firms' reporting practices, especially voluntarily, few corporations report data regarding child-forced and obligatory labor. Similarly, some listed companies report even less CSR-related information compared to their counterparts (Zamil and Ramakrishnan, 2023).

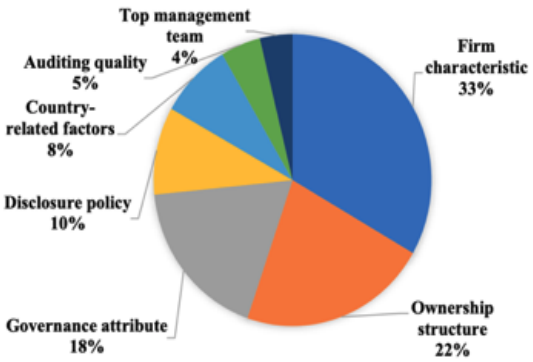
There are several drivers identified by literature that guide companies to be more likely to disclose this kind of information: firm characteristics, corporate governance, ownership structure, auditor type, top management team, disclosure policy, and country-related factors. 36 different theories have been applied in the literature to discover which ones are the most powerful determinants in voluntary disclosure. The theoretical lens that gained more success is the agency theory, the most applied in publication, with 55 studies involved. It indicates that businesses had voluntarily recourse to the disclosure of additional information to reduce agency costs resulting from ownership separation. The agency theory embraces a wider scope than the managers-shareholders relationships (Eisendhardt, 1989). However, in research of voluntary disclosure, the agency theory is applied to examine how the information is disclosed by managers to shareholders (De Villiers and Marques, 2016; De Villiers and Van Standen, 2011). Legitimacy theory was also applied in 53 articles of the same sample literature. Companies allow for a higher degree of voluntary disclosure to guarantee compliance with the law and principles of the community when the obligatory one is not enough. Stakeholder theory was used 42 times to evaluate the influence of firms' disclosure practices on the various stakeholders within the community. There are other theories, less used but still relevant under some aspects: signaling theory and institutional theory, both were used 20 times each. The first one argues companies engaging in extensive voluntary disclosure seek to minimize information asymmetries. They aim to signal the efficiency and actual level of the corporation by providing additional data to entities that may lack sufficient information. In this perspective, non-financial disclosure enables firms to signal to investors their better environmental, social and/or governance performance when compared to competing firms (Kanagaretnam, Lobo and Whalen, 2007). On the other hand, institutional theory concentrates on the tacit implications of institutional views and laws. Companies are expected to conform with external expectations about what forms or structures are acceptable. This can be attributed to a form of "institutional" pressure urging the establishment of such structures (Deegan, 2002, 293-294). It is important, especially for future research, to use different theoretical

lenses to achieve better awareness of the drivers of firms' voluntary reporting and the interaction among them.

The review revealed that company-specific factors, such as size, leverage, age, profitability, and liquidity are determinants of voluntary reporting for a quite important percentage, 33% of the body literature has investigated this aspect.

Firm size**,** for example, is suggested to exert a positive influence on the corporate voluntary level, as the increased size leads to increased public exposure and scrutiny as well as increased concern for legitimacy due to the traditional expectations of society. The second most investigated is corporate governance and ownership structure with 22% of the existing studies. In particular, board size is the most examined one. Overall, the general impact of corporate governance quality and its mechanisms on the disclosure practices of corporations reveals a positive direction. But there is still debate on this. Board independence for instance places pressure on executives to reveal more data and avoid agency costs. Voluntary disclosure can be used to reduce the information gap between management and shareholders when disputes result from ownership separation. Several governance attributes have received scarce attention such as directors' remuneration and demographic characteristics. Still, the competitive advantage that a firm can gain through its sustainable practices can be accomplished only through an integrated monitoring system and mechanisms with an efficient reporting system (Zamil and Ramakrishnan, 2023).

Figure 1: The drivers of voluntary reporting



Source: Zamil and Ramakrishnan: Drivers of corporate voluntary disclosure: a systematic value, 2023.

Ownership structure is another important element that relates to the distribution of ownership among different groups of shareholders. It has been identified as how shares are distributed across votes and capital and also the identity of shareholders. 52 studies have looked at ownership structure as a determinant of voluntary disclosure, with most studies finding a significant influence of ownership on disclosure and in particular a positive relationship. Another study (Pucheta-Martínez and Gallego-Álvarez, 2018) show that firms with higher ownership dispersion are more likely to develop environmental reporting policies and voluntarily disclose environmental matters.

A total of 21 studies looked at the disclosure policy that determines companies' reporting practices. It is evident that mandatory regulation of disclosure significantly improves disclosure activities, but voluntary reporting has played until now a significant role in collecting information that is used by different stakeholders. To maximize its effectiveness, this voluntary approach should be combined with a more stringent enforcement of current regulations (Buysse and Verbeke, 2002).

Over the years, many companies started to disclose non-financial information alongside the traditional financial information reporting. Selecting which sustainability reporting standards or frameworks to use is an important step because it can help the organization set goals, establish priorities, measure performance, and mitigate risks. The choice is quite difficult because there are hundreds of different standards, industry initiatives, guidelines, and frameworks. Today over 600 different sustainability standards (including regulations and voluntary standards) have been counted, a number that has increased a lot in recent years, making life for companies extremely challenging (Ernst & Young, 2021). There is finally a push for standardization, government, and policy-makers are agreeing on creating a universal reporting standard.

Establishing a harmonized and standardized language for ESG reporting is a complex undertaking, particularly when the existing frameworks developed in the United States and Europe present some important differences (Bakken and Korka, 2022). Before presenting the corporate ESG reporting landscape, it is crucial to first grasp the concepts of materiality and double materiality, as they permeate the various frameworks.

1.2.2 Concept of double materiality in the recent sustainability reporting frameworks

Materiality represents the key principle according to which companies select issues they must report. In the context of non-financial reporting, materiality acts as a filter that identifies what non-financial information matters to the users of corporate non-financial reports. Deciding whether the information is material or not can be particularly ambiguous because of the different ideas around social responsibility. Assuming that information is material when its impact influences the decision-making process of stakeholders, materiality takes a well-defined form when information, stakeholders, and impact are defined (De Cristofaro and Gulluscio, 2023). The various international initiatives addressing sustainability reporting differ in the interpretation of the

aforementioned three aspects. Companies report on sustainability using a variety of frameworks and guidelines, each with a slightly different focus and objective. The initiatives can be separated into two classes: those that focus on investors and those that focus on a wider pool of stakeholders (Petersen, Herbert and Daniels, 2022). This split focus has contributed to dividing the meaning of materiality into: "financial" and "impact" materiality. In addition, since 2014, the European Union, which belongs to the second category of a broader pool of stakeholders, decided to adopt a third meaning of materiality: "double materiality", which is a combination of both financial and impact materiality (EPRS, 2021). The materiality concept has gained increased importance in corporate non-financial information disclosure, enhancing its centrality in non-financial reporting (NFR) frameworks and standards issued by various international bodies. In particular, the initiatives aimed at broad audiences of stakeholders, including investors, are from the EU, GRI, and the United Nations (UN). "Impact" materiality considers a company's external impacts, such as those on the economy, environment, and society (Nielsen, 2023). The second group, where investors, lenders and other creditors represent the primary audience, includes the initiatives of the Financial Reporting Council (FRC), Taskforce on Climate-related Financial Disclosures (TCFD), and IFRS Foundation, which recently integrated the Climate Disclosure Standards Board (CDSB), International Integrated Reporting Council (IIRC), and Sustainability Accounting Standards Board (SASB) — now consolidated into the Value Reporting Foundation (VFR) and the International Sustainability Standard Board (ISSB). In their assessments of materiality, these initiatives focus on internal impacts, often referred to as "financial" materiality (De Cristofaro and Gulluscio, 2023).

While embracing a multi-stakeholder perspective, the EU has taken a unique approach consisting of a fusion of the two materiality perspectives in the concept of double materiality. This concept does make the EU complementary to the other well-known international frameworks. Double materiality was born when the so-called Non-Financial Reporting Directive 2014/95/EU (NFRD) was published:

> "disclosure of non-financial information is vital for managing change towards a sustainable global economy by combining long-term profitability with social justice and environmental protection. (...) disclosure of non-financial information helps the measuring, monitoring, and managing of undertakings'

> performance and their impact on society (...) policies implemented by businesses matched by a sufficient level of comparability to meet the needs of investors and other stakeholders as well as the need to provide consumers with easy access to information **on the impact of businesses on society**."

The NFRD amended the previous Accounting Directive 2013/34/EU as regards non-financial and diversity information provided by certain large companies and groups.
It broadened the traditional materiality evaluation, which was based on factors such as the company performance, results, and business situation, including the external impact of the business activity. The term double materiality was also included in the 2019 update guidelines on reporting non-financial information (European Commission, 2019). The 2019 guidelines represent a supplement document from the European Commission, stating that financial, environmental, and social factors are all included in the Non-Financial Disclosure (NFRD) materiality viewpoint. These guidelines also emphasize that impacts considered socially and environmentally material may also have financial significance, reflecting a comprehensive and interconnected approach increasingly recognized by investors.

There are numerous measures that constitute the non-financial disclosure framework since the early 2000s. The most notable ones will be presented below, starting from the initiatives aimed at a broader group of stakeholders, and then moving towards the more economic-oriented ones.

1.3 ESG Reporting Frameworks and Standards

1.3.1 Non-financial Reporting Directive and European Sustainability Reporting Standards

The implementation of the European Union Directive 95/2014 represents a crucial moment, as it sets the transition from a voluntary to a mandatory disclosure setting of non-financial information (Cordazzo, Bini and Marzo, 2020). The Non-Financial Reporting Directive - NFRD 2014/95/EU came into effect in 2017, and it identified the rules on disclosure of non-financial information by certain large undertakings. Two main parameters were used to define the scope: 'public interest entities' (large listed

companies, banks, and insurance companies) and only entities with more than 500 employees were obliged to disclose (approx. 6000 large companies and groups across the EU) (European Commission, 2019). The NFRD gave a fair amount of flexibility in implementing the requested disclose. For instance, it did not require companies to disclose according to a specific reporting standard or framework (Cordazzo, Bini and Marzo, 2020), nor did it impose disclosure in details (such as per sector). The NFRD granted a good space for manoeuvre, in the sense that companies were asked to disclose sustainability-related information or give a clear and reasoned explanation for not doing so ("comply-or-explain"). Companies required to comply with the directive were obligated to begin reporting in 2018 (for the fiscal year 2017). Corresponding to the NFRD, the European Commission released non-obligatory recommendations in 2017, aimed at assisting companies in preparing their non-financial disclosures. These recommendations were further updated in 2019.

Yet, the Non-Financial Directive and its subsequent guidelines failed to adequately enhance the quantity and quality of ESG disclosure practices. Although companies started to prepare the non-financial information report, several limitations have been encountered: 1) lack of comparability between companies; 2) the presence of a gap between the sustainability information reported by companies and user information needs for investment decisions; 3) challenges arise from diverse frameworks and private standards; 3) lack of specificity on forward or backward-looking information; 4) lack of consistency with other information in the management report (Jiménez-Montanes and Villaluenga de Gracia, 2023).

For this reason, in 2020, the European Financial Reporting Advisory Group (EFRAG) and the European Lab, in response to the European Commission's mandate, launched the Project Task Force to prepare for the development of the EU's non-financial reporting standards. The aim is to establish robust guidelines for operationalizing materiality, specifically focusing on the impact and financial dimensions. It introduces the dynamic materiality concept, acknowledging that impacts on people and the environment may evolve to become material for financial reporting (European Reporting Lab EFRAG, 2021). It is one thing the financial materiality for sustainability reporting and another one financial materiality for financial reporting. It doesn't mean that they are not connected, actually they are because many impacts on people and the environment may be

considered “pre-financial” in the sense that they may become material for financial reporting purposes over time.

The proposal for a Corporate Sustainability Reporting Directive (CSRD) released in 2021 and revised twice in 2022, includes the concept as mentioned above of double materiality. For instance, the proposal requires all the largest and listed companies (without the micro-companies listed) to report on two orders of impacts: the so-called “outside-in” perspective, which means the impacts suffered by the companies in terms of performance and development, as well as the “inside-out” perspective, which on the other hand highlights those generated by companies on the outside world, on people and the environment. The CSDR mandates the inclusion of sustainability information, covering environmental, social, human rights, and governance factors. It emphasizes 'sustainability risk,' an event with potential material negative impacts on investment value, as per EU Regulation (EU) 2019/2088 (European Parliament and Council, 2019). The Directive on sustainability reporting mandates companies to provide specific, detailed information, preventing discrepancies among various standards, and promoting a shift toward a sustainable economy. This aligns with the 2030 Agenda’s Sustainable Development Goals, under the framework of the European Green Pact and the Sustainable Finance Agenda (Jiménez-Montanes and Villaluenga de Gracia, 2023).

In April 2022, EFRAG released the first set of 13 exposure drafts of the European Sustainability Reporting Standards (ESRS). The set is composed of two transversal standards: ESRS 1. General Principles and ESRS 2. General disclosure requirements, strategy, governance, and materiality assessment, plus 11 standards on three thematic areas (the ESG areas).

In ESRS 1, the concept of double materiality is adopted as a basic principle; in ESRS 2, double materiality provides further indications. On 29 April 2022, EFRAG launched a 3-month period of public consultation where companies, industry associations, private individuals, NGOs could have said their opinion on the first set of Draft ESRS. Responses to the drafts came predominantly from Germany (18% of comments), Belgium (17%), the Netherlands (13%) and France (10%) (Rödl & Partner, 2023). In November 2022, EFRAG submitted its anticipated draft standards to the European Commission, marking a substantial revision from the initial April 2022 version. This revision aimed to significantly reduce the administrative burden on companies and the number of reporting requirements by nearly half. In response, the European Commission

implemented various modifications with specific objectives in mind: introducing greater flexibility for determining the relevance of information to prevent the reporting of irrelevant data, designating certain proposed requirements as voluntary - where ESRS 1 and ESRS 2 remain mandatory, while others are subject to materiality assessment - and deferring implementation deadlines by one or two years for the concerned companies.

The European Commission approved the Delegated Act on European Sustainability Reporting Standards (ESRS) on July 31, 2023, and the deadline for eventual objections by the co-legislators concluded on October 21, 2023.

The first set of ESRS developed by EFRAG with the European Commission's approval has then come into effect. The co-legislators mandated this adoption through the Corporate Sustainability Reporting Directive (CSRD).

The basic structure of these standards consists of two cross-cutting standards (ESRS 1 and ESRS 2) and ten topic-specific standards for the topics of ESG. ESRS 1 (General Requirements) explains the areas and minimum requirements that a company must disclose so that it is possible to understand the company's impacts, risks and opportunities with regard to ESG factors. It provides addition information about what is mandatory and what is not to discover, and also what is meant by the reporting principle of double materiality. ESRS 2 explains the disclosure requirements to prepare the sustainability report and it applies to all companies. Information must be provided as long as all the actors in the entire supply chain, upstream and downstream, are affected. In addition, information regarding governance, strategy, materiality assessment, and key performance indicators and targets are provided. The topic-specific standards specify and expand the two cross-cutting standards depending on the sustainability material topics for the company in question.

Here below a summary of the standards' structure:

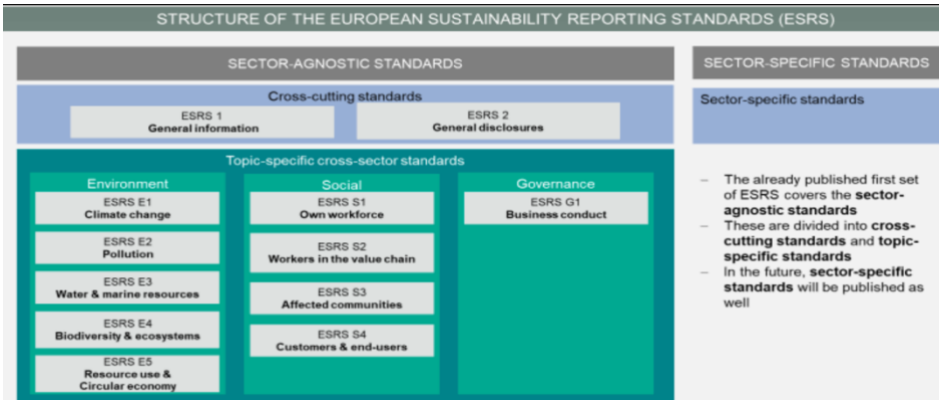


Figure 2: Structure of the ESRS

Source: Rödl & Partner, ESRS 1 and 2: Materiality, reporting structure and disclosure requirements, 2023

The Corporate Sustainability Reporting Directive (CSRD) stipulates that at least 4 months must pass between the adoption of the delegated act and its entry into force. Since the European Commission adopted the legal act on July 31, 2023, the application of the ESRS should take place starting from January 1, 2024. According to the CSRD, the date of first-time application will then depend on the size and if the company is listed or not, here the deadlines:

- January 01, 2024 (financial year 2024, first sustainability report in 2025): companies already subject to the NFRD with more than 500 employees as well as large non-EU listed companies with more than 500 employees;
- January 01, 2025 (financial year 2025, first sustainability report in 2026): other large companies (both listed and not listed) not subject to the NFRD;
- January 01, 2026 (financial year 2026, first sustainability report in 2027): listed SMEs including non-EU listed SMEs (possibility to postpone until financial year 2028);
- January 01, 2028 (financial year 2028, first sustainability report in 2029): non-UE companies that generate over EUR 150 million per year in the EU and that have either a branch with a turnover exceeding EUR 40 million or a subsidiary that is a large company of a listed SME will have to report at the group level (EFRAG, 2023).

For ESRS, numerous provisions have been established to allow a smooth introduction of disclosure requirements. The phasing-in period is usually between 1 and 3 years but it is still highly recommended to start as soon as possible, as they will become mandatory sooner or later. In addition to the cross-cutting and topic-specific standards, further sector-specific standards will be implemented.

The European Commission's endorsement of this initial ESRS set is a significant step forward for relevant and comparable sustainability reporting, addressing companies' impacts on people and the environment, as well as sustainability-related financial risks and opportunities. EFRAG is dedicated to ensuring the success of sustainability reporting using ESRS both within the EU and globally. The ESRS has been depicted as innovative, while its innovativeness in terms of language or relative to the existing corporate sustainability policies tell us that it’s not innovative and it is a good thing. It is a significant advance in terms of aligning with existing reporting frameworks and standards, and for how it promotes the standards’ implementation and interoperability (Chalmers and

Kingler-Vidra, 2023). This effort includes aligning ESRS with other international organizations, the ESRS draws upon existing standards, including the GRI and the Sustainability Accounting Standards Board (SASB), but also with the new standards of the (International Sustainability Standards Board (ISSB). ESRS is explicitly aligned with TCFD recommendations, complement GRI, and consolidate Climate Disclosure Standards Board (CDSB), SASB, and Integrated Reporting (IR) standards (Farmer, Moller and Morawetz, 2022). This indicates a prioritization of interoperability toward a shared, universal approach, rather than innovation.

1.3.2 Global Reporting Initiative Standards

Global Reporting Initiative or GRI is the independent, international organization established in 1997 that helps businesses and other organizations to take responsibility for their impacts, by providing them with a global common language to disclose sustainability-related information consistently. The GRI was established as a collaboration between the United Nations Environment Programme (UNEP) and the Coalition for Environmentally Responsible Economies (Ceres). Any organization - large or small, private or public, regardless of sector, location, and reporting experience - can use the standards to report in a comparable and standardized way[3]. The GRI standards were born to enable transparency on the organizational impacts and communicate their sustainability contributions and impacts (Isaksson and Steimle, 2009). Since businesses have a huge impact on the world, if they implement long-term growth strategies with care towards the planet and the people, they can play a crucial role in sustainable development. By better understanding, disclosing, and managing impacts, organizations can unlock benefits that inform decisions, reduce risks, improve business opportunities, and strengthen stakeholder relationships. This, in turn, enables companies to demonstrate their contributions towards environmental stewardship and societal well-being.

Around two-thirds of all companies globally use the GRI's standards (KPMG Survey, 2022). The GRI standards have become the leading guideline for voluntary reporting (KPMG, 2020). These standards are focused on how a company's actions affect society,

[3] https://www.globalreporting.org/

rather than how external factors affect the company. They have a much broader societal value instead of a purely economic one.

Unlike the SASB standards (that we will see later), GRI standards serve a different audience: companies report to a much broader range of stakeholders than just investors.

The GRI standards are organized into three series: GRI Universal Standards, GRI Sector Standards, and GRI Topic Standards.

The GRI Universal standards apply to all organizations; the GRI Sectors standards apply to companies depending on the sector they are operating; the 33 GRI Topic standards require specific information according to the company's list of material topics.

In particular, the GRI Universal standards include Foundation (GRI 1), General Disclosures (GRI 2), and Material Topics (GRI 3). GRI 1 introduces the principles and the requirements of GRI Standards and how companies must comply with to report in accordance with the standards. GRI 2 contains disclosures that the organization uses to offer insights into its reporting practices and various organizational details, including activities, governance, and the adopted practices. GRI 3 provides a guideline on how to define material topics.

The second category includes sector-specific standards. 40 sectors are covered, categorized into four priority groups:

- Basic materials and needs (Group 1)
- Industrial (Group 2)
- Transport, infrastructure, and tourism (Group 3)
- Other services and light manufacturing (Group 4).

The key criterion for prioritizing sectors is their sustainability impacts. Group 1 comprises the sectors that are considered to have the largest sustainability impacts, in this category we can find oil and gas, coal, agriculture, aquaculture, and fishing.

There is also a second criterion used for prioritization: the potential to exploit synergies between different sectors. For instance, food and beverages can build upon the expertise and relationships established in agriculture, aquaculture, and fishing. The standards contain information for organizations in the referring sector about their likely material topics.

The third category includes Topic standards, setting out the reporting requirements on the specific topic. There are several themes, like anti-corruption, anti-competitive behavior, tax, water and effluents, or energy. For example, a business can use the GRI standard on water to report its impacts on the environment because the company's water is causing water stress in the areas nearby.

The GRI Standards, especially the GRI Universal standards, have been reviewed by the Global Sustainability Standards Board (GSSB) in 2019. The revision aimed to improve the quality and consistency of non-financial information reporting and how organizations use the Standards to disclose their impact on the economy, people and environment. The project wanted to incorporate human rights disclosures into the GRI Standards, the due diligence concept into GRI 103: Management Approach, and both GRI 1 and GRI 2 of the Universal standards. After the necessary oversight, the final approval happened on 2 July 2021. Their last update dated back to 2016; the revision has been made to respond to emerging regulatory disclosure needs, such as the EU Corporate Sustainability Reporting Directive and the IFRS plan to publish the first two sustainability standards through the help of the ISSB. Following this wave of collaboration and commonality achieved over the past three years, the GRI-ESRS Interoperability Index has been announced on 30 November 2023 and submitted for approval to the December meetings of EFRAG bodies. This index is intended for the companies that fall within the scope of the CSRD and will be subject to the mandatory regulation required by the ESRS, including disclosures and definitions where the requirements of current standards are subject to a materiality assessment of matters and information. It is a mapping tool that helps companies understand the commonalities between the two sustainability reporting standards in terms of impact (EFRAG and GRI, 2023).

1.3.3 Sustainability Accounting Standards Board Standards (SASB)

SASB (Sustainability Accounting Standards Board) is an independent standards-setting organization. SASB Standards identify the subset of environmental, social and governance issues most relevant for financial performance and enterprise value for 77 industries[4]. They are industry-specific standards. The ISSB itself recognizes SASB standards as being extremely essential, primarily because it will be simpler to evaluate

[4] https://sasb.org/

various businesses operating within the same industry if each one complies with the requirements. These standards also provide value by focusing on few topics, few but very precise and meaningful. For example, the sustainability disclosure topics for agriculture products, which fall under the "food and beverage" sector according to SASB categorization, are greenhouse gas emissions, energy management, water management, food safety, workforce health and safety, environmental and social impacts of ingredient supply chain, GMO management and ingredient sourcing. Each one that needs to be measured has a unit of measurement and an accounting metric that the company should follow. The SASB's approach is to first categorize industries and sectors and then use the characteristics of each industry to define the materiality of specific sustainability accounting criteria. This evaluation of materiality is a crucial distinction that not all the other reporting systems provide. SASB's framework is built to support companies in sharing their external impacts through the language of investors, debt holders and internal financial stakeholders. It is evident that these standards explore the concept of "financial" materiality, what are the risks and opportunities that could reasonably be expected to impact the entity's cash flows, financing options or cost of capital of a company over the short, medium or long term. The standards suggest to report on the three dimensions of sustainability: environmental, social, and governance. However, the extent of reporting on these ESG issues are limited to those most important for the company's financial success (Elalfy and Weber, 2019). The SASB standards' focus is on the needs of the investors.

Each sector is identified through a code according to the Sustainable Industry Classification System (SICS). It is a new code that has been created to group similar companies within industries and sectors based on their sustainability related risks and opportunities.

The sector code, such as CG for consumer goods, broadly categorizes industries. The subsector code, such as CG.1 for apparel and textiles, further refines the category. Finally, the industry code, such as CG.AA for apparel, accessories, and footwear, identifies a specific market or product range.

By assigning each company a single SICS primary industry code, companies can easily identify the relevant disclosure topics and associated metrics in the SASB Standards based on their industry classification.

There are 77 industry-specific standards involving 11 different sectors that have been identified through this system.

Several tools have been implemented to explore in the most accessible and easy to compare way the SASB Standards. Initially, there was only the Materiality Map, that visually reveals how 26 general sustainability issues manifest across the 77 industries.

As the Materiality Map was not so user-friendly, the Materiality Finder was introduced in October 2021. It helps the company to identify the material topics that need to be disclosed. Once the user has identified the SASB Standard, the list of disclosure topics of the selected industry-standard is available, and it can be seen which sustainability topics are included in the standard and which are not. In addition, the user can select other industries and compare them side-by-side (SASB).

The International Sustainability Standards Board (ISSB) itself recognizes SASB standards as being extremely essential.

The ISSB started working on Draft 1 and Draft 2 from SASB standards.

1.3.4 International Financial Reporting Standards (IFRS)

The International Sustainability Standards Board (ISSB) was announced to be formed on 3 November 2021 during the COP26 in Glasgow. "To play their role effectively in this transition, financial markets need good quality, comparable information about the effects of sustainability-related opportunities and risks for making investment decisions. In financial reporting, this problem with data quality is largely solved. Twenty years ago, the IOSCO (the International Organization of Securities Commissions) strongly supported the integration between the IFRS Foundation and the IASB (the International Accounting Standards Board). Now more than 140 countries require companies to report using IFRS accounting standards. Investors get high-quality assured and globally comparable information on which to make investment and capital allocation decisions. Companies have to standardize their reporting to the markets. Before 1999, financial reporting and climate and sustainability disclosure did not meet, today there are two sides of the same coin. Capital markets have an essential role in reaching net zero but that can only happen when sustainability information is produced with the same rigor, assurance of quality, and global comparability as financial information" (IFRS Foundation, 2021).

These are the words pronounced by IFRS Trustees Chair Erkki Liikanen before announcing the formation of the International Sustainability Standards Board (ISSB), as

a sister board to the IASB. The ISSB's purpose is to develop in the public interest a comprehensive global baseline of sustainability disclosures for the global markets: the IFRS sustainability standards. The ISSB will focus on meeting the sustainability information needs of investors for assessing enterprise value and making investment decisions. It also helps understand how companies are responding to ESG to inform capital allocation decisions. The standards will form a global baseline of sustainability disclosure and can be used on a standalone basis or integrated into jurisdictional requirements to serve bigger stakeholders or other public needs.

During the same conference, other two announcements were made: the commitment to consolidate two investor-focused sustainability standards setters into the ISSB: the Value Reporting Foundation (VRF) and the Climate Disclosure Standards Board (CDSB), which have become part of the IFRS family and the first two prototypes of the Climate-Related Disclosures and the General sustainability requirements to consolidate key aspects of this content into an enhanced unified set of recommendations for the new board.

In June 2021, the IIRC and SASB merged to form the VRF (Markham and Medress, 2020). Both the IIRC and SASB are investor-focused standards.

Following extensive market consultation and having consolidated the resources of other initiatives and aligned international support, the ISSB published the draft in March 2022 and after a long period of public consultation and revisitation, the first two Standards were published in June 2023: IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures.

IFRS S1 sets out the general requirements for companies to disclose information regarding the entity's sustainability-related risks and opportunities that could affect the entity's cash flows, its financing options or cost of capital over the short, medium or long term.

IFRS S2 requires an entity to disclose information about climate-related risks and opportunities that could affect the entity's cash flows, its financing options or cost of capital over the short, medium or long term.

The key requirements of IFRS S1 and IFRS S2 are the following:

- Materiality: Companies should disclose information that is material, meaning it is significant enough to influence the assessment of an entity's enterprise value by investors.

- ➢ Comparable, verifiable, and understandable data: The information disclosed should be presented in a consistent, comparable, and verifiable manner to facilitate informed decision-making by investors.
- ➢ Topics: Companies should provide insights into their governance processes, controls and procedures, management strategies, and performance related to sustainability-related risks and opportunities.

IFRS S1 and IFRS S2 will both become effective for reporting periods beginning on or after January 1, 2024. However, early adoption is permitted for IFRS S2, provided that IFRS S1 is also adopted for the same period (IFRS, 2023).

1.3.5 Integrated Reporting

The Integrated Reporting Framework will form a conceptual basis for linking IFRS Accounting Standards with the new IFRS Sustainability Disclosure Standards. The IASB and ISSB will undertake a due process to determine the best approach for using the principles and concepts of the Integrated Reporting Framework. What does this mean for companies? The IASB and ISSB encourage companies and investors to continue to use the Integrated Reporting Framework. The current disclosure efforts will help them to implement IFRS Standards in the future.

What is Integrated Reporting? It is a concise report in which both financial and non-financial information are integrated based on a process of integrated thinking that tells an organization's future value creation story with reference to the business model and strategy employed to extract value from the six capitals: financial, manufactured, intellectual, human, social and relationship, and natural capital[5]. It is not considered a sustainability framework, it is a general framework for reporting sustainability issues to investors. It serves the interests of finance capital far more than wider public interests (Brown and Dillard, 2014).

Integrated Reporting leads to a better disclosure because it includes strategy and business plan disclosures, social disclosures, and intellectual, human, social and relationship capital disclosures. This document, according to Charles Tilley, CEO of the

[5] https://www.integratedreporting.org/

IIRC, brings clarity on how to provide shareholders with effective, robust information to drive better decision making and capital allocation.

Integrated Reporting is still not widely used by companies due to its complexity and the enormous cost of reporting. According to a study made by PwC, companies that have already started using the Integrated Reporting demonstrate: 65% better understanding of business opportunities and risks, 79% improvements in decision making, 78% more collaborative thinking about targets and goals by the board and strategy departments (PwC, 2019).

Integrated Reporting started from integrated thinking, which is related with the concept of value creation. Integrated thinking focuses the whole organization on the mutually reinforcing task of value creation in the short, medium and long term. It supports stronger governance and better management, it balances short-term performances needs with a longer-term approach to value creation and preservation. It helps unlock the full intrinsic value of an organization and communicate this to providers of financial capital through an integrated report. This might lead to better assessments of how a company builds, protects, or loses value over time by financial capital providers. The business model, as the dynamo of value creation, is central to the principles. There are six guiding principles: purpose, culture, governance, strategy, risks and opportunities, performance. They all surround the business model and are also aligned with TCFD recommendations. They represent the six areas that should be addressed by the organization in the business model in order to maximize value creation and minimize value erosion. The business model, as the system that transforms inputs, resources into outputs and outcomes through business activities, helps to align these outcomes with the fulfillment of the sustainable development goals. Integrated thinking leads to integrated decision making encouraging different parts of the organization to work together. The activities of a company will be increasingly integrated with integrated thinking, and connected information will automatically flow into management reporting, analysis, and decision-making.

The International Integrated Reporting Council (IIRC) developed the Integrated Reporting (IR) framework to incorporate the reporting of the social, environmental, and economic sustainability factors that are of most relevant to an organization’s long-term financial performance. Its primary objective is to assist in providing information for the investment decisions of long-term investors (Humphrey, O'Dwyer and Unerman, 2016).

When the IIRC first began the journey, they considered offering a voluntary scheme for reporting but then they've been soon taken into consideration by the IFRS. The Integrated Reporting aims to:

- Improve the quality of information (covering all three dimensions of sustainability at the company level);
- Promote a more cohesive and efficient approach to corporate reporting;
- Support integrated thinking, decision making focusing on value creation for the short medium and long term;
- Improve accountability and encourage understanding of their interdependencies.

It is principles-based instead of rules-based to guarantee the appropriate balance between flexibility and prescription due to the wide variation in individual circumstances of different organizations, but still enabling a sufficient degree of comparability across organizations.

The Integrated Reporting will become *the* international corporate reporting norm (Humphrey, O'Dwyer and Unerman, 2016). It will be the end for numerous, disconnected, long reports. It is different from all the others because it is focused on strategy, future orientation, conciseness, connectivity of information, relationship, resources available within the company.

1.3.6 Task Force on Climate-Related Financial Disclosure

The Task Force on Climate-related Financial Disclosures (TCFD) is a set of high-level recommendations put together by market participants. It has been created by the Financial Stability Board (FSB) to improve and increase reporting of climate-related financial information in 2015, and in June 2017, the 11 final recommendations were released by the FSB, along with implementation guidance and a technical supplement on scenario analysis. Having fulfilled its mandate and upon the request of the FSB, the Task Force has been dissolved on October 12, 2023, marking the end of its official operations. In any case, I would like to highlight the major contributions made by the special Task Force, which have concurred to shape the current sustainability-related information reporting landscape. Furthermore, the advancements made by the task force will not be lost as, upon the Task Force's dismissal, the FSB has asked the IFRS Foundation to monitor the ongoing development of companies' climate-related disclosures.

Climate change was starting to be considered as a financial risk. In particular, the task force has been convened to help investors, lenders and insurance underwriters in assessing and pricing specific set of risks related to climate change. Financial markets price risk to support informed and efficient capital allocation decisions so, according to the FSB, it was important to begin taking into account climate change. The success of these recommendations depends on how many companies decide to adopt them and to disclose the same kind of information. By doing so, climate change risks will become part of companies' risk management strategy. More than 4,800 companies have publicly voiced their support for the TCFD recommendations, but this number can be misleading because it does not mean that they are reporting on them (TCFD Report, 2023). According to a KPMG survey taking into account a sample of global companies, 18% of them reported in line with TCFD recommendations in 2020. While, the TCFD's own 2023 status report found that 53% of companies disclosed TCFD-aligned information for fiscal year 2022, marking an important increase in only two years; however only 4% disclosed in line with all 11 recommended disclosures. The percentage of companies reporting on climate-related risks and targets and board oversight increased significantly from 24 percentage points in fiscal year 2020 to 26 in fiscal year in 2022.

The TCFD recommendations have been used by the ISSB to formulate the IFRS Standards and before the dismissal of the Task Force, several areas were suggested to be implemented in the future by the Task Force itself. To enhance the quality and comparability of sustainability information, the ISSB's mission will focus on ensuring interoperability of its standards with other frameworks, developing implementation guidance for key topics, emphasizing the resilience of companies' strategies under various climate scenarios, expanding disclosure towards other sustainability areas, and establishing a consistent climate-related financial disclosure framework for countries.

The 11 recommendations

The disclosure recommendations are structured around four thematic areas that represent core elements of how companies operate: governance, strategy, risk management, and metrics and targets. The four recommendations are interrelated and supported by 11 recommended disclosures. There are both guidance for all sectors and for specific sectors (like the financial one and among the non-financial, energy, transportation, materials and buildings, agriculture food and forest products sector) on

how to implement them. Although the TCFD recommendations focus on identifying climate risk, it is evident that using these principles may apply to all ESG objectives (Greengage 2020).

Table 1: The 11 recommendations of the TCFD

GOVERNANCE	STRATEGY	RISK MANAGEMENT	METRICS AND TARGETS
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended disclosures			
a) describe the **board's oversight** of climate-related risks and opportunities	a) describe the climate-related risks and opportunities the organization has identified **over the short, medium and long term**	a) describe the organization's **processes** for **identifying and assessing climate-related risks**	a) disclose the **metrics** used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process
b) describe **management's role** in assessing and managing climate-related risks and opportunities	b) describe the **impact** of climate-related risks and opportunities of the **organization's businesses, strategy, and financial planning**	b) describe the organization's **processes for managing** climate-related risks	b) disclose scope 1, scope 2 and, if appropriate, scope 3 greenhouse gas emissions, and the related risks
	c) describe the **resilience** of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	c) describe how **processes** for identifying, assessing and managing climate-related **risks are integrated into the organization's overall risk management**	c) describe the **targets** used by the organization to manage climate-related risks and opportunities and performance against targets

Source: TCFD Report 2023

1.3.7 Climate Disclosure Standards Board and Value Reporting Foundation

On January 31, 2022, the Climate Disclosure Standards Board and the Value Reporting Foundation were both integrated inside the IFRS Foundation to support the work of the ISSB. The CDSB is an international consortium of business and environmental NGOs,

hosted by the Carbon Disclosure Project (CDP). It is committed to advancing environmental reporting standards, aligning with the global mainstream model of corporate reporting to equate natural and social capital with financial capital. The aim is to provide companies with a framework for reporting environment and social-related information with the same rigor and consistency as financial information (IFRS, 2021). On the other hand, the Value Reporting Foundation plays a crucial role in promoting the adoption of global sustainability reporting standards. Formed through the merger between the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB), it aims to streamline reporting and enhance consistency. By aligning sustainability reporting with financial reporting, the Foundation strives to provide stakeholders with a complete understanding of an organization's performance, risk management, and long-term value creation.

Both organizations play a pivotal role in shaping the landscape of sustainability disclosure, enabling informed decision-making for investors, regulators, and other stakeholders. Their collective efforts are not concluded with their integration into the IFRS Foundation; instead, they will support the creation of a more sustainable and transparent business ecosystem.

1.3.8 Multi-stakeholder perspectives on sustainability reporting

Over the year, the IFRS foundation has established a collaborative working group with major standard-setting organizations like the VRF (IIRC and SASB), CDSB, and TCFD.

While IFRS standards are primarily investor-focused standards, there is a growing consensus that global sustainability standards should encompass multi-stakeholder perspectives, challenging the IFRS's financial materiality approach. They argued that using only financial materiality is limited and is in contrast with the GRI's view. Historically, GRI stood as the most widely used standard for sustainability reporting. In light of this issue, GRI and the SASB have recently confirmed this difference, and they both agreed in interpreting the difference as an opportunity to consider the two approaches as complementary, instead of opposing (Pizzi, Principale and De Nuccio, 2022).

On 26 May 2023, during the 45th annual congress of the European Accounting Association (EAA), the connectivity between financial reporting and sustainability reporting has taken center stage in the discussion, mentioning both the ESRS and the IFRS standards recently introduced. Chiara Del Prete (from EFRAG) and Linda Mezon-Hutter

(from the IFRS Foundation) discussed the meaning of connectivity, interpreting it in a different way. On one side (Chiara Del Prete), connectivity means that whatever would be developed in financial reporting should be consistent with sustainability reporting and vice versa (EFRAG, 2023, 3). Today, the sustainability reporting in the EU should be placed in a dedicated section of the management report. However, it is possible through the mechanism of cross-references to incorporate in the sustainability reporting information presented in the financial statements, which means that some sort of integrated information is possible.

On the other side, Linda Mezon-Hutter explains that connectivity was already intrinsic when the ISSB has been established. Implementing high-quality, comparable and transparent standards is a sign of connectivity between the financial statements and the sustainability disclosures useful to investors and other primary participants. From her point of view, she admits that IFRS standards' focus is on financial reports, including sustainability-related financial disclosures and not only financial statements, and she thinks that the IFRS standards could co-exist with the requirements of local jurisdictions (EFRAG, 2023, 4-5).

Other congress participants stated that connectivity is about alignment (Birgitte Mogensen), alignment between financial report and sustainability report is the final goal, when you read one and then the other you should not think that two different entities have done the reports (as it is now); connectivity when a scenario included in the sustainability report should be taken into account in the financial reporting and should be considered for the calculation of the fair value of an investment property (risk of flooding for instance) (Elina Peill); lack of connectivity between different departments inside the company (Jeremy Stuber) and several challenges to connect sustainability and financial information (for instance different units of measure between the two documents).

There is already a sort of connectivity between the ESRS and the IFRS: both standards when referring to some principles and rules, refers to the exact same concept; EFRAG explores ties with financial statements prepared according to the IFRS accounting standards, while the IFRS foundation addresses challenges from entities not following the IASB and ISSB standards. To deal with these issues, the best thing is for standards setters to be flexible, agile and collaborative. Good and effective communication is vital in order to quickly identify issues, and maybe in 2030, stock exchange evaluation may reflect an

entity's financial data and its ESG/sustainability performance, with metric like CO2 emission/share price becoming key performance indicators (KPIs) (EFRAG, 2023, 8).

Chapter 2. Corporate Governance

2.1 Introductory case study

On April 20, 2010, an oil well being drilled by British Petroleum (BP) in the Gulf of Mexico suffered a sudden explosion. The oil rig, the Deepwater Horizon, went up in a column of fire that burned for two days before its eventual collapse into the depths of the Gulf of Mexico. Tragically, this incident caused the death of 11 people and marked the most severe oil spill in United States history (King, 2010). Approximately 5 million barrels of oil and 500,000 tons of gas were released into the Gulf (Guarino, 2010), resulting in the devastation of hundreds of kilometers of fragile coastlines and threatening the lives of the local population. The repercussions of this event were extended across various economic sectors in the Gulf, impacting corporations involved in tourism, fishing, and other industries. Operational challenges were presented, along with difficulties for individuals employed in these sectors, and individuals who owned real estate in the area of the Gulf.

The impact on BP's shareholders was substantial too, with the company's share falling from around $60 per share before the Deepwater Horizon incident to $30 per share within a month thereafter, resulting in a $100 billion loss in market capitalization (Windsor and McNicholas, 2012). Of course, the calamity was by no means confined to reductions in the value of BP shares, it went beyond, BP bonds were severely damaged, and faced a potential downgrade to junk bond status. Additionally, other oil companies experienced negative effects as, in the wake of the spill, President Obama imposed a moratorium on all drilling in the Gulf, adversely impacting all the other corporations that were seeking oil in the area, leading to the shutdown of 33 deepwater drilling projects (Guarino, 2010).

How could a disaster like this happen on such a massive scale? The US government organized a commission to investigate. They concluded that the ultimate cause of the disaster was BP's desire to cut safety corners for cost-saving purposes. The investigation revealed that each day that BP was drilling, without putting the well into full operation, was costing them $1 million. Consequently, in an attempt to save $1 million per day, the company ended up sacrificing $100 billion in shareholder wealth alone.

According to Lynn Stout, who was a Professor of Corporate and Business Law at Cornell University, one of the ultimate causes of the BP oil spill was the so-called "shareholder

value thinking" which has possessed the business world until recent years, especially for publicly listed companies (Stout, 2012). It is a sort of "what directors should do for shareholders" ideology that drives executives and directors to focus relentlessly on trying to get their share price up not ten years from now, not even five years, but in the shortest possible time. In the pursuit of boosting share prices, some companies do what BP did, they cut safety corners, neglect workforce safety, and make other poor decisions such as reducing customer support and cutting expenditures on research and development. In 2005, some academics conducted a survey wherein 400 CFOs of publicly listed companies were asked the following question: "Would you undertake an investment in a project with a positive net present value over three to five years if it jeopardized your quarterly earnings?" Shockingly, 73% responded that they would avoid such a long-term investment if it harmed their short-term ability to meet earnings estimates (Graham, Harvey, and Rajgopal, 2005). Quarterly capitalism is the expression used to identify the pressure on managers of public companies to meet quarterly earnings, at the expense of long-term value investments (The Conference Board, 2015).

Companies not only resist making long-term investments and fail to take adequate care of their customers' and employees' well-being, but they also take on substantial risks, as exemplified in the US financial sector. They leverage up their firms in the hopes of making substantial profits when things go well, coupled with the assurance that if circumstances turn adverse, much of the loss will be borne by their bondholders, customers, and employees, and not ultimately by their shareholders themselves (Stout, 2012).

The purpose of this introduction is to highlight corporate governance flaws starting from the BP oil spill disaster - an incident rich in instructive lessons for businesses and business players alike. The chapter will critically analyze these lessons in detail.

The subsequent analysis will delve into the essential corporate governance indicators for a paradigm where business responsibility and long-term outcomes take center stage.

2.2 What is corporate governance?

According to the Australian Security Exchanges (ASX) Corporate Governance Council, corporate governance may be defined as a set of rules, relationships, and practices that determine the direction and control of an organization. Corporate governance essentially involves balancing the interests of a company's many stakeholders, such as shareholders, senior management executives, customers, suppliers, employees, investors, the

government, and the community. It ensures adequate disclosures and effective decision-making to achieve corporate objectives, transparency in business transactions, compliance with relevant laws and regulations, protection of stakeholders' interests, and commitment to values and ethical conduct of business. Corporate governance is just one facet within the broader economic landscape and it is a constant and critical element across all organizations, whether it be mostly companies, governments, or not-for-profit sectors. Corporate governance structure also depends on and is impacted by the legal and institutional environment in which the firm operates. Good corporate governance requires an understanding of legal systems and securities markets, with globalization adding complexity (Pritchard, 2018; Mechelli and Cimini, 2019). There is no universal model for corporate governance and no one-size-fits-all approach, emphasizing the need for adaptable practices that go beyond meeting the regulatory requirements or bureaucracy.

According to the OECD, the purpose of corporate governance is to create an atmosphere characterized by accountability, transparency, and fairness, all fundamental elements for encouraging long-term investment, maintaining financial stability, and upholding business integrity. This, in turn, contributes to fostering robust growth and more inclusive societies. The G20/OECD Principles of Corporate Governance provide this benchmark, setting global standards to assist policymakers in assessing and enhancing the regulatory, legal, and institutional framework for corporate governance. First introduced in 1999, these principles have been revised by G20 leaders in 2023, introducing important novelties. The updated version provides new guidelines that can be summarized in the following six main pillars: I. The basis for an effective corporate governance framework; II. The rights and equitable treatment of shareholders and key ownership functions; III. Institutional investors, stock markets, and other intermediaries; IV. Disclosure and transparency; V. The responsibilities of the board; VI. Sustainability and resilience. For the first time, recommendations are included to aid companies in addressing climate-related and other sustainability risks and opportunities (OECD, 2023a). If these Principles are respected, corporate governance can have important implications: promote access to finance, innovation, and entrepreneurship; provide a framework to promote the trust of investors, and support corporate sector sustainability and resilience. Effective corporate governance requires a comprehensive understanding of the ownership structure of a company and the diverse interests at stake around it.

2.3 Who owns the business?

Typically, businesses emerge from the vision of entrepreneurs, often individuals or a small group of partners, with founders commonly being family members. In their initial stages, most companies are entirely privately owned, frequently by a family. Over time, however, some enterprises opt to transition to a public status through an initial public offering (IPO). An IPO not only modifies the ownership structure but also subjects the company to increased legal, regulatory, and reporting requirements that are common in many countries. In the typical IPO scenario, only a small portion of the company shares is offered to the public. The firm may either evolve into a completely publicly traded entity by selling more equity shares to the investing public, or the private owners can choose to retain a significant stake while determining the extent of explicit control.

In the US and UK, most corporations in stock markets are characterized by widespread ownership of shares. In contrast, in the rest of the world, ownership of corporations is usually characterized by controlling shareholders, usually represented by the state, the family, and financial institutions. Even the largest firms tend to have controlling shareholders and they often control the firm through pyramidal structures, in part because they manage the firm they control. For at least two generations, "The Modern Corporation and Private Property" written by Adolph Berle and Gardiner Means in 1932, has shaped the image of a high number of ownership-dispersed corporations among many small shareholders in the US, where control was concentrated in the hands of the managers, who operated without direct accountability to shareholders. In more recent years, several researchers have empirically demonstrated that even among the largest corporations in the US, there exists a modest concentration of ownership and management ownership too. Studies of other countries, such as Germany (Edwards and Fischer, 1994), Japan (Prowse, 1992), and Italy (Barca, 1995), suggested that large corporations have a higher concentration with large shareholders compared to the US and, further, that these shareholders also participate actively in corporate governance. According to a study investigating the ownership structure of the 20 largest publicly traded companies of 27 rich countries (there is a higher chance that rich countries have widely dispersed ownership) and assuming the minimum of 20% of voting rights as the criteria of control, only 36% of the firms, for the sub-sample of large firms, are widely held (La Porta, Lopez-De-Silanes and Shleifer, 1999, p. 491-492). This outcome did not align with Berle and Means' characterization.

Ownership dispersion in publicly traded firms is strictly linked to the level of legal shareholders' protection in a given country. Countries with robust shareholder protection mechanisms often exhibit a higher prevalence of publicly traded firms characterized by widely dispersed ownership. Only 16% of the largest size firms in the world in poor protection countries are widely held, versus 34% in countries with good shareholder protection practices (La Porta, Lopez-De-Silanes and Shleifer, 1999, p. 496-497). This correlation can be attributed to the relationship between effective shareholder protection and the encouragement of broad ownership distribution. The rationale behind this association lies in addressing the risk of expropriation faced by minority shareholders. Controlling shareholders generally have disproportionate power over the firm and can potentially misuse their authority at the expense of minority shareholders. They rely on enhancing control devices, such as dual-class shares, pyramidal ownership structures, and cross-shareholding (Aldrighi, Postali and Montoya Diaz, 2018). Pyramidal business structures allow the separation of controlling shareholders' control rights from the capital stake. In the pyramidal structure, controlling shareholders may not directly own a large stake in the company, they may have a low financial investment at stake, but instead control it through a chain of ownership. This implies that most of the burden of decisions that negatively impact the company's value falls to outside shareholders, who are not in control (La Porta, Lopez-De-Silanes and Shleifer, 1999). Similarly, there are strong incentives for controlling minority shareholders, with tools like dual-class shares, to engage in self-dealing and tunneling, taking advantage of their control to extract private benefits from the company (Bebchuk, Kraakman and Triantis, 2000). In jurisdictions with good shareholder protection, controlling shareholders face more stringent constraints on their ability to exploit minority shareholders. This dynamic fosters greater confidence among investors, encouraging a broader participation of shareholders and contributing to ownership dispersion.

2.4 The role of the Board of Directors and balances among the stakeholders, the Board, and the CEO

Ownership dispersion or concentration impacts the dynamic between controlling shareholders and non-controlling shareholders. Yet, a secondary issue, closely tied to the ownership structure, arises in large companies - the separation of ownership and

management. This situation can create what is known as the principal-agent problem, or agency conflict, where the interests of shareholders (the principals) might not align perfectly with those of the managers (the agents) who run the company on a day-to-day basis. The board of directors plays a crucial role in mitigating this agency conflict.

The board of directors is responsible for overseeing the company's management and decision-making, monitoring its financial performance, and ensuring that the company complies with relevant laws and regulations. Its role is to ensure that the company is being run in the best interests of its stakeholders. Senior executives are the top leaders of a company, like the CEO (Chief Executive Officer), COO (Chief Operating Officer), CFO (Chief Financial Officer), and CMO (Chief Marketing Officer), among others. They are accountable to the board for the company's performance. They are responsible for implementing the company's plan set by the board, running day-to-day operations, and making decisions consistent with the company's values and goals.

By representing the interests of shareholders and overseeing the actions of the management, the board helps ensure that decisions are made in the best interest of the company and its shareholders. The board of directors is a key player in corporate governance. It all begins with the board, but the impact of governance goes beyond just the boardroom. The authority flows down from the board to the CEO and the executive team, reaching every part of the organization. There are varying perspectives on whose interests the board should be accountable to. Both perspectives have been highlighted, the first that underlines the importance of running the company in the interests of stakeholders and the second which emphasizes that the board represents the interests of both shareholders and the company, putting a stronger emphasis on shareholders. These different viewpoints reflect academic discussions over the years, with the prevailing notion discussed in chapter one that centers around the significance of stakeholder theory.

2.4.1 Shareholder theory vs stakeholder theory

The dispute between Milton Friedman's shareholder theory (The New York Times Magazine, 1970) and Freeman's stakeholder theory (Strategic management: A stakeholder approach, 1984) is significant because it provides insight into what should be the appropriate corporate objective. Shareholder theory asserts that corporations have the sole objective of generating profits, with the interests of shareholders being the

primary determinant of corporate direction. Managers, accordingly, make decisions to maximize shareholder wealth (Rhee, 2018). On the other hand, stakeholder theory suggests that a company's success depends, not only on maximizing profits for its shareholders but also on considering the interests of all stakeholders involved in the business. Stakeholder theory argues for stakeholder value creation over the long term, aiming at improved living conditions, a safer workplace, and a cleaner environment (How, Lee and Brown, 2019). Companies can then build stronger relationships with stakeholders, and corporate governance must institutionalize a commitment to them, who make their success possible. For example, a company may consider the interests of the local community by minimizing environmental impacts and contributing to social and economic development.

Shareholder theory presents some controversy when shareholder-wealth maximization prevails over other stakeholders' interests and when does not consider the company's eventual externalities in the surrounding environment - namely shareholder primacy.

2.4.2 Shareholder primacy

Shareholder primacy theory is the principle at the basis of the agency theory. The idea is that corporations are owned by their shareholders (principals), who place directors and executives (agents) in the role of executing the desires of the company's owners, represented by shareholder value maximization through the share price (Stout, 2012).

By the end of the 20th century, many companies embraced this idea. Even more remarkable and influential than the 1970 Milton Friedman article, Michael Jensen and William Meckling wrote an article named "Theory of the Firm" in 1976, reiterating the idea that shareholders own corporations and additionally assuming that shareholders were the residual claimants of the company, which means claimants of all corporate profits after the fixed contractual claim of creditors, employees, and suppliers have been paid. This theory gained prominence, particularly among emerging economists, significantly influencing academic discourse from 1970 to present-day business practices (Leo E. Strine, 2012). Other academics, in recent years, especially after careful examinations of how the dedication to shareholder value imperatives almost led to the downfall of two of the greatest manufacturing companies in the history of America (General Motors and Boeing) and one of the largest oil and gas companies in the world

(BP), started to criticize this theory, arguing that prioritizing shareholder profit is not always paramount over other interests or considerations (Clarke, 2020).

The literature is divided on this topic, and upon examining key findings both in favor of and against the shareholder primacy theory, a conclusive stance may emerge. This analysis draws on two critical components: a legal examination and empirical evidence, aiming to extract valuable insights from real-world scenarios.

It is essential to highlight that shareholder primacy theory originated with economists, whereas its law foundation remains open to interpretation. The law stipulates that directors and officers must exercise their powers and fulfill their responsibilities "in good faith and in the best interests of the corporation". It is a statement that can be subject to different interpretations, including both the perspectives previously discussed. In numerous jurisdictions, the absence of definitive legal cases on this matter has allowed directors to exercise their judgment with a considerable degree of flexibility, highlighting the absence of a legal basis that imposes the duty to maximize shareholder profit (Blair, 1995; Stout, 2012; Hansmann and Kraakman, 2001; Macey, 2008; Leo E. Strine, 2012). However, if both academics in favor of shareholder primacy and those opposed to it agree that there is no explicit law mandating the maximization of shareholder profits as a corporate objective, there are some scholars who argue that despite the absence of this explicit law, there are a series of rules that imply shareholder primacy is indicated by law (Rhee, 2018; Rock, 2013). Three specific pathways promote shareholder primacy: the first, in the context of corporate finance, involves conflicts of interest among capital providers, particularly concerning common stock, corporate law dictates that the value of common stock must be prioritized over other securities. Then, the same should happen in case of a firm takeover, when a change in control is about to occur corporate law imposes to maximize the value of common stock. Last but not least, during day-to-day decision-making, corporate law influences managerial behavior toward shareholder primacy, for example through executive compensation strictly connected to share price. These are all law indications that imply maximization of shareholder value.

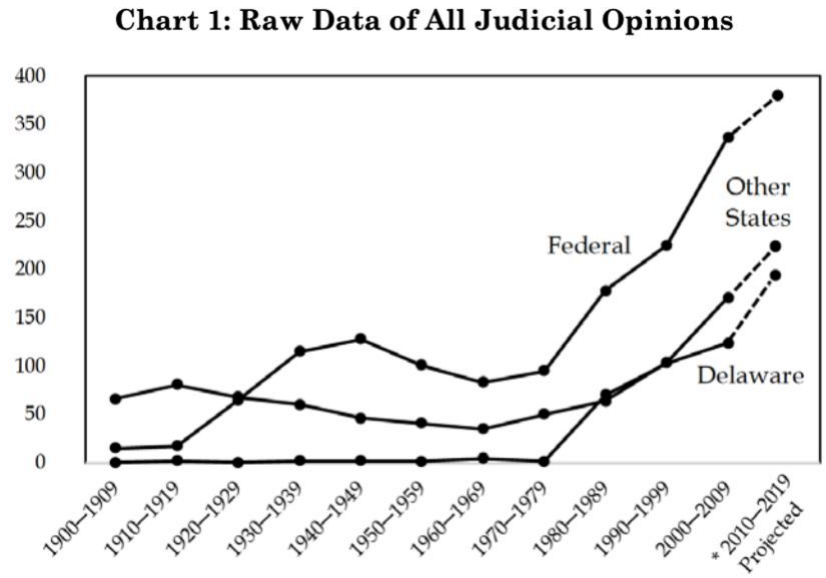
Some scholars believe otherwise. The law leaves less interpretation concerning the following beliefs upon which the shareholder primacy theory is founded. First is Friedman's notion that shareholders are owners of corporations. Shareholders own shares, a contract agreement between the company and the shareholder, granting them specific but limited legal rights (Stout, 2012, p.37-38). Second is Jensen and Meckling's

idea that shareholders are the residual claimants of the company. Shareholders become the residual claimants only in the process of liquidating failed corporations during bankruptcy. When a business is in good health, the law applies the rule that the legal entity *itself* serves as residual claimant, allowing the entity to retain *its* profits and allocate them how its board of directors sees proper. The board may decide to distribute profits as dividends to shareholders, but it also has the authority to allocate funds towards increasing employee salaries or reinvesting the money in marketing or research and development, among other things (Stout, 2012, p. 38-41; Anthony, 1960). Third, the misleading interpretation of the agency theory where directors and executives are seen as shareholders' agents. According to the law, this is not the case because the fundamental characteristic of any principal/agent relationship is the principal's entitlement to control the agent's conduct. Shareholders lack the legal authority to oversee directors or executives. As mentioned above, shareholders have limited legal rights which include their voting rights and the ability to sue the board of directors for breaking the fiduciary duty. These rights offer limited leverage to shareholders in practice. Moreover, successful legal actions are often confined to breaches of the duty of loyalty, involving instances where directors essentially misappropriate the company's resources. As long as directors do not exploit their corporate powers for personal gain, a critical legal doctrine known as the "business judgment rule" shields them from liability (Stout, 2012, p.42-44). Contrary to common belief, the business judgment rule ensures that managers of public companies are not legally obligated to maximize shareholder value solely. While they can opt to maximize profits, they also have the freedom to pursue any other lawful objectives. Notably, according to this branch of research, shareholder primacy represents a managerial decision rather than a legal mandate (Stout, 2012).

For what concerns the evidence regarding shareholder primacy, Rhee's article "A Legal Theory of Shareholder Primacy" goes beyond investigating the existence of a legal obligation in favor of the theory, and conducts a survey of judicial opinions discussing shareholder profit maximization in the era starting from 1900 to 2016. Case law directories were examined with the following search term: (maximiz! or enhanc! or increas!), (shareholder! or stockholder!), and (profit! or wealth! or valu!). This specific search criterion was crafted to capture instances such as: "Business corporations must engage the political process in instrumental terms if they are to maximize shareholder

value" (Citizens United v. FEC, 558 U.S. 310, 454 (2010)). The search parameters yielded an initial dataset of 3,034 cases. The chart that follows illustrates a growing trend in court discussions regarding the concept of maximizing shareholder profit since the 1980s.

Figure 3: Trend in court discussions for shareholder profit maximization



Source: "A Legal Theory of Shareholder Primacy" by Robert Rhee, 2018

Three main considerations emerged from the author's analysis: first, the parties involved in corporate legal cases, including both shareholders and managers, commonly refer to the idea of maximizing shareholder profit. Second, courts do not criticize or reject litigants for presenting arguments or facts based on the principle of shareholder wealth maximization. The legal system appears to accept this concept, possibly considering it a standard principle in corporate law and governance. Third, the language of maximizing/increasing/enhancing shareholder wealth is extensively employed by both courts and corporate litigants.

Permanently moving away from the legal aspects of the theory, decades of research have centered on empirical evidence supporting the shareholder primacy theory. Corporations embracing such strategies should outperform and yield higher returns to investors than those that do not. Surprisingly, there is a lack of studies finding this (Stout, 2012, p.88-89). Why is that? Studies conducted by policymakers, governance experts, and academic professors are concerned with equity returns for the investor class, as a whole rather than individual investors, and monitor the trend over a long period. Studies

focusing on whether shareholder value maximization occurs within a year or two are misguided in both scope and timing.

Therefore, the focus will be directed towards evidence countering the shareholder value myth. Several corporate governance strategies have been used over the years to maximize shareholder value and executives' gains, with consequential outcomes not to be underestimated.

2.5 Executive pay and share-based compensation

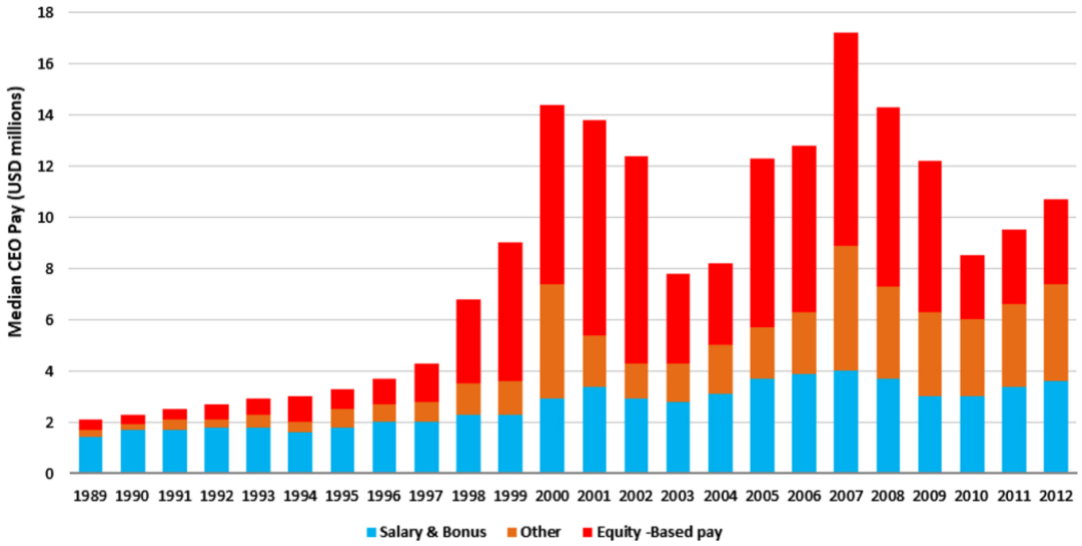
The topic of executive compensation has been highly discussed for many years, particularly starting from the 1980s. Shareholders cannot directly impose control over the CEO and the board's activities, and they are not always informed about actions that would be advantageous to their wealth. Therefore, compensation policies explicitly designed to provide managers with incentives for selecting and implementing actions that increase shareholder wealth, were considered a sound strategy to reach shareholders' objectives (Jensen and Murphy, 1990). It was the most reliable way to align the interests of managers with those of shareholders. One of the most commonly employed mechanisms was introducing compensation schemes directly linked to stock prices.

Before that, executive pay was composed of the salary and eventual bonuses when explicit financial targets were met. Jensen and Meckling (1990) argued against providing top managers with fixed salaries as bureaucrats, emphasizing the importance of incentivizing them towards higher performance through share-based payments, including stock options. At the time, it was a common belief that a company's stock price was associated with its ability to achieve certain financial goals. However, it was just a belief because several studies admitted that it was difficult to prove that stock-based incentives were leading the CEO to work better and consequently that their companies were well performing (Murphy, 1998; Jensen and Murphy, 1990).

Certainly, the mission was successful: executives were motivated to implement strategies to boost share prices for their personal interests, while shareholders also benefitted from higher returns. One might argue it was not just a case of "shareholder primacy theory" but also an instance of an executive primacy theory.

The graphic that follows illustrates the trend of median CEO pay in the US in the period between 1989 and 2012.

Figure 4: Trend of median CEO pay in the US, 1989-2012



Source: Forbes Annual Executive Compensation Report, 2012.

The figure shows evidence of the initial pattern in 1989 where equity-based compensation represented only a very small part compared to the total pay, while, especially after 2000, equity-based compensation reached incredible levels, surpassing the salary basis and bonus rewards. If at the beginning they were introduced simply as an additional incentive, they soon encouraged executives to prioritize shareholder returns for their short-term personal enrichment (Clarke, 2020). As the stock market increased, executive pay was increasing too. However, in the long run, this trend did not produce the good results expected, because it was encouraging executives to grasp immediate returns, disbursing as much money as possible, without taking into consideration potentially more profitable uses. While such actions might generate short-term gains, they often proved detrimental to the overall strength and future returns. Another problem was that the holder of a stock option was rewarded independently of how good or bad the company's performance was. In other words, if boards only considered the trend of the stock price, to assess incentive compensation without taking further precautions, they might not set the right level of performance and therefore were highly rewarding themselves for weak long-term performance (Rappaport, 1999).

Research supports the connection between long-term compensation incentives and better long-term business performance and value creation. One study tests this hypothesis by examining what happened to companies, in terms of stock market reaction, if shareholder proposals on long-term executive compensation barely passed (with

50,1% of votes) or barely failed (with 49,8% of votes) at annual meetings. The results show that when such proposals barely pass, companies have a significant increase in the share price compared to when they barely fail. This suggests that having a focus on long-term goals, encouraged by this type of compensation, is beneficial for companies (Flammer and Bansal, 2017). In addition, evidence finds that long-term incentives for executives increase operating performance in the long run and foster stakeholder relationships (Flammer and Bansal, 2017), as well as investments in innovation strategies (Chapman et al., 2017). Still, some studies expressly state that caution should be adopted in the sense that the link between executive pay and corporate performance is open to interpretation.

Total shareholder return is frequently focused on the short term. To foster a company's long-term orientation, it is essential to adopt strategies with a long-term perspective. Linking executive pay to stock prices over short periods jeopardizes the interests of both companies and shareholders (Paula et al., 2023).

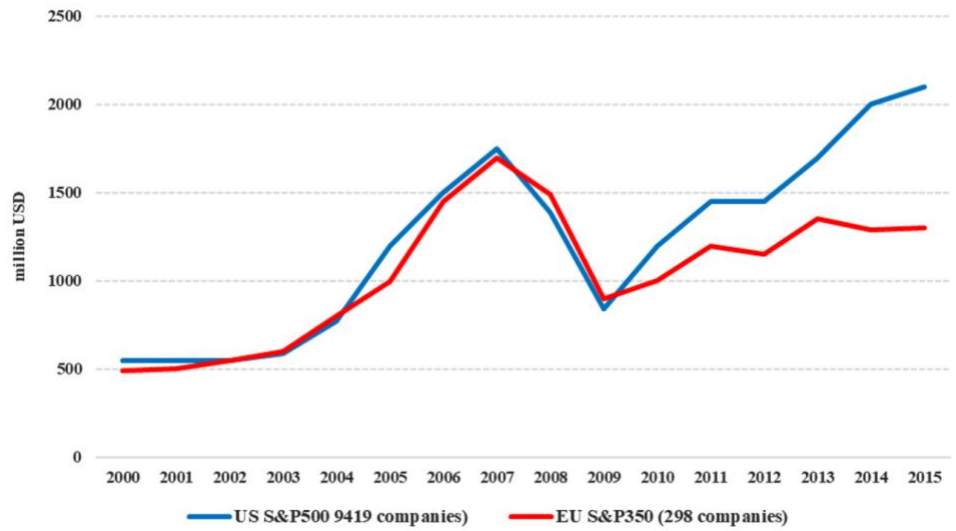
2.6 Distribution to shareholders: dividends and share-buybacks

According to Mason (2015), over the past 30 years companies started to retain and invest much less money, opting instead to distribute more to shareholders through dividends and share repurchases. This shift underscores a departure from long-term investments in favor of prioritizing short-term returns for investors, a phenomenon indicative of the financialized nature of today's economy (Mason, 2015).

Graphical representation, as depicted in Figure 5, provides a visual narrative of the trend in payouts from the largest-cap companies traded on the American and European stock markets between 2000 and 2015. The trend has gone hand in hand between American and European companies, with a gap only in recent years.

Payouts, comprising both dividends and share repurchases, constitute a crucial aspect of a company's distribution policy, a mechanism through which firms can return cash to shareholders, reducing the resources available to the firm. Distinguishing between dividends and share repurchases is useful, even if they are often considered together under the term payouts. Dividends on one side, are the traditional mode of providing a steady stream of income to shareholders who, as the name says, hold on a company's stock, and help to stabilize share prices.

Figure 5: Average Share Repurchases + Dividends of 419 US S&P500 and 298 S&P. Europe 350 Companies 2000–2015 in $Million



Source: Adapted from: Sakinc, 2017.

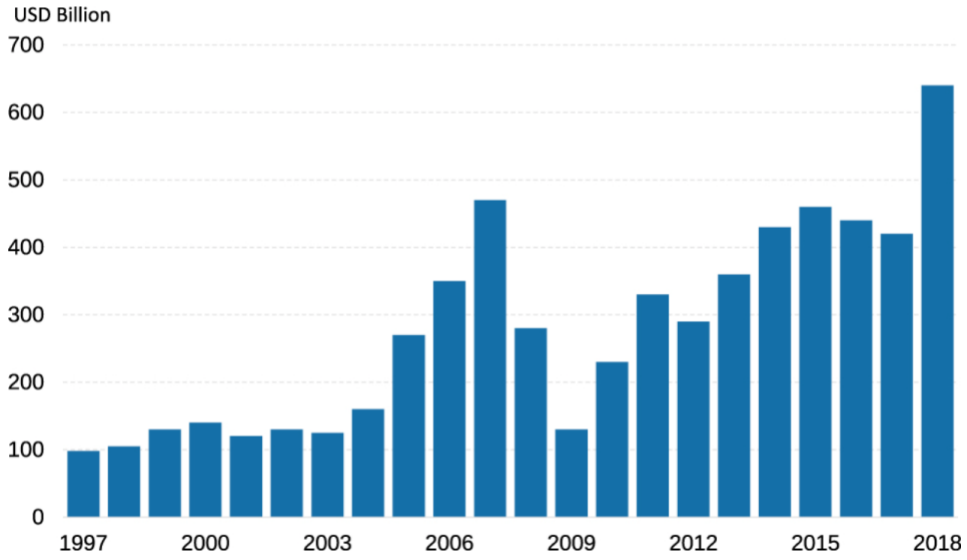
In contrast, stock buybacks, in which a company repurchases its own shares on the open market, thus reducing the number of outstanding shares, boost share prices in the short term, but it can also make shares more volatile. Until the 1980s, dividends were the primary way that companies distributed cash to shareholders. Since then, even as dividends have become more common, stock buybacks have become an increasingly important way for companies to return cash to shareholders. Payout decisions rest within the discretion of the board of directors and senior management, attracting closely scrutiny from investors and analysts due to their significant impact on shareholder value and financial performance.

Before the 1980s, buyback policies were illegal due to concerns about potential stock price manipulation. The regulatory landscape underwent a pivotal change in 1982 with the introduction of SEC Rule 10b-18, establishing a "safe harbor" for companies engaging in stock buybacks. Europe followed with the EC Directive 2003/6/EC and EC Regulation 2273/2003, marking the legalization of buyback practices. Despite some differences in the US and European legislation, repurchase activity in Europe followed a similar trend with the US before the global economic crisis (Sakinc, 2017, p.5). However, the practice has not been immune to scrutiny and debate. There is evidence suggesting that company executives are using share buybacks not just as a way to benefit the company but also as

an opportunity to personally profit from the resulting increase in the share price. While it is acceptable for a corporate board and executives to decide that a share buyback is a good use of the company's capital, it becomes problematic if these decisions lead to personal profit at the expense of broader stakeholder interests (Jackson, 2019). In particular, the share buyback process works as follows. When a company announces a share buyback, it often leads to an increase in the company's stock price. The executives are taking advantage of this upward movement in the stock price by selling (cashing out) their own shares shortly after the announcement. In other words, they use the share buyback news to boost the stock price temporarily and then sell their shares at a higher value, potentially making a significant profit.

Here below a chart showing specifically the growth of share buybacks in US companies.

Figure 6: Data on 373 Companies in the S & P 500 Index Share Buy Backs in USD Billion



Source: Adapted from: Lazonick et al. (2020); S&P Compustat database and company 10-K filings constructed by Mustafa Erdem Sakinc and Emre Gomec of the Academic Industry Research Network.

Professor Lazonick's argument emphasizes that stock repurchases, with their potential benefits, align with the ample stock-based pay for executives. The recent surge in executive remuneration raises questions about the alignment of incentives and the impact on long-term business investments and growth.

The investment rate of the largest 1,000 non-financial U.S. companies has witnessed a significant drop over the last few decades, decreasing from approximately 38% of net profits in 1980 to around 24% in 2017. This decline in investment coincides with a

substantial increase in the total payout ratio, nearly doubling from about 30% in 1980 to nearly 60% in 2017 (Turco, 2018). Further examining the increased payout ratio, it becomes evident that the most of the growth since 1980 has come from the increase in buybacks. Analyzing the S&P 500 Index companies traded publicly from 1981 to 2019, it is revealed that between 1981 and 1983, buybacks absorbed 4.4% of net income, while between 2017 and 2019, this figure skyrocketed to 62.2% of net income (Lazonick and Jacobson, 2022). Unlike investments in productive assets, which yield a return on investment, stock buybacks constitute an immediate use of cash that fails to positively influence the long-term trajectory of a company's growth potential, especially when the motivations for implementing such practice are not totally transparent.

2.7 Evidence from the BP oil case

The corporate governance flaws that emerged from the British Petroleum oil spill case can be summarized into three primary issues. The first centers on the maximization of shareholder value, strictly linked with the second one – an emphasis on short-term earnings logic, often prioritizing shareholders' and executives' profits. The third critical aspect involves externalities and neglect of stakeholders' interests.

The prioritization of shareholder value was a central aspect of BP's governance practices, particularly evident in the company's remuneration policy. According to the BP's Annual Report (2004), the remuneration policy is designed to ensure alignment between executive directors' incentives and the interests of ordinary shareholders. The report emphasizes that each executive director is expected to maintain a substantial shareholding in the company, with a value equivalent to five times their base salary. This formula of compensation recalls the idea of Jensen and Meckling's (1976) about the importance of incentivizing executives, especially the CEO, through equity-based remuneration. This approach has contributed to the elevation of executives' roles to a heroic status, resulting in a significant increase in senior executive pay since 1990s. The CEO's salary at BP, of Lord Browne, comparing the years 2001 and 2006, is nothing short of emblematic. In just five years, his salary went up from $2,8 million salary and bonuses and 1,269,843 options in 2001 to $5 million salary and bonuses and 2,006,767 options in 2006 (Windsor and McNicholas, 2012).

BP also adopted a widely used corporate governance practice with the aim of maximizing shareholder value, which is share repurchases. The table below, adapted from the study

made by Sakinc (2017), shows that BP is at the top of the list considering the 10 companies with the highest number of shares repurchase expressed in millions, in the period between 2000 and 2015.

Table 2: Top 10 Share Repurchasing Companies in Europe 2000-2015 Rank.

Company	Country	GICS Industry Group	Total Share Repurchase 2000–2015 €Millions
BP	UK	Energy	47,046
Nestle	Switzerland	Food, Beverage and Tobacco	40,779
Novartis	Switzerland	Pharmaceuticals, Biotech. & life Sci.	32,684
Glaxo SmithKline	UK	Pharmaceuticals, Biotech. & life Sci.	32,322
Royal Dutch Shell	Netherlands	Energy	29,875
UBS	Switzerland	Diversified Financials	29,812
Total	France	Energy	28,484
Vodafone Group	UK	Telecoms Services	27,624
AstraZeneca	UK	Pharmaceuticals, Biotech. & life Sci.	22,740
Deutsche Bank	Germany	Diversified Financials	19,455

Source: Sakinc, 2017.

Both shareholders and executives were the winners of these policies, at the expenses of other stakeholders, employees among the others. In 1998, BP, always under Lord Browne as CEO, engaged in several takeovers and mergers, in particular with a big oil company named AMOCO (previously Standard Oil). This transaction marked one of the largest in history at the time, amounting to $31 billion. BP significantly increased its shares from 2 billion pounds to 12 billion pounds, rendering the company more dependent on its shareholders and the financial markets. The extensive transactions brought substantial fees to banks and corporate advisors and BP's accountants initiated significant cost-cutting measures, resulting in the termination of over 35,000 employees between 2001 and 2010, the total workforce was reduced by 31%. Hundreds of expert engineers and oil men were fired. Budgets for safety and maintenance was hugely reduced. The driving philosophy was "more for less", operations aimed to be executed more efficiently, at a cost that was 10% lower than before (Bower, 2009). During this expansive phase, Doug Ford, a key figure in charge of BP's refineries, raised concerns to the CEO that the company was being misgoverned and the cost-cutting policies were posing risks to everybody's health. Despite the subsequent resignation of Lord Browne and other executives, the new leadership of Tony Hayward, in 2007, did not exactly change the course of events. He pursued the culture of cost-cutting and committed in taking even

greater risks. In 2009, cost reduction targets were further raised moving from $3,6 billion to $3 billion (The Sydney Morning Herald, 2009).

After the disastrous event, the investigators were able to shed light on which were the real conditions of the oil rig derived from poor cost-cutting decisions. This was the narrative of what happened on April 20, 2010: the well design carried inherent risks, the cement job proved unsuccessful, gas entered the well, a crucial well integrity test was misinterpreted leading to a catastrophic blowout (Achenbach, The Washington Post, 2011). The well design was risky because lacked adequate barriers to prevent the ascent of oil and gas through the central pipe. BP's cost-cutting practices were part of a systemic problem. Exclusive documents obtained by ProPublica and FRONTLINE revealed that BP inspectors monitoring pipelines in the Alaska plant, reported two significant spills in 2006 that were not properly certified. In another incident related to Alaska plants, some facilities operated without fire and gas detectors, they were supposed to be substituted but ultimately left defective. Over the years, an incident involved an oil worker who reported severe injuries due to a well blow up in his face. Lately, it was discovered that BP did not report immediately the defect.

Eager for growth and cost cuts overwhelmed the sense of the company responsibility. Both the board of directors and the committees assigned to implement and oversee safety, health, and natural environment failed in their responsibilities, leading to disastrous consequences. Eleven workers died, millions of gallons of oil lingered in the ocean for 86 days, shutting down the largest fishing grounds in the US, unprecedented loss of wildlife and of income for the local population, and raised long-term health concerns due to the toxic cleanup.

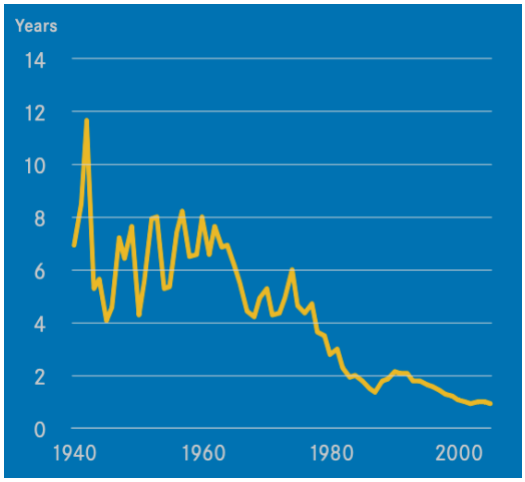
2.8 The consequences of shareholder primacy myth

As exemplified by the British Petroleum case, the ideology of shareholder primacy, widely embraced and implemented by numerous other corporations, has emerged as one of the most detrimental myths in modern times. Corporations that relentlessly strive to optimize a singular objective, shareholder value maximization, are likely to face challenges.

Several elements have driven the short-term behavior in recent years. First, the practice of aligning the CEO's interests with shareholders at all costs, with executive pay design and share buybacks processes. Then, the regulatory changes and technological advances

of the stock markets that facilitated a rise in short-term trading strategies. Investors were able to quickly respond to market fluctuations and to enter and exit positions, capitalizing on short-term price movements (Figure 7). Last but not least, the short-termism logic in future strategic planning.

Figure 7: NYSE average holding period declined from 7 years to 1 year



Source: The New York Stock Exchange

The consequences of focus on the stock price - namely shareholder primacy – are varied and interest multiple fields.

Numerous long-term investments have not been taken into consideration over the years - whether in R&D, marketing, innovation, product and workplace safety, human capital, and climate change - since the board on average considered three years as a long-term horizon (Samuelson, 2022). Shareholder primacy also resulted in increased inequality, particularly in the US, because gains coming from stock price advantage those who own stocks, and most stocks are owned by the wealthy. Shareholders, with their say-on-pay votes, have the power to challenge the practice of partially equity-based executive compensation. However, they are complicit in this system focused on short-term stock price gains, overlooking the potential drawbacks for other stakeholders, such as employees. As exemplified by the BP case, such practices often benefit certain parties at the expense of others, eroding the ethical principles that are fundamental for corporate decision-making.

In the first half of 2010s, amid a debate on income inequality, there have been many companies which decided to take action. In 2015, Walmart announced to increase the

minimum wage of workers to at least $9/hour, a measure that would have affected 500,000 employees. This announcement caused an incredible reaction in the market, that punished the company with a $20 billion-dollar loss of market cap in just one day, losing 10% of stock's value (The New York Times, 2015). The same day Walmart announced that they would buy back the stocks just lost. While Walmart's consistent investments in employee training and pay are commendable (about $5 to $6 billion spent in 2015), their substantial stock buyback program underscores the ongoing dominance of shareholder primacy ($43 billion in stock buyback spent in 2015) (Capital & Main, 2022). In 2017, with American Airlines happened the exact same thing, the company wanted to increase workers' wage to align with its competitors and the stock, after the announcement, lost 5,2% of its value. In 2011, Google announced the plan to hire 1,600 people, and the stock price lost 5% the same day (Samuelson, 2022).

When companies prioritize short-term stock price gains over long-term value creation, they often discourage commendable initiatives that benefit employees, customers, and society as a whole.

According to the Nobel Prize winner Herman Simon, it is more effective to pursue a balanced approach through multiple objectives, and try to attain each of them reasonably well. It is imperative not to limit companies' objective solely to profit-making.

CEOs are slowly changing their perspectives as they started realizing the importance of value creation which means a focus on a broader class of stakeholders, rather than solely on shareholders. In 2019, 181 CEOs members of the US Business Roundtable agreed to the new statement of stakeholder principles. The statement redefines the purpose of a corporation promoting the concept of corporate sustainability, highlighting the importance of creating jobs, fostering innovation, delivering values to customers, dealing fairly and ethically with members throughout the supply chain, supporting the communities, generating long-term value for shareholders and reinforcing the concept that each of a corporation's stakeholder is essential for the future success of companies, communities and the country (Business Roundtable, 2019). In the same year, an OECD initiative "Trust in Business" was conducted to lead business leaders' actions towards long-term, anti-corruption, responsible business conduct goals (OECD, 2019). It is time to see corporations not as part of the problem but as part of the solution.

2.9 Restarting from corporate governance

The G of the ESG factors, with good, robust but still adaptable corporate governance structures, sets the tone for responsible and sustainable business practices. Recent literature has highlighted the repercussions of inadequate corporate governance mechanisms, revealing a correlation with heightened default risk. In particular, four critical domains of corporate governance were under review: ownership structure, board effectiveness, financial transparency and disclosures, and shareholder rights. For each indicator, the study was able to demonstrate a positive correlation between the implementation of weaker corporate governance practices and a higher degree of default risk (Fernando, Li and Hou, 2019). To begin with, the research deepens ownership concentration, in particular high concentrated ownership structures, which can lead controlling shareholders to prioritize personal gains over the interests of minority shareholders, resulting in value transfer from the firm to them. Corporate governance can mitigate these agency costs, avoiding managerial opportunism, and ensuring the establishment of an independent board. Speaking of which, the effectiveness of the board is the second focus of the study. Ineffectiveness in the board could imply that firms are less exposed to growth opportunities. Enhancing financial transparency and disclosure can help mitigate information asymmetry between managers and other stakeholders. It is crucial to establish programs that foster a culture of integrity, discouraging unethical practices. Leaders should also ensure that all actions are measurable; otherwise, creating improvement plans and assessing progress becomes challenging. A fraudulent financial reporting can be minimized by financial transparency facilitated by an independent audit committee (Dechow, Sloan and Sweeney, 1996). When shareholders hold significant rights, they are more likely to influence management and prevail over minority shareholders. Corporate governance practices must guarantee that managers refrain from leveraging their discretionary power for personal gains. To estimate the correlation between these variables and default risk, various corporate governance indicators were used (for instance, concerning the domain ownership structure, the study employs the % of share ownership by institutions, the % of share ownership by the five largest shareholders and a dummy variable = 1 if at least one shareholder possess more than 20% of shares, and 0 = otherwise). The default correlation was investigated among firms with different credit qualities over different time horizons, utilizing a sample of 835 firm-year observations (160 defaulting firms and 675 non-defaulting firms) from 2000 to

2015. Results reveal that firms with dispersed ownership concentration show a low default correlation (61%), while firms with concentrated ownership exhibit a high default correlation (75%). In terms of board effectiveness, firms with ineffective boards display a high default correlation (72%) while those with high effectiveness level show a 58% correlation. Also, transparency levels aligned with the hypothesis, indicating that with low levels of transparency, a correlation of 71% is reported whereas with high levels of transparency the correlation is 65%. The last result shows that firms with strong shareholder rights exhibit a 75% of correlation with default risk, while low shareholder rights show only a 64% correlation (Fernando, Li and Hou, 2019). The implications suggest that firms with weak corporate governance may have elevated default correlations. These findings serve as a reminder that corporate governance is not just a process; it is a keystone that can either strengthen or undermine the very foundation of a business. Presenting these results aims to pivot these criticalities toward a constructive dialogue on best practices. The journey seeks to reevaluate, refine and starts, or restarts from the weak corporate governance practices presented to implement corrective measures.

2.10 The effectiveness of the board of directors

The board of directors is accountable for overseeing financial issues, developing corporate strategy, and maintaining conformity with specified ethical standards and values. To achieve these goals, an effective board of directors is required. It must have a robust composition, a responsible leadership, members with the necessary expertise, and a structure that not only promotes independence and diversity but also creates an ideal environment for well-informed decision-making.

2.10.1 Board independence

The G20/OECD Principles of Corporate Governance explicitly requires that "*The board should be able to exercise objective independent judgment on corporate affairs*". Board independence and objectivity is crucial to prevent conflicts of interest and to balance the competing demands coming from different business leaders. Ensuring board independence typically means having a sufficient number of board members who are not affiliated with the management through significant economic, family or other ties (OECD, 2023a). This does not prevent shareholders from being board members. The specific

requirements differ depending on the jurisdictions, on firm's size and other characteristics, including the ownership structure and the level of market maturity. For instance, companies with a more distributed ownership structure are more likely to adopt higher independence standards. In the Americas, the United States and Canada mandate higher independence standards (the majority of the board members should be independent directors) compared to the Latin American markets. In the European region, the majority of the countries mandate a majority or at least half of the board members to be independent directors. While in the Asia-Pacific region, the standard requires a threshold slightly lower, at one-third of the board (Mishra, 2018).

The company may decide to adopt a unitary, also called one-tier, board system or a two-tier board system. The unitary board consists of only one board, that includes both executive and non-executive directors. Executive directors are specifically in charge of daily management, involved in major decision-making processes and implementation of strategy decisions. Whereas non-executive directors perform a monitoring role, determine executive members' compensation, and provide counsel, along with any supplementary expertise that may be needed, to the executive directors and other board members. One of the non-executive members holds the position of Chairman (Calkoen, 2011). In a two-tier system board, executive and non-executive directors belong to two distinct board: the supervisory and the management board. The management board is composed by executive directors, who are internal members selected from within the company. This may include the CEO, CFO and other individual actively involved in the company's day-to-day operations. The supervisory board is composed partially or entirely by non-executive directors, chosen externally and considered independent of the company, who make sure that the company operates in the best interests of its shareholders and in compliance with legal and ethical standards. In addition, it regularly evaluates the decisions and activities of the other board, with which it communicates on a regular basis. The board in a two-tier structure can be easily divided into three key figures: the executive directors (the management board), the non-executive directors (the supervisory board) and the Chairman, who is technically the leader of the corporation. The Chairman typically maintains strong communication with the CEO and top-level executives. The board of directors elects the Chairman.

After briefly revisiting the possible structures of the board of directors, certain considerations may emerge. The unitary board system is more likely to create

interferences between the two groups of directors, because of the single structure. Therefore, according to the OECD Principles, the objectivity and independence of the board may be strengthened by the separation of the role of CEO and Chairman. In this way, the Chairman can become leader director when the board present conflicts of interest with the management. The CEO has the option to act as the chair of the board, but this arrangement may lead to an excessive concentration of power and eventual conflicts of interest. With the two-tier board system, the absence of executive directors in the supervisory board strengthens independence from management. Independent board members can contribute significantly to the decision-making of the board. There are many decisions that can easily create conflicts of interest between the management, the company and its shareholders: like executive remuneration, succession planning, corporate control changes, takeover practices, and the audit function.

In certain jurisdictions, separate meetings of independent directors might be mandated periodically. The board should also consider establishing dedicated committees to address issues where there is a potential for conflicts of interest, with a mandatory inclusion of independent members.

The body of corporate governance literature extensively explores the relationship between board independence and firm performance. Several studies provide evidence demonstrating a positive correlation between board independence and firm performance (Liu et al., 2015; Knyazeva, Knyazeva and Masulis, 2013; Hu, Lin and Tosun, 2023; Yang and Zao, 2014), while other researches exhibit a negative correlation (Cavaco et al., 2017).

The first study uses a sample of publicly listed firms at the Shanghai and Shenzhen stock exchanges, traded from 1999 to 2012, highlighting key characteristics of Chinese companies that contribute to the positive correlation. First, the limited presence of external corporate governance mechanisms in China, intended as legal and extra-legal institutions that provide protection for investors' rights, underscores the significance of internal mechanisms. Additionally, the concentrated ownership structure, particularly with state-owned companies where the government is a major shareholder, is a noteworthy factor. The study demonstrates that companies exceeding the mandated minimum for independent directors (1/3), as outlined in *The Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies*, exhibit a superior performance (Liu et al., 2015). Another study supports this positive correlation by

exploring the influence of the local director labor market on board composition, revealing that proximity to larger directors' pools is associated with more independent boards, especially among smaller and medium-sized firms in the S&P 1500. Board independence significantly impacts profitability and operating performance, with a one-standard deviation increase in board independence leading to a 1,2%-1,7% increase in ROA and 1,4%-1,8% increase in operating cash flow (Knyazeva, Knyazeva and Masulis, 2013).

Another recent study uses the trend of the product market demand to demonstrate the relation between board independence and firm performance. The findings reveal that, following a decrease in demand, companies with a more independent board of directors experience a substantial improvement in financial performance, as indicated by increased Return on Assets (ROA). A one-standard-deviation increase in board independence is associated with an additional 0,77% increase in ROA after negative demand shocks. Conversely, no such positive link is observed in the absence of negative demand shocks (Hu, Lin and Tosun, 2023).

Another paper examines the dual aspects of board independence, highlighting its benefits and costs. Positive aspects include improved board functioning, reduced conflicts with corporate executives, and strengthened monitoring effectiveness, while drawbacks involve potential lack of cooperation and insufficient communication with top executives. The study yields a mixed result, indicating a negative correlation between board independence and firm performance attributed to independent board members facing an information deficit compared to affiliated members. In particular, a 10% increase in the fraction of independent board members rather than affiliated is related to a 10% decrease in ROA (Cavaco et al., 2017).

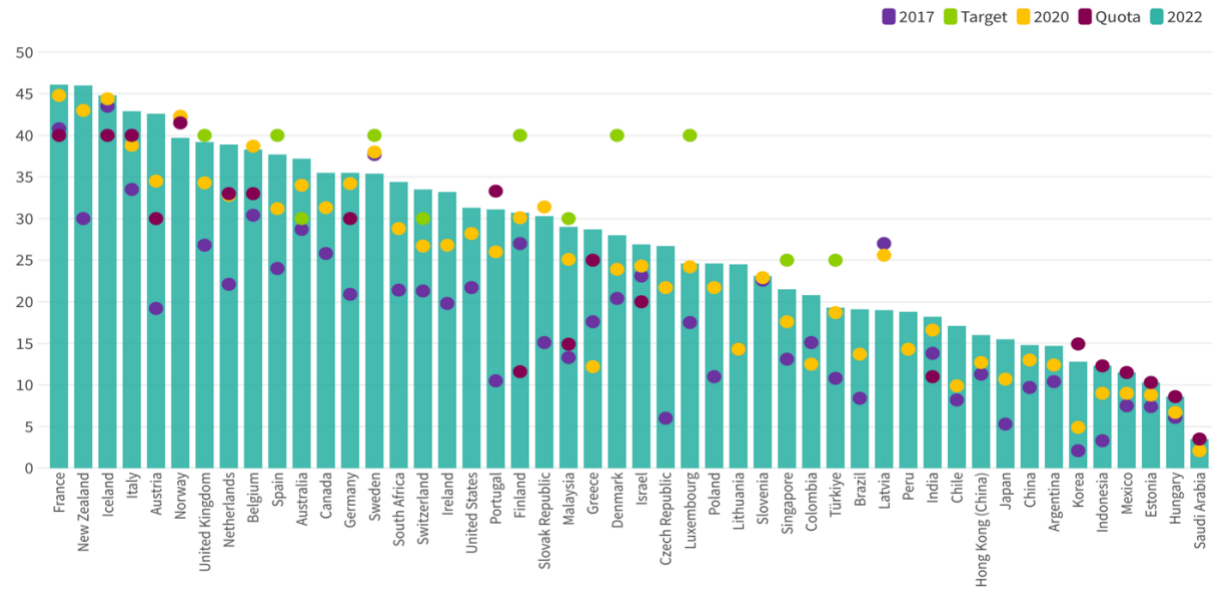
The CEO duality represents an important characteristic measuring the independence of the board of directors and it has been widely debated among corporate governance scholars. A study by Yang and Zhao (2014) examines the impact of CEO duality on firm performance in the context of the 1989 Canada-US Free Trade Agreement (FTA). The findings reveal that firms adopting CEO duality tend to perform better than those companies without this structure. Specifically, the study revealed that a one-rank increase in the tariff rank associated with dual leadership is linked to an increase of 2,79% in Tobin's Q (Yang and Zhao, 2014).

2.10.2 Board diversity

"Boards should regularly carry out evaluations to appraise their performance and assess whether they possess the right mix of background and competences, including with respect to gender and other forms of diversity" (G20/0ECD Principles of Corporate Governance, 2023). When referring to the right mix of backgrounds and competences, there are many aspects included, such as gender, age, nationality, and other demographic characteristics, but also professional and personal experience and expertise that could enrich both knowledge base and viewpoints of the board in the process of decision-making. Bringing a diversity of thought into board discussion is a business imperative according to some authoritative CEOs (Ronald P. O' Hanley from State Street and David Salomon from Goldman Sachs) (Landaw, 2020). For instance, the board of directors of Goldman Sachs is composed by five women out of thirteen members and the lead director is black, and the CEO himself expressed total support to this idea, drawing from his own experiences of the significant value diverse members bring.

In recent years, publicly traded US companies within the Russell 3000 have started recruiting more female directors, with women representing 45% of newly directors, a notable increase from 12% reported in 2008. Similar progress, but at a slower rate, for directors belonging to a racial or ethnic minority, representing 15% of the newly hired (Landaw, 2020). An increasing number of jurisdictions now mandate or advise publicly traded firms to disclose the gender composition of their board and senior management (OECD, 2023a). Since 2019, companies have implemented initiatives, such as mandatory quotas or voluntary targets to promote increased participation of women (OECD, 2023b). Figure 8, displaying the proportion of women on the boards of listed companies across numerous countries, illustrates remarkable progress, even in nations without targets. Overall, it is evident a significant advancement from 2017 to 2020 and 2022 in the majority of countries. An important issue raised by a partner of Barington Capital Group, an activist investment firm, regards how to hire diverse people (both from a demographical and/or professional point of view) that practically affect the board diversity of a company? The question arises from the common assumption that diverse people will automatically bring new backgrounds, viewpoints and perspectives, but what happens if the company hires a female director with equal background as a possible man director?

Figure 8: Share of women on boards of largest listed companies (in 2017, 2020, and 2022) with reference to implemented quotas & targets, percentage



Source: OECD, 2023b.

If the only additional factor is the gender, it may be that it does not affect the cognitive variety of the board. Or what if people with different background and demographical characteristics are hired as board members but they do not feel comfortable in sharing their opinion during board discussion because their points of view are repeatedly not taken into consideration? Is this diversity actually affecting board diversity? Landaw (2020) interviewed directors of eight different underperforming companies, which had one or more Barington employees added to the board. The purpose was to examine the problematic and ask the incumbent directors about the impact of new directors on enhancing cognitive diversity and its effects on board performance. The main results were the following. First, there may not be a direct correlation between demographic diversity and cognitive diversity. The company should evaluate the distinctive contributions that the candidate is able to provide. According to the interviewed directors, the new directors enriched the board's knowledge base by adding specific expertise where there was a deficiency. Cognitive diversity and demographic diversity should be regarded as mutually reinforcing. Demographic diversity is valuable across the entire organization, particularly as a diverse board is able to mirror the diverse composition of a company's employees, suppliers and customers. This aids the board in anticipating and addressing stakeholders' concerns, resulting in doing the job more

efficiently compared to a homogenous board. Diverse board can increase the engagement levels of directors, 43% of 700 directors interviewed in a survey replied that they have difficulty in dissenting during a board discussion (PwC, 2019). Previous literature aligns with this hypothesis, suggesting that diverse boards tend to be more receptive to dissenting viewpoints (Kang, Kim and Oh, 2019; Phillips and Loyd, 2006). Company's culture is essential in creating an environment where the sharing and consideration of varied perspectives are welcomed. Ultimately, two general improvements were identified by the incumbent directors: improved decision-making due to more focused and target-oriented board meetings, and increasing ability for the board to oversee the management and foster a transparent relation with the CEO (Landaw, 2020; Kang, Kim and Oh, 2019).

Corporate governance literature exploring the correlation between board diversity and firm performance is widely available (EmadEldeen et al., 2021; Fernández-Temprano and Teiering-Gaite, 2020; Qureshi et al., 2019; Song, Yoon and Kang, 2020). The first study considers executive board diversity and supervisory board diversity separately, assessing their impact on ROA and market-to-book ratio as performance indicators. Given the distinct responsibilities and consequently fewer interactions of supervisory board members in comparison to executives, the study finds that executive diversity has a more pronounced impact on firm performance. Among the board diversity variables considered, the study finds evidence that age diversity positively affects ROA for both executive and supervisory directors. The characteristics of younger and older members act as a complement with each other. Additionally, a significant positive correlation on market-to-book ratio is observed for the nationality mix among executive directors (Fernández-Temprano and Teiering-Gaite, 2020).

The second study offers empirical evidence from the UK, examining the relationship between board diversity variables and firm performance. Companies listed on the London Stock Exchange, spanning the period from 2000 and 2016 and categorized into three indices (FTSE 100, FTSE 250 and FTSE 350), demonstrate a positive and significant correlation between gender and national diversity concerning both ROA and Tobin's Q. These correlations are particularly significant for FTSE 250 but not FTSE 100. On the other hand, education diversity exhibits a negative impact on ROA, while age diversity does not show a significant effect on ROA (EmadEldeen et al., 2021). These findings align to a great extent with those obtained by Hsu, Lai and Yen (2019) in their study on Chinese

companies. Their research shows a significant and positive relationship between the percentage of female directors and operational performance. Although there was a positive but statically insignificant impact for age diversity, the relationship with the board director background was negative but not statistically significant. A further comprehensive study involving 812 listed companies across 22 European countries investigates the connection between female board representation and corporate value, assessed through financial and non-financial performance indicators. The findings reveal a positive correlation, explaining that companies with female board members demonstrate higher sustainability disclosure scores across all three dimensions (environmental, social and governance) compared to those with exclusively male boards. This positive correlation extends to firm value, demonstrating that as female board representation increases, corporate value also increases (Qureshi et al., 2019). This finding is also supported by a previous study which investigated that female representation on boards enhances firm performance through better monitoring practices (Adams and Ferreira, 2009). The fourth study, which focuses on US-listed lodging companies, examines the impact of gender and age diversity, as board diversity measures, on the firm value. It also adds the internationalization as a moderator variable to see whether it influences the results. The study employs Tobin's Q as the firm value's metrics, which according to the authors is less susceptible to accounting methods and market fluctuations. The findings indicate a positive correlation between gender diversity and firm value, especially for lodging firms where the involvement of women board members can lead to faster understanding and broader perspectives of the customers' needs, providing a competitive advantage (Kang, Cheng and Gray, 2007). On the other hand, age diversity appears to have an insignificant effect on firm value. This could be due to a bias against younger people making strategic decisions in a capital-intensive industry. Internationalization acts as an accelerator, meaning that one-unit increase in internationalization can amplify the influence of gender diversity on the Tobin's Q. This effect does not emerge for age diversity (Song, Yoon and Kang, 2020).

2.10.3 Executive compensation

Executive compensation serves as a crucial corporate governance mechanism, offering insights into the dynamics between executives and shareholders. Its significance lies not only in achieving a balanced approach to mitigate agency costs and enhance the

executive-shareholder relationship, but also in ensuring that this equilibrium does not jeopardize the long-term objectives and value of the company. One solution to address the agency costs dilemma involved implementing a compensation structure that was partially share price-based. This approach was adopted to create a mutual benefit for both shareholders and executives - shareholders gained control over executives, and executives, in turn, aligned their objectives with those of the shareholders by pursuing value maximization. However, three main problems were associated with this form of compensation. First, an unjustifiable rise in executive pay across many countries in recent times. According to a research that considered 15 Ius Laboris (a global alliance of law firms) countries, none of the countries reported a decrease in compensation at CEO level and the increase seems to come from the variable part of the compensation. The only countries that do not report an increase but stay the same were the countries with statutory obligations to disclose executive pay information (Italy, Germany and UK)[6]. Second, there is no association between the highest pay figures and the top-performing companies (Big Innovation Centre, 2017). Lastly, compensation is tied to the incorrect type of performance, specifically, short-term performance (one to three years) (Big Innovation Centre, 2017). As exemplified by the British Petroleum oil spill incident, this solution has proven detrimental to both stakeholders and the long-term sustainability of the business, as it encourages short-term results for executives.

Hence, the reconsideration of executive compensation is imperative.

The G20/OECD Principles of Corporate Governance, revised in 2023, stress the importance for shareholders to be informed and to discuss, when applicable, the remuneration policy of the board members and key executives. Shareholders have different forms of vote through which they can express their opinion, the so-called say-on-pay votes. Almost all jurisdictions have implemented measures mandating or suggesting the disclosure of the overall individual compensation, 94% of the jurisdictions according to the OECD Corporate Governance Factbook 2023 (based on 49 jurisdictions). Typically, these obligations extend to all board members and certain key executives. Jurisdictions also have a mix of provisions concerning the necessity or recommendation for shareholder approval about the remuneration level and amount, in particular for equity-based schemes which should be mandatorily subject to shareholders' approval

[6] https://iuslaboris.com/insights/executive-pay-and-the-challenges-for-boards-of-directors/

(OECD, 2023b). Additionally, "*boards may assess if and how sustainability matters affect companies' risk profile. Such assessments may also relate to key executive remuneration and nomination (whether targets are integrated into executives' compensation plans would be quantifiable, linked to financially material risks and incentives a long-term view) or how sustainability is approached by the board and its committees*" (OECD, 2023a).

The integration of executive compensation with corporate social responsibility (CSR) targets has emerged as a transformative approach in corporate governance practices. This innovative strategy involves incorporating CSR objectives, including ethical conduct, CO2 emission reduction, and employee satisfaction, into executive compensation. The purpose is to serve as a corporate governance mechanism that redirects management's focus from short-term financial gains towards long-term benefits associated with CSR initiative (Sarhan and Al-Najjar, 2022). This approach is relatively new and is increasingly encouraged at the international level, particularly driven by rising expectations for companies to exhibit socially responsible behavior and a rising pressure coming from stakeholders towards the boards of directors to engage in CSR practices (Flammer, Hong and Minor, 2019). The transition represents a move away from the traditional "pay for financial performance plans" to "pay for extra-financial performance plans", where both financial and non-financial targets are commonly integrated into executive remuneration schemes. Along with CSR-related targets, the variable components of executive compensation can consist of bonuses and other long-term incentive plans, such as equity ownership and long-term share options (Haque and Ntim, 2020). Long-term equity-based compensation is an alternative to share price-based compensation because it aligns executive incentives with long-term corporate goals. These incentives include long-term equity ownership that grants executives shares of the company stock that vest over a period of years. This means that executives do not receive the full value of the stock immediately, but instead, they receive a portion of the stock each year over a predetermined period.

Several studies have researched whether incorporating CSR targets into executive compensation may serve as a means by which corporate governance can execute CSR activities. While others have studied if there is a positive correlation between CSR contracting (which is integrating CSR targets into executive remuneration) and firm-level outcomes, such as ROA, ROE and price-to-book ratio. I will present both the results of the researches. Research on CSR contracting has consistently shown its positive influence on

corporate social responsibility performance and long-term orientation. A study of FTSE 350 companies between 2002 and 2016 found that long-term equity-based compensation and CSR-related compensation policies positively impacted CSR scores (Sahran and Al-Najjar, 2022). Similarly, studies on S&P 500 firms over a ten-year period (2004-2013) and a single-year analysis (2013) revealed a positive correlation between CSR contracting and firms' long-term orientation (Flammer, Hong and Minor, 2019; Hong, Li and Minor, 2016). Studies on the impact of CSR contracting on a company's financial and non-financial performance have revealed a key distinction that influences this relationship: the corporate governance structure, either shareholder-oriented or stakeholder-oriented. Stakeholder-oriented companies exhibit a robust and positive correlation between CSR contracting and non-financial performance, whereas shareholder-oriented companies experience a negligible effect. Regarding the impact on financial performance, a contrasting outcome emerges. CSR contracting negatively and significantly affects both return on assets (ROA) and return on equity (ROE) when implemented under a shareholder-based model, while stakeholder-oriented companies experience no significant effect (Sahran and Al-Najjar, 2022).

A comprehensive analysis by the ISS Executive Compensation Analytics (ECA) from 2011 to 2021 considering more than 10,000 firms, reveals a substantial increase in the adoption of ESG metrics in executive compensation. From 3% registered in 2010, the adoption has skyrocketed to 38% in 2021. Starting from an international set of data, with companies from US, Canada, UK, Europe, Australia, New Zealand and South Africa, in the period 2011-2020, the study explores the correlation between the adoption of ESG-linked pay with financial and ESG performance. In this study, ESG performance is measured by two key indicators: CO2 emissions and ESG ratings. Evidence shows no significant correlation between ESG pay and CO2 emissions. However, when considering a specific component of ESG pay, carbon emissions, a notable negative correlation emerges. This suggests that linking executive compensation targets to carbon emissions, induce carbon emissions to decrease. Furthermore, while ESG pay has a positive and significant impact on ESG ratings, there is no positive and significant association with ROA (Cohen et al., 2023).

2.11 Summary of the literature review on board composition and structure

To conclude this chapter, the following table will summarize the key findings of the literature review regarding the elements that concur in creating an effective board of directors.

Table 3: Literature summary

Research object: The effect of the board independence on firm performance				
Date	**Country**	**"G" Variables**	**Metric**	**Results**
2013	United States	Independent directors	% independent directors	Positive correlation with ROA and operating cash flow
2023	United States			Positive correlation with ROA after negative demand shocks
2017	France			Negative correlation with ROA
2015	China		n. of independent directors	Positive correlation with performance indicators, ROA, ROE and Tobin's Q
2014	United States	CEO duality	CEO duality (dummy variable)	Positive correlation with Tobin's Q and no significant correlation with ROA

Research object: The effect of the board diversity on firm performance				
Date	**Country**	**"G" Variables**	**Metric**	**Results**
2019[1]; 2021	China; UK	Gender diversity	% female directors; n. of female directors	Positive correlation with ROA
2020[1]; 2021	United States; UK		Degree of gender diversity; n. of female directors	Positive correlation with Tobin's Q
2019[2]	EU		% female directors	Positive correlation with firm value and ESG disclosure
2020[2]	Spain	Age diversity	Std dev director's age	Positive correlation with ROA
2019[1]; 2021	China; UK		Std dev director's age; average age in years	No significant correlation with ROA
2020[1]	US		Degree of age diversity	No significant correlation with Tobin's Q
2020[2]	Spain	Nationality diversity	Nationality mix among directors	Positive correlation on market-to-book ratio
2021	UK	Education diversity	Average n. of education qualifications earned by all directors	Negative correlation with ROA
2019[1]	China	Director's tenure	Std dev of members' tenure	Negative but insignificant effect on ROA

Note: 2019[1] = Hsu, Lai and Yen; 2019[2] = Qureshi, Kirkerud, Theresa and Ahsan; 2020[1] = Song, Yoon and Kang; 2020[2] = Fernández-Temprano, Teiering-Gaite

Research object: Implications of executive compensation for firm outcomes

Date	Country	"G" Variables	Metric	Results
2023	EU, Canada et al.	Executive compensation ESG-linked	ESG pay (dummy variable)	No significant correlation with ROA
2016	United States		CSR contracting (dummy variable)	Positive correlation with ROA
2019	United States			Positive correlation with Tobin's Q
2016; 2019	United States			Positive correlation with firm's long-term orientation (LT Index see notes)
2016; 2022, 2023	United States; UK; EU, Canada et al.			Positive correlation with CSR performance
2022	UK	Equity-based executive compensation	Log of the total value of the stock-based compensation of employees	Positive correlation with CSR performance

Note: Long-term Index (or LT index) has been used to measure a firm's long term-orientation. It is based on the number of "long-term" keywords that companies use in their discourse. The data is obtained from the SEC's EDGAR database and the index is calculated by dividing the number of long-term keywords to the sum of short and long-term keywords.

Chapter 3. Empirical analysis

In the previous chapters, we explored the complex world of corporate governance, revealing both its potential drawbacks and its ability to fuel sustainable growth. We recognized the positive impact of well-functioning boards of directors and the risks associated with weaker structures. This study aims at further analyze corporate governance by bringing evidence from the market. We will examine a selected sample of companies to address a fundamental question: How does the G of the ESG influence firm performance indicators?

This empirical analysis will be divided into two sections:

1. ESG score and firm performance: This section examines the impact of environmental (E), social (S), and governance (G) scores, collectively known as ESG scores, on firm performance indicators.
2. Board characteristics and firm performance: This section focuses on how specific characteristics of the board of directors' influence firm performance indicators. To formulate the analysis and hypotheses, prior literature, cited at the conclusion of the second chapter, has been extensively reviewed.

Methodology and research design remain consistent for both analyses and will be presented during the first analysis only. Same reasoning for the dependent and control variables.

3.1 ESG score and firm performance analysis

3.1.1 Hypothesis

Following our exploration of the Governance factor's critical role within ESG across the first two chapters, we begin our empirical analysis. This initial part will serve as a crucial preliminary step, paving the way for a subsequent, deeper investigation into a specific aspect of Corporate Governance. The aim is to assess the impact of the Governance score, compared to its Environmental and Social counterparts, on firm performance indicators. Moreover, the research wants to validate the theoretical hypothesis that the Governance factor's influence exceeds that of the other ESG components. A recent paper published by MSCI (2020), "Deconstructing ESG Ratings Performance", explored the importance of the G in the ESG and whether there is a factor between the E, the S, or the G that has a major impact over financial results. The first consideration made by the study was the

importance of differentiating by industry. E, S and G scores have different weights depending on the industry considered. The main findings reveal that companies with high corporate governance scores initially correlate with stronger short-term performance, but over the long-term, a balanced approach incorporating of the three ESG pillars emerges as the winning strategy. A possible explanation for this is that there are two risk factors related to ESG: the first is called "event driven risks" where an example is the case of the oil spill disaster in the Gulf of Mexico, while the second is called "erosion risks" which need more time to settle, this type of risk can lead to the worst consequences over a longer period of time. The G score face more "event driven risks" therefore there is stronger financial relevance in the short-term, while the E and the S face more of the erosion type of risks and the influence on financial performance is not so immediate (MSCI, 2020). Based on this premises, the following hypotheses will be the core of our first investigation:

H1: E, S and G score have a significant impact on firm performance indicators.

3.1.2 Methodology and research design

To conduct our analysis, we collected secondary data from the Bloomberg Terminal. The Bloomberg Terminal is a comprehensive financial platform that gives professionals in the financial sector access to real-time data and tools for financial research. It goes beyond just traditional financial data, offering rich insights into ESG information. Bloomberg offers a very high number of ESG metrics for over 15,000 companies across more than 100 countries. It also goes beyond static snapshots by making available up to 15 years of historical data to see how companies' ESG performance and disclosure practices evolve over time.

The statistical method used to elaborate on the data collected is the linear regression model, which is used to describe and evaluate the relationship between a given variable (the dependent variable) and one or more other variables (called independent or explanatory variables). In the case where the independent variable is only one, the regression model is called simple linear regression, while it is called multiple linear regression when more than one independent variable is involved. In the following analysis, a multiple linear regression will be adopted.

The research is based on panel data of the 600 companies of the STOXX Europe 600 Index during the period from 2015 to 2022. A panel dataset is created when we combine time series and cross-sectional data, essentially capturing information across both time and space. A panel dataset involves tracking the same individuals, in this case companies referred to as "entities", and recording various measures about them over a period of time.

The STOXX Europe 600 is the European subset of the STOXX Global 1800 Index. It comprises 600 firms with the highest market capitalization across 18 European countries. Europe has emerged over recent years as a global leader in the sustainable finance arena, along with the US. According to Morningstar's Global Sustainable Fund Flows report for Q4 of 2022, the majority of investments in sustainable funds globally, amounting to $2.1trn, were directed towards Europe. Specifically, Europe accounted for 83% of the total assets invested in sustainable funds worldwide (IPE, 2023).

Therefore, analyzing the companies within the STOXX Europe 600 Index can represent a unique opportunity to gain valuable insights about ESG data, especially G data.

3.1.3 Dependent variables

Firm performance indicators will represent our dependent variables. Previous research has utilized a diverse range of performance measures, falling into two broad categories: accounting-based and market-based. Accordingly, the measures we chose for the analysis are: Return on Assets (ROA), an accounting-based measure and Tobin's Q, a market-based measure.

ROA reflects the ability of a company to generate profit efficiently using its assets. It is measured as the ratio of net income to total assets and it is expressed as a percentage. The value of total assets is generally calculated as the average of the book values at the beginning and end of the year. The formula is the following:

$$ROA = (Net\ Income)/(Total\ Assets)\ \times 100$$

Tobin's Q measures the market value of a company's assets relative to their replacement cost, which is how much the company would have to spend to reacquire all of its facilities and equipment at current market prices. It can be used as an indicator of whether a company might be undervalued or overvalued. A ratio greater than 1 generally implies

that the market believes the company's assets are worth more than their replacement cost, which may be a sign of undervaluation. Conversely, a ratio of less than 1 can indicate that the market assesses the company's assets to be worth less than their replacement costs, possibly suggesting overvaluation. The following formula was used to calculate the Tobin's Q since it was not readily available in Bloomberg:

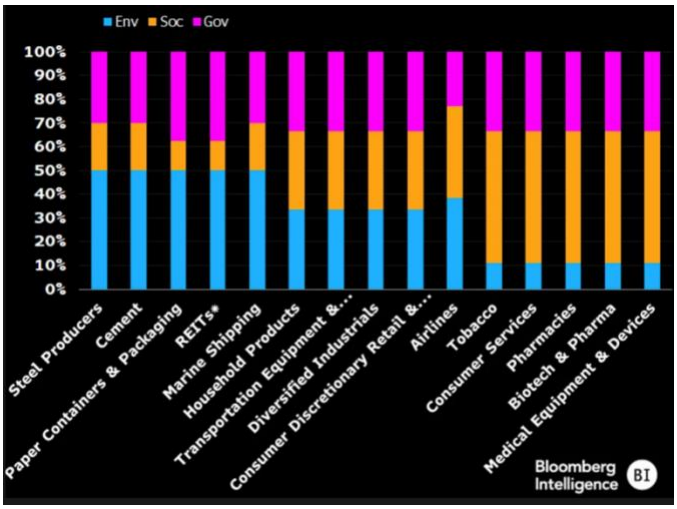
$$Tobin's\ Q = (Market\ Capitalization(MC) + Total\ Liabilities(TL) + Preferred\ Equity\ and\ Hybrid\ Capital(PE) + Minority\ Interest(MI))/(Total\ Assets)$$

Missing data impacted our calculation of Tobin's Q. While we initially considered 600 firms, some observation lacked data in essential components for the computation. Since calculating the ratio requires complete data for all components, any missing piece would compromise its accuracy. Therefore, our Tobin's Q dataset included 533 companies over the eight-year period.

3.1.4 Independent variables

In our analysis the independent variables are represented by the E, S and G score, measuring respectively the E, S and G performance of a company. The industry plays an important part in determining the score (MSCI, 2020) because each industry is not equally exposed to environmental, social and governance issues (Bloomberg). Therefore, to elaborate good and robust scores, Bloomberg assesses individual weights to each of the three pillars within each industry, in order to capture the relative degree of financial exposure to the ESG factors.

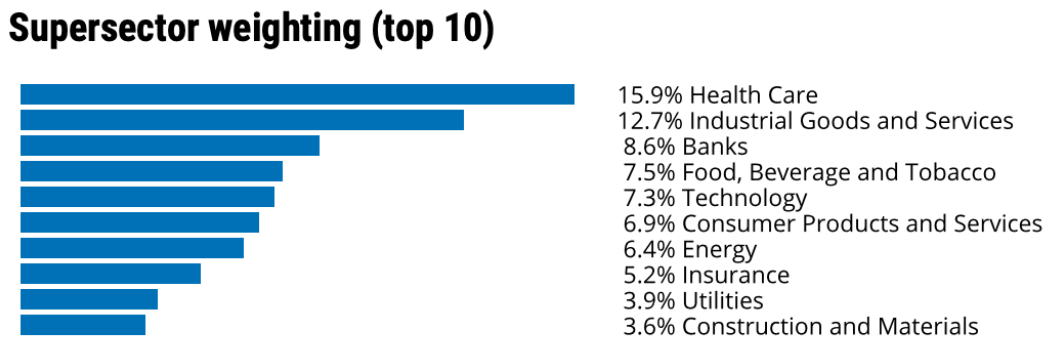
Figure 9: E, S and G weights for selected industries



Source: Bloomberg Intelligence

From the graph, it is evident that the industries with higher environmental risks are Steel Producers, Cement, Paper Containers and Packaging and Marine Shipping; while Tobacco, Pharmacies, Consumer Services have higher risks related to the social sphere. To have an idea of how the relative weights are distributed, Paper Containers and Packaging industries have the highest E Weight (50%) while the lowest for S Weight (13%). Tobacco companies have 11% of E Weight and 56% of S Weight.
Within the companies belonging to the STOXX Europe 600, several industries are represented. Here is a graph from SXXGR about the top 10 supersectors.

Figure 10: Top 10 Supersector weighting



Source: https://www.stoxx.com/document/Bookmarks/CurrentFactsheets/SXXGR.pdf

The E, S and G final scores is a number between 0 and 10, where 10 is the best. They are the weighted generalized mean of Pillar scores and they will represent the independent variables in our regression analysis.

3.1.5 Control variables

To evaluate the impact of the E, S and G scores on ROA and Tobin's Q, there are some variables that can be introduced to the analysis and are known as control variables. They control the effect of extraneous or confounding factors, that may influence the relationship between the independent and dependent variables. The goal of introducing control variables to the model is to minimize the impact of confounding elements. This helps isolate and clarify the effect of the main independent variables on the dependent one. The control variables introduced in our regression analysis are now presented. Starting with firm's size, we measured it using the natural logarithm of total assets. Typically, such logarithm transformations are applied when dealing with large numbers,

as observed with total assets, as well as indicators such as GDP, company's sales or population. Two leverage ratios are added as control variables to the regression analysis: asset-to-equity ratio, measured by total assets divided by total equity, and debt to asset ratio, measured by total debt divided by total assets. They can both provide insights into the financial structure and risk profile of the company. For instance, businesses having a high asset to equity ratio can be more financially leveraged and hence face greater financial risk, or they might face fewer financial constraints because of the large availability of funds from equity. Country and sector variables are included in the regression model. To ensure compatibility with the software used to perform the regression analysis, these variables have been transformed into a numeric format. Specifically, the number represents an identification code for the country or for the sector of the entities under study.

3.1.6 Regression analysis

To give a quick overview of all the variables that will be used in the analysis, here is below a summary table of all the elements:

Table 4: Regression variables

Variable name	Code	Measurement
Panel A: Dependent variables (Firm performance)		
Return on Assets	*ROA*	Net income / Total Assets
Tobin's Q	*TBQ*	(MC + TL + PE + MI) / Total Assets
Panel B: Independent variables (IV) (E, S, G scores)		
E score	*Escore*	Industry-specific weights on environmental metrics
S score	*Sscore*	Industry-specific weights on social metrics
G score	*Gscore*	Industry-specific weights on governance metrics
Panel C: Control variables (Firm characteristics)		
Firm size	*FSize*	Natural log of total assets
Leverage ratio	*AssEqu*	Total Assets / Total Equity
Leverage ratio	*DebAss*	Total Debt / Total Assets
Country	*Country_numeric*	Specific code for country
Sector	*Sector_numeric*	Specific code for sector

The following table reports the summary statistics of all the variables. It provides a simple overview of the main characteristics of our data. We introduced also the 50th percentile, or the median value, which is a measure resistant to outliers and extreme values. What emerged from the descriptive statistics is that the median value is close to the mean value for all the variables. This is noteworthy because it means that the variables tend to follow a normal distribution.

Table 5: Descriptive statistics

Panel A: Dependent variables (Firm performance)

Variable	N	Mean	p50	SD	Min	Max
ROA	4686	6.064708	4.62855	11.73263	-121.897	236.7815
TBQ	4264	2.132992	1.402417	3.070805	.3875731	80.93843

Panel B: Independent variables (E, S, G scores)

Escore	4200	3.0442	2.96	2.184104	0	10
Sscore	4200	2.809421	2.41	1.75404	0	9.59
Gscore	4392	6.238265	6.31	1.282053	1.67	8.9

Panel C: Control variables (Firm characteristics)

Fsize	4719	23.21706	23.02363	1.832704	16.30214	28.6439
AssEqu	4719	5.258461	2.5843	11.79537	-199.7319	251.9828
DebAss	4719	24.18052	23.1422	15.76075	0	130.4463
Country_nu~c	4792	10.79967	11	5.322567	1	17
Sector_num~c	4792	5.821369	6	2.74541	1	11

Source: Bloomberg Data elaboration through STATA

The correlation analysis is usually performed to investigate whether there is the linear relationship between the variables. If one variable can be explained as a linear function of another one, this may lead to mistakes in estimating the coefficients. The matrix shows no particular problem with correlation.

Instead, it shows a possible interesting dynamic between the three ESG components. Even if it is low, there is a higher correlation between E and S, which might suggest that environmental practices have a beneficial influence on social results, or that companies prioritize addressing environmental and social issues together rather than separately, due to common resources or strategies. While a weaker correlation of both E and S with G (0,19) might indicate less integration between governance practices and the other two pillars.

Table 6: Correlation matrix

	Escore	Sscore	Gscore	Fsize	AssEqu	DebAss	Countr~c	Sector~c
Escore	1.0000							
Sscore	0.3160	1.0000						
Gscore	0.1911	0.1335	1.0000					
Fsize	-0.0200	0.0192	0.0190	1.0000				
AssEqu	-0.0243	-0.0201	0.0430	0.3317	1.0000			
DebAss	0.0079	0.0242	0.0613	0.0536	-0.0858	1.0000		
Country_nu~c	0.0031	0.0457	0.0260	-0.1381	0.0579	-0.0584	1.0000	
Sector_num~c	0.0079	0.0313	-0.0210	-0.0493	-0.0503	0.1300	-0.0246	1.0000

Source: Bloomberg Data elaboration through STATA

The following models have been used to test our first hypothesis (H1):

Model 1:

$$ROA_{it} = \beta_0 + \beta_1 IV_{it} + \beta_2 Fsize_{it} + \beta_3 AssEqu_{it} + \beta_4 DebAss_{it} + \beta_5 Country\_numeric_{it} + \beta_6 Sector\_numeric_{it} + Year_{it} + \varepsilon_{it}$$

Model 2:

$$TBQ_{it} = \beta_0 + \beta_1 IV_{it} + \beta_2 Fsize_{it} + \beta_3 AssEqu_{it} + \beta_4 DebAss_{it} + \beta_5 Country\_numeric_{it} + \beta_6 Sector\_numeric_{it} + Year_{it} + \varepsilon_{it}$$

The time fixed effects technique is implemented to address our panel dataset ($Year_t$). $Year_t$ is a time-varying intercept that captures all of the omitted and not observable variables that affect the dependent variable and that vary over time but are constant across entities. Considering this statistical tool inside our analysis allows us to remove any bias arising from these omitted variables, therefore improving the regression model.

Table 7 and 8 display the results of the regression analysis assessing the influence of E score on ROA in the first instance and on Tobin's Q in the second. Table 9 and 10 display the results of the regression analysis assessing the influence of S score on ROA in the first instance and on Tobin's Q in the second. Eventually, Table 11 and 12 assessing the impact of the G score on ROA and on Tobin's Q.

Table 7: E score regression (ROA as dependent variable)

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Escore	-.2356865	.0819143	-2.88	0.004	-.3962832	-.0750898
Fsize	-2.212901	.1004054	-22.04	0.000	-2.40975	-2.016051
AssEqu	-.0191015	.0151267	-1.26	0.207	-.048758	.010555
DebAss	-.0918415	.0108845	-8.44	0.000	-.1131811	-.0705019
Sector_numeric	-.3011198	.062258	-4.84	0.000	-.4231795	-.1790601
Country_numeric	.0935946	.032244	2.90	0.004	.0303787	.1568105
_cons	61.38482	2.456828	24.99	0.000	56.5681	66.20154

Table 8: E score regression (TBQ as dependent variable)

TBQ	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Escore	-.0256258	.0234816	-1.09	0.275	-.071664	.0204124
Fsize	-.7075661	.0290623	-24.35	0.000	-.7645458	-.6505863
AssEqu	.0139642	.0046236	3.02	0.003	.0048992	.0230293
DebAss	-.012792	.0031649	-4.04	0.000	-.0189972	-.0065868
Sector_numeric	-.1739884	.0175714	-9.90	0.000	-.2084391	-.1395378
Country_numeric	.0092097	.0090792	1.01	0.310	-.0085911	.0270104
_cons	19.82568	.7056456	28.10	0.000	18.44218	21.20917

Table 9: S score regression (ROA as dependent variable)

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Sscore	.0683738	.1002001	0.68	0.495	-.1280731	.2648207
Fsize	-2.198809	.1003759	-21.91	0.000	-2.3956	-2.002017
AssEqu	-.0184938	.0151448	-1.22	0.222	-.048186	.0111983
DebAss	-.0913286	.0108935	-8.38	0.000	-.1126858	-.0699715
Sector_numeric	-.3044779	.0623514	-4.88	0.000	-.4267208	-.182235
Country_numeric	.0929372	.0323139	2.88	0.004	.0295843	.1562901
_cons	60.1575	2.442591	24.63	0.000	55.36869	64.94632

Table 10: S score regression (TBQ as dependent variable)

TBQ	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Sscore	.0447887	.0287911	1.56	0.120	-.0116592	.1012367
Fsize	-.7067022	.0290323	-24.34	0.000	-.7636231	-.6497812
AssEqu	.0140761	.0046234	3.04	0.002	.0050114	.0231409
DebAss	-.012784	.0031635	-4.04	0.000	-.0189865	-.0065816
Sector_numeric	-.1751829	.0175757	-9.97	0.000	-.2096419	-.1407238
Country_numeric	.0084569	.0090884	0.93	0.352	-.0093617	.0262756
_cons	19.61953	.7013357	27.97	0.000	18.24449	20.99458

Table 11: G score regression (ROA as dependent variable)

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Gscore	.3423939	.1354017	2.53	0.011	.0769362	.6078516
Fsize	-2.101392	.0998313	-21.05	0.000	-2.297113	-1.905671
AssEqu	-.0248733	.0153114	-1.62	0.104	-.0548916	.0051451
DebAss	-.0892715	.0108188	-8.25	0.000	-.1104819	-.0680611
Sector_numeric	-.2881011	.0618714	-4.66	0.000	-.4094011	-.166801
Country_numeric	.108843	.0317979	3.42	0.001	.0465027	.1711834
_cons	55.66763	2.573029	21.64	0.000	50.62315	60.7121

Table 12: G score regression (TBQ as dependent variable)

TBQ	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Gscore	.0179102	.0376642	0.48	0.634	-.0559334	.0917538
Fsize	-.7170733	.0281892	-25.44	0.000	-.7723403	-.6618064
AssEqu	.0148221	.0045527	3.26	0.001	.0058961	.023748
DebAss	-.0133469	.0030564	-4.37	0.000	-.0193392	-.0073546
Sector_numeric	-.1670667	.0170246	-9.81	0.000	-.2004447	-.1336887
Country_numeric	.0044419	.0087192	0.51	0.610	-.0126528	.0215366
_cons	19.89538	.7231602	27.51	0.000	18.47757	21.31319

Source: Data elaboration through STATA

3.1.7 Results discussion

The analysis reveals a statistically significant association between E and G scores with ROA. In particular, the E score registers a negative impact on ROA, while the G score demonstrates a positive association with it. However, the S score did not exhibit any significant relationships with either ROA and Tobin's Q. Additionally, no significant interactions were found between the E and G scores and Tobin's Q, implying that it is not influenced by companies' sustainability performance.

Companies globally are increasingly adopting ESG practices, suggesting potential economic benefits associated with these initiatives. Recent research findings largely reveal positive outcomes, indicating that strong performance in the environmental, social and governance pillars produce greater value in the market. Some sustainability components offer a stronger connection to company performance than others (Hussain, Rigoni and Cavezzali, 2018). The negative impact of the E score on ROA is a result consistent with the findings of Duque-Grisales and Aguilera-Caracuel (2019), Shaikh (2021), and Makni et al. (2008). Transitioning to sustainable practices often presents challenges for companies, requiring large upfront investments in resources. Renewable

energy infrastructure, energy-efficient equipment, sustainable packaging, and employee training, for example, are all initiatives that demand financial commitment in terms of both monetary and non-monetary assets. Notably, investments in non-monetary assets, like employee training and knowledge, can contribute to an increase in capital expenditures (Capex) and operational overhead in the short-term (Shaikh, 2021). These costs may negatively impact the company's financial performance in the short-term, as exemplified by the impact on ROA. Another aspect to consider is that environmental efforts may take longer to provide results for businesses than governance actions. Indeed, many environmental initiatives may need several years to complete before their outcomes may meaningfully impact a firm's value (Aydoğmuş, Gülay and Ergun, 2022). Sustainability benefits including cost savings, enhanced operational efficiency, stronger brand reputation and customer loyalty, lower costs of capital and major appeal to socially responsible investors, are often realized over the long-term. The environmental expenses incurred, while appearing expensive in the short-term, have the potential to be compensated for in the future. Therefore, a crucial trade-off must be considered: while implementing sustainable practices may face short-term challenges, long-term financial and environmental gains far outweigh the initial investments. This perspective underscores the importance of adopting a long-term vision when assessing the financial implications of sustainability initiatives. The S score does not show a significant relationship with either ROA or Tobin's Q. There are different reasons why measuring social practices can be more challenging than environmental or governance practices. While a company's environmental performance can be evaluated through measurable indicators, like CO2 emissions or resource usage, social impacts are frequently qualitative and complex with a lack of standardized metrics. Improving employee well-being, community participation and safeguarding, or diversity and inclusion practices may not automatically translate into easily measurable financial indicators. Furthermore, as for environmental initiatives, numerous social practices have long-term payoffs. We also note that in the descriptive statistics table the mean of environmental and social scores are lower compared to the mean of governance score. This aligns with the observation of Aydoğmuş, Gülay and Ergun (2022) on the potentially slower and more resource-intensive nature of progress in this ESG metrics. While the environmental and social performance influence negatively or not considerably, governance practices exhibit a more positive influence on firm performance. In our analysis, the Governance (G) score

has showed a positive impact on ROA, which is aligned with the researches made by of Shaikh (2021) and Ting et al. (2020). Good corporate governance often translates into stronger internal controls, simplified procedures, enhanced transparency in the governance structure, board diversity, resulting in cost savings, efficient resource allocation, and positively enhancing operating performance and therefore impacting ROA (Dharmastuti and Wahyudi, 2013).

The dynamic between ESG performance, firm value and market value is an interesting research object for future research. A specific focus on dissecting the causal factors that underlie the impact of ESG on financial performance, such as actions on GHG emissions, innovation, utilization of resources, human rights, workforce management, product responsibility, could provide valuable insights for further investigation.

3.2 Board characteristics and firm performance analysis

3.2.1 Hypotheses

The aim of the second part of the study is to investigate whether internal corporate governance mechanisms have an impact on corporate performance, making companies more attractive to investors. The incorporation of ESG non-financial criteria into investment decisions is a relatively recent development. However, there are been a notable surge in sustainable investing emphasizing corporate governance, over the past two decades. The primary motivation behind this is that by understanding the quality of corporate governance, investors can make predictions for potential investment returns (Tingle, 2018). Financial giants like Morgan Stainley believe companies with strong governance practices hold the key to unlocking long-term investment returns and safeguarding against risk. Indices like the Dow Jones sustainability assess companies' management quality, allowing investors to identify assets with a better future performance potential. At its core, the rationale around corporate governance is to increase the performance of companies, by sustaining incentives that motivate managers to optimize operational efficiency, enhance return on assets, and foster long-term growth, while avoiding the abuse of power by managers over corporate resources (Tingle, 2018). Literature behind the relationship between corporate governance and firm performance is particularly extensive. L.D. Brown and M.L. Caylor discovered, in their study of 2,327 firms and an examination of 51 firm-specific governance factors, that firms characterized by poor governance exhibit inferior operating performance and lower valuations. While well-governed firms demonstrate superior operating performance and higher valuations based on the governance score derived from these factors. An additional research supports the positive relationship between strong corporate governance and firm performance (Kijkasiwat, Hussain and Mumtaz, 2022). However, this relationship is not direct, it is rather influenced by financial leverage. This underscores the role of the board in adopting responsible financial leverage strategies to maximize firm performance.

Corporate governance mechanisms can be both internal and external. We mentioned the importance of the legal and regulatory environment around which a company operates, whereas internal mechanisms involve the allocation of roles and responsibilities among boards, managers, shareholders, debt holders and other stakeholders in business activities. In essence, corporate governance's internal mechanisms evolve from the

company's ownership structure, board structure and audit committee. The synergy and effectiveness of these internal mechanisms can significantly improve operational performance (Dharmastuti and Wahyudi, 2013). Board of directors serves as a key internal corporate governance mechanism and will be the focal point of subsequent discussion and empirical analysis.

Board independence and firm performance

Board independence has been thoroughly discussed in the previous chapter. To add some important elements to the analysis, some researchers suggest that independent directors may be part of the remedy for the ownership-control separation problems (Guluma, 2021). Further research finds that a board with independent directors can foster positive relationships based on trust with different stakeholders, and also enhance investment (Muniandy and Hillier, 2015). The presence of independent directors can also limit the management from making poor and detrimental decisions for the long-term survival of the company. For what concerns evidence proving the positive relationship with firm performance, there is no unanimous consensus around whether it is beneficial or detrimental to have independent directors inside the board.

H1: There is a significant relationship between board independence and firm performance.

Audit committee independence and firm performance

The audit committee represents a subcommittee of the board of directors, specifically focused on overseeing the financial reporting and disclosure process of a company. It is a crucial element of the governance structure and operates under the delegated authority of the board. It also actively supervises the relationship with the external auditor and verifies the internal audit system's functionality too. With the presence of independent directors, the audit committee can empower the provision of reliable accounting information, which directly impacts a company's performance. We will analyze the impact of independent audit directors to understand the level of objectivity and effectiveness in assessing the financial statements and audit process.

H2: There is a significant relationship between the presence of independent directors inside the audit committee and firm performance.

CEO duality and firm performance

CEO duality is another important characteristic of the board of directors. CEO duality occurs when the CEO also holds the position of chairman of the board. This means that there is only one person that both manages the company and oversees its own performance. It has important implications because there might be potential conflicts of interest, less board's activities monitoring and power imbalance. Board independence can play a moderating role when it comes to CEO duality: when there is a higher proportion of independent members inside the board, the negative effects of CEO duality can be mitigated. The study will analyze whether companies with CEO duality perform worse than those with separate chair and CEO position. Research support the following hypothesis:

H3: There is a significant and negative relationship between CEO duality and firm performance.

Board diversity (gender diversity) and firm performance

It is undeniable that the need for greater representation of female directors on boards is gaining growing recognition. Studies suggest that boards with more women bring diverse perspectives and cognitive styles to decision-making, leading to more innovative and well-rounded solutions (Gaio and Gonçalves, 2022). Increased representation of women on boards can positively impact employee morale and engagement, especially for female employees. It can also enhance the company's image and reputation and resonate better with female customers (Bear, Rahman and Post, 2010; EmadEldeen et al., 2021). Research deeply investigated whether the presence of female directors affects firm performance but the results are not unanimous.

H4.1: There is a significant and positive relationship between the presence of women on board and firm performance.
H4.2: There is a significant and positive relationship between the presence of women executives on board and firm performance.

Board size and firm performance

Board size plays a crucial role in a company's ability to oversee its operations. However, there is no magic number that fits all, the optimal size depends on several factors. For early-stage, young startups, agility is key. A smaller board fosters quicker decision-making, allowing them to capitalize on fleeting opportunities. Conversely, larger established companies with diverse challenges and responsibilities might benefit from a rich pool of expertise offered by a larger board. Complexity also plays a part. Companies with varied responsibilities might require a larger board to effectively cover essential areas, while less complex organizations may be facilitated by few people interactions. Research further suggests that interactive boards, characterized by high number of board meetings and joint board-management meetings, positively influence performance (Agustia, Harymawan and Nowland, 2022). Others report a negative relationship between board size and firm performance (Mohan and Chandramohan, 2018; Merendino and Melville, 2019). One possible explanation for this can be traced back to the earlier discussion in Chapter Two, where coordination problems, emerging from different voices, backgrounds, and cultures to be heard inside the board, can create inherent challenges as well as incredible opportunities, yet not so easy to catch. Based on this premises, we formulate the following hypotheses:

H5.1: There is a significant relationship between board size and firm performance.
H5.2: There is a significant relationship between interactive boards and firm performance.

Executive directors' compensation and firm performance

The debate around ESG-linked executive compensation is a heated one. Some studies demonstrated its potential to drive positive change while others do not find a strong association especially with financial indicators. There are many reasons that drive companies to the adoption of ESG-linked executive compensation. First, the incentive contracting rationale see ESG metrics as indicators of future financial performance, therefore linking to them can encourage ESG goal achievement, benefitting the long-term growth of the organization. Stricter regulation helps reaching wider implementation. Second, there might be an alignment towards several stakeholders, like customers or creditors, attracting ethically-driven investors. Lastly, the credibility signaling rationale according to which ESG-linked pay can increase the credibility of a company's

sustainability commitments, avoiding concerns about greenwashing and showing genuine interests (Cohen et al., 2023). The analysis will proceed exploring the following association:

H6: There is a significant relationship between ESG-linked executive compensation and firm performance.

ESG performance score and firm performance

ESG performance score is derived from three sustainability criteria – Environmental, Social, and Governance factors. It serves as a supplementary tool, augmenting rather than replacing the traditional company rating. This score provides more comprehensive insights into a company, offering investors information beyond mere financial metrics. Consequently, it aids investors in making more informed investment decisions. The relationship between ESG performance and firm performance has been widely investigated by researchers and academics. Early studies assessed that ESG performance and business performance were two incompatible outcomes that a company may attain. Whereas, moving from the short-term logic towards a medium-long term one, the results changed. Introducing Tobin's Q as an indicator of the long-term market value of a company, Earnhart and Lizal (2007) found that ESG performance has a positive influence on it. Nakamura (2011), investigating Japanese companies, discovered that environmental investment may significantly enhance long-term company value. Pekovic, Grolleau and Mzoughi (2018) studied the link between environmental performance and enterprise market value in French listed companies. They found an inverted U-shaped relationship, indicating that better environmental performance until a certain level leads to a higher enterprise value. Therefore, here is our hypothesis:

H7: There is a significant relationship between the ESG performance score and firm performance.

3.2.2 Dependent variables

The firm performance indicators used in our analysis as dependent variables are Return on Assets (ROA) and Tobin's Q. A complete explanation of the two measures can be found in the fourth paragraph of the first empirical analysis.

3.2.3 Independent variables

In this section we will introduce the board characteristics that serve as independent variables in our regression analysis. These board-related factors are sourced from Bloomberg's extensive ESG dataset and are presented in a variety of formats, including numerical values and percentages, tailored to the specific nature of the variable under study. Bloomberg extracts these data from official companies' documents, such as annual reports, corporate responsibility reports, and governance documents. Furthermore, it's noteworthy that Bloomberg employs a scoring method to evaluate ESG metrics, ranging from 0 to 10. This score not only reflects the overall ESG performance of companies, but also breaks down into individual scores for the Environmental, Social, and Governance dimensions, as we see in the first analysis. Within each dimension, specific themes known as issues are identified, addressing crucial aspects that can significantly impact company performance. For instance, under the Governance pillar, themes encompass Board Composition, Executive Compensation, Shareholders Rights, and Audit. For the purpose of the analysis, we focused on the raw numerical and percentage data for the majority of the variables, and to gain a comprehensive understanding of the company's performance in terms of ESG, we incorporated the ESG performance score as one of the independent variables.

In particular, in the context of board independence, we looked at the proportion of independent directors within the board, not the raw number, since it gives a better picture, especially for boards of different sizes. Similarly, for board gender diversity, our analysis considers both the overall percentage of women on the board and, more specifically, the percentage of women holding executive positions, acknowledging their direct influence on decision-making. When examining audit committee independence, this committee typically has a high proportion of independent directors, and we specifically examine the percentage within this committee. Turning to board size, the number of board directors was also included in the analysis. Moving on to CEO duality and executive compensation linked to ESG objectives, dummy variables were employed. A value of 1 indicates that the CEO concurrently serves as both the executive and the chairman of the board in the case of CEO duality. For executive compensation linked to ESG objectives, a value of 1 signifies that the compensation is directly tied to ESG performance. The number of board meetings per year also serves as a key independent variable in our model. This variable provides insights into the board's level of

interactivity and the frequency with which the board convenes to deliberate on important matters. As suggested by Agustia, Harymawan and Nowland (2022), frequent board meetings are indicative of heightened monitoring and oversight of the company's operations, or an intensive decision-making process. This approach hopes to capture a comprehensive and detailed exploration of the various dimensions of board characteristics in our regression analysis.

3.2.4 Moderator variable

Moderator variables are usually included in a regression analysis because they can influence positively or negatively the relationship between the independent and the dependent variables, affecting both the strength and the direction of the relation. In our regression model, we decided to add moderator variables as interaction terms to explore how the relation between board characteristics and firm performance indicators is influenced by the interaction between specific independent variables. The purpose of interaction variables is to allow the effect of one variable to be different depending on the values of another variable. Our findings reveal a significant and positive joint effect of the percentage of women executives and independent directors in the audit committee on the ROA. Furthermore, we observe that the interaction between the percentage of women executives and board size plays an important role in influencing both the ROA and the Tobin's Q. Other studies use board diversity as a moderator variable to study the relationship between board characteristics and ROA. In particular, Al-Matari, Fadzil and Al-Swidi (2014) studied the moderating effect of foreign members on board and of the board commitment on ROA in an emerging country. While Kang, Cheng and Grey (2007) explored the level of board diversity concentrating on directors' backgrounds in Australian companies.

3.2.5 Control variables

To evaluate the impact of board characteristics on ROA and Tobin's Q, control variables have been used and are summarized in the table below.

3.2.6 Regression analysis

In the previous paragraphs we introduced all the variables that will be used in the analysis. To give a quick overview of them, here is below a summary table of all the elements:

Table 13: Regression variables

Variable name	Code	Measurement
Panel A: Dependent variables (Firm performance)		
Return on Assets	*ROA*	Net income / Total Assets
Tobin's Q	*TBQ*	(MC + TL + PE + MI) / Total Assets
Panel B: Independent variables (Board characteristics)		
Audit committee independence(*)	*Indaud*	% of independent directors inside the audit committee
Board independence	*Inddir*	% of independent directors on the board
CEO duality	*CEOdua*	Dummy variable
Gender diversity	*Wombod*	% of women on the board
Gender diversity	*Womexe*	% of women executives on the board
Board size(*)	*Bodsize*	Number of directors on the board
ESG-linked executive compensation	*ESGcomp*	Dummy variable
Board interaction	*Nbodmeet*	Number of board meetings/year
ESG performance	*ESG_score*	ESG performance score
Panel C: Control variables (Firm characteristics)		
Firm size	*FSize*	Natural log of total assets
Leverage ratio	*AssEqu*	Total Assets / Total Equity
Leverage ratio	*DebAss*	Total Debt / Total Assets
Country	*Country_numeric*	Specific code for country
Sector	*Sector_numeric*	Specific code for sector

The asterisk indicates whether the variable is also a moderator variable. The effect of moderator variables will be considered subsequently during the analysis.

The following table reports the summary statistics of all the variables. The descriptive statistics shows that the median value is close to the mean value for the majority of the variables, therefore most of them tend to follow a normal distribution. The number of observations is not the same among the variables due to the presence of missing data.

However, the study benefits from a substantial sample size, providing a sufficiently large dataset to perform meaningful statistical analyses.

Table 14: Descriptive statistics

Panel A: Dependent variables (Firm performance)

Variable	N	Mean	p50	SD	Min	Max
ROA	4686	6.064708	4.62855	11.73263	-121.897	236.7815
TBQ	4264	2.132992	1.402417	3.070805	.3875731	80.93843

Panel B: Independent variables (Board characteristics)

Indaud	4116	85.40405	100	20.93894	0	100
Inddir	4211	65.93443	66.6667	20.22185	0	100
CEOdua	4519	.0931622	0	.2906918	0	1
Wombod	4532	31.90453	33.3333	12.10677	0	75
Womexe	4529	15.21234	14.2857	14.47639	0	100
Bodsize	4534	10.79951	10	3.518968	3	24
ESGcomp	4532	.2850838	0	.4515042	0	1
Nbodmeet	4377	9.671921	9	4.611033	0	48
ESG_score	4190	3.677453	3.65	1.312858	.47	8.05

Panel C: Control variables (Firm characteristics)

Fsize	4719	23.21706	23.02363	1.832704	16.30214	28.6439
AssEqu	4719	5.258461	2.5843	11.79537	-199.7319	251.9828
DebAss	4719	24.18052	23.1422	15.76075	0	130.4463
Country_nu~c	4792	10.79967	11	5.322567	1	17
Sector_num~c	4792	5.821369	6	2.74541	1	11

Source: Bloomberg Data elaboration through STATA

A correlation analysis is also performed. If the correlation analysis shows that two variables are strongly related (0,5<0,7), then we should investigate whether one variable can be expressed as an exact linear function of the other. To provide an example, the number of women on the board and the percentage of women on the board have a perfect linear relationship. The percentage of women on the board can be calculated by dividing the number of women on the board by the total number of board members. Therefore, solely the percentage of women on the board is included in the analysis. In addition, our correlation matrix reveals that the only variables with a medium-high level of correlation are the firm size with the board size, and the percentage of independent directors with the percentage of independent directors specifically present in the audit committee. For

the first one, the correlation is around 0,5, and it is normal that there is some correlation due to the organizational structure. Larger firms, characterized by complex operations, decision-making processes and managerial landscape, tend to necessitate larger boards to monitor activities and provide strategic guidance. Concerning board independence, the independent directors on the audit committee represent a subset of the total percentage of independent members inside the board. Despite this relationship, retaining both variables provide us with distinct insights into their influence on firm performance. On one side, the percentage of independent directors inside the audit committee gives an overview of the effective and objective financial reporting practices inside a company. On the other side, the total percentage of independent directors is more general but still reflects the broader governance landscape (Liu et al. 2015).

Table 15: Correlation matrix

	Indaud	Inddir	CEOdua	Wombod	Womexe	Bodsize	ESGcomp	Nbodmeet	ESG_sc~e	Fsize	AssEqu	DebAss	Countr~c	Sector~c
Indaud	1.0000													
Inddir	0.5999	1.0000												
CEOdua	-0.1264	-0.2409	1.0000											
Wombod	-0.1204	-0.0621	0.1428	1.0000										
Womexe	0.0293	0.0548	-0.0505	0.2733	1.0000									
Bodsize	-0.2725	-0.3099	0.1630	0.1035	-0.0039	1.0000								
ESGcomp	0.0682	0.0480	0.0640	0.1558	0.1284	0.1340	1.0000							
Nbodmeet	-0.0086	0.0737	-0.0837	0.1351	0.1590	-0.0062	-0.0233	1.0000						
ESG_score	0.1046	0.1871	-0.0611	0.2057	0.1975	0.0712	0.3323	0.0270	1.0000					
Fsize	-0.0626	0.0350	0.0208	0.1710	0.1052	0.5027	0.2253	0.2283	0.1282	1.0000				
AssEqu	0.0337	0.0305	-0.0744	0.0141	0.0259	0.0789	-0.0387	0.1406	-0.0512	0.3698	1.0000			
DebAss	-0.0098	-0.0261	0.0635	0.0631	0.0543	0.0666	0.0381	0.1390	0.1498	0.0108	-0.0885	1.0000		
Country_nu~c	0.3368	0.1797	-0.2229	-0.2130	0.1025	-0.2750	-0.0237	-0.0215	0.0338	-0.1014	0.0742	-0.0423	1.0000	
Sector_num~c	0.0109	0.0709	-0.0589	-0.0968	-0.0333	-0.0958	0.0434	-0.0013	0.1913	-0.0989	-0.0729	0.0548	-0.0488	1.0000

Source: Bloomberg Data elaboration through STATA

We employ the following two models to test our hypotheses:

Model 2:

$$ROA_{it} = \beta_0 + \beta_1 Indaud_{it} + \beta_2 Inddir_{it} + \beta_3 CEOdua_{it} + \beta_4 Wombod_{it} + \beta_5 Womexe_{it} + \beta_6 Bodsize_{it} + \beta_7 ESGcomp_{it} + \beta_8 Nbodmeet_{it} + \beta_9 ESG\_score_{it} + Control\ variables_{it} + Year_t + \varepsilon_{it}$$

Model 3:

$$TBQ_{it} = \beta_0 + \beta_1 Indaud_{it} + \beta_2 Inddir_{it} + \beta_3 CEOdua_{it} + \beta_4 Wombod_{it} + \beta_5 Womexe_{it} + \beta_6 Bodsize_{it} + \beta_7 ESGcomp_{it} + \beta_8 Nbodmeet_{it} + \beta_9 ESG\_score_{it} + Control\ variables_{it} + Year_t + \varepsilon_{it}$$

The time fixed effects technique is implemented to address our panel dataset ($Year_t$). Table 13 and 14 display the results of the regression analysis assessing the influence of board characteristics on ROA in the first instance and on Tobin's Q in the second. R^2 in both the regressions is around 16-17%. This result is not unexpected as the relationship investigated relies on various variables and factors. In addition, a similar result was also achieved by Hsu et al. (2019), investigating the relationship between board diversity and firm operating performance in Chinese companies.

3.2.7 Results and findings

Table 16 reveals that the presence of women on the board has a positive and significant impact on ROA, whether measured by the overall percentage of women or specifically by the percentage of women in executive roles. Therefore, an increase in both the percentages of women on the board and, notably, in women executives correlates with an improvement in ROA. The results are consistent with EmadEldeen et al. (2021) and Hsu et al. (2019), confirming the validity of Hypotheses *4.1* and *4.2*. Conversely, the number of board meetings per year shows a significant but negative impact on ROA. As the number of board meeting rises, firm performance tends to decrease. The result is consistent with previous research by Mohan and Chandramohan (2018) and Merendino and Melville (2019). In addition, the ESG score positively influences ROA. This means that firms with higher ESG score tend to exhibit a positive effect on firm performance, validating Hypothesis *7*. On the other hand, board independence, CEO duality, board size and executive compensation linked to ESG objectives appear to be statistically insignificant in terms of their influence on ROA.

Table 17 indicates a statistically significant and positive impact of board independence on Tobin's Q, aligning with prior observations made by Liu et al. (2015). As the percentage of independent directors increases, Tobin's Q increases too. Regarding gender diversity, only the percentage of women executives demonstrates a positive and significant impact on Tobin's Q, while the overall presence of women, irrespective of their roles, does not exhibit statistical significance. Moreover, board size emerges as another influential factor positively affecting Tobin's Q. The result aligns with Agustia, Harymawan and Nowland (2022), indicating that when the number of board members rises, the Tobin's Q increases.

Table 16: Regression results ROA as dependent variable

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Indaud	-.0082831	.0114902	-0.72	0.471	-.0308109	.0142447
Inddir	.000763	.0122355	0.06	0.950	-.0232261	.0247521
CEOdua	-.8352371	.6267963	-1.33	0.183	-2.064144	.3936701
Wombod	.0590246	.017892	3.30	0.001	.0239453	.094104
Womexe	.0780548	.0136252	5.73	0.000	.051341	.1047687
Bodsize	.0522569	.0698552	0.75	0.454	-.0847022	.1892161
ESGcomp	-.0220901	.4180622	-0.05	0.958	-.8417499	.7975697
Nbodmeet	-.1074027	.0421211	-2.55	0.011	-.1899859	-.0248194
ESG_score	.6721361	.172481	3.90	0.000	.3339669	1.010305
Fsize	-2.491447	.1375364	-18.11	0.000	-2.761103	-2.22179
AssEqu	.0072109	.0165513	0.44	0.663	-.0252398	.0396616
DebAss	-.1054567	.0120724	-8.74	0.000	-.129126	-.0817874
Country_numeric	.0859875	.0377071	2.28	0.023	.0120583	.1599166
Sector_numeric	-.4102315	.0688265	-5.96	0.000	-.5451738	-.2752891
_cons	63.94718	2.965956	21.56	0.000	58.13207	69.76228

Table 17: Regression results TBQ as dependent variable

TBQ	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
Indaud	-.0019968	.0032416	-0.62	0.538	-.0083525	.0043588
Inddir	.0088243	.0034486	2.56	0.011	.0020628	.0155858
CEOdua	.0321207	.173873	0.18	0.853	-.308786	.3730273
Wombod	.0038301	.0050707	0.76	0.450	-.0061119	.0137721
Womexe	.0238525	.0038414	6.21	0.000	.0163207	.0313842
Bodsize	.0531223	.0198879	2.67	0.008	.0141288	.0921159
ESGcomp	-.0104427	.1176012	-0.09	0.929	-.2410192	.2201338
Nbodmeet	-.0056513	.0118466	-0.48	0.633	-.0288785	.017576
ESG_score	.0029223	.0481915	0.06	0.952	-.0915651	.0974097
Fsize	-.7949474	.0393067	-20.22	0.000	-.8720146	-.7178802
AssEqu	.0198996	.0049676	4.01	0.000	.0101598	.0296393
DebAss	-.0150562	.0034562	-4.36	0.000	-.0218326	-.0082797
Country_numeric	-.003404	.0106601	-0.32	0.750	-.024305	.0174969
Sector_numeric	-.1658825	.019342	-8.58	0.000	-.2038057	-.1279593
_cons	20.51677	.8427236	24.35	0.000	18.86447	22.16907

Source: Data elaboration through STATA

3.2.8 Introducing moderator variables

Model 3:

$$ROA_{it} = \beta_0 + \beta_1 Indaud_{it} + \beta_2 Inddir_{it} + \beta_3 CEOdua_{it} + \beta_4 Wombod_{it} + \beta_5 Womexe_{it} + \beta_6 Moderator\ variables_{it} \times Independent\ variables_{it} + \beta_7 Bodsize_{it} + \beta_8 ESGcomp_{it} + \beta_9 Nbodmeet_{it} + \beta_{10}\ ESG\_score_{it} + Control\ variables_{it} + Year_t + \varepsilon_{it}$$

The second part of the analysis considered specific independent variables as moderator variables. We investigate whether the relationship between board characteristics and firm performance is moderated by independent variables interactions.

The following tables present the regression analyses for both financial indicators, ROA first and then Tobin's Q, adding the moderator variables that were found to be the most significant for the relationship under study.

Table 18 presents the outcomes of the regression where we added the interaction between the percentage of women executives and independent directors in the audit committee. The effect on ROA of a positive variation in the percentage of women executives is moderated by the percentage of independent directors in the audit committee. This effect on ROA is measured not only by β_5 but by $\beta_5 + \beta_6 \times Indaud$. The positive interaction term coefficient suggests that the effect of *Womexe* gets stronger as the value of *Indaud* increases.

Table 19 reveals that the effect of the percentage of women executives on the board is moderated by the board size. How to interpret the coefficients resulting from the regression analysis? *Womexe* has a positive coefficient which means that on average higher values of Womexe positively correlates with ROA. The negative coefficient of the interaction term implies that, as the board size increases, the effect of an increase in *Womexe* on ROA gets weaker. In other words, while the average effect of *Womexe* is positive, its impact diminishes as the number of board members increases. This can be seen in Table 20 demonstrating that for larger values of *Bodsize*, the effect of *Womexe* on ROA is almost negligible. It is important to remember that the effect of *Womexe* on ROA with the addition of the interaction term is not given solely by the coefficient of *Womexe* but also by the coefficient of the interaction term multiplied by the value assumed by the moderator variable.

Table 21 presents analogous results measuring the impact of women executives on Tobin's Q with the board size as a moderator variable.

Table 18: Regression analysis with the % of independent directors inside the audit committee as a moderator variable on ROA

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
c.Womexe#c.Indaud	.0022925	.0006628	3.46	0.001	.000993	.003592
Indaud	-.0418862	.0150339	-2.79	0.005	-.0713618	-.0124106
Inddir	.0013678	.0122183	0.11	0.911	-.0225877	.0253232
CEOdua	-.76261	.6262057	-1.22	0.223	-1.990359	.4651394
Wombod	.056977	.0178749	3.19	0.001	.0219311	.0920228
Womexe	-.1230074	.0597025	-2.06	0.039	-.2400612	-.0059537
Bodsize	.0664992	.0698715	0.95	0.341	-.0704921	.2034905
ESGcomp	-.0233844	.4174336	-0.06	0.955	-.8418117	.7950429
Nbodmeet	-.1029797	.0420771	-2.45	0.014	-.1854768	-.0204825
ESG_score	.6860884	.1722688	3.98	0.000	.3483353	1.023842
Fsize	-2.500494	.1373544	-18.20	0.000	-2.769794	-2.231195
AssEqu	.0064767	.0165278	0.39	0.695	-.0259279	.0388813
DebAss	-.1052207	.0120544	-8.73	0.000	-.1288548	-.0815866
Country_numeric	.0935701	.0377141	2.48	0.013	.0196271	.1675131
Sector_numeric	-.419276	.0687727	-6.10	0.000	-.5541129	-.2844391
_cons	66.82883	3.076458	21.72	0.000	60.79707	72.86058

Table 19: Regression analysis with board size as moderator variable on ROA

ROA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
c.Womexe#c.Bodsize	-.0155933	.0041145	-3.79	0.000	-.0236604	-.0075263
Indaud	-.0088361	.01147	-0.77	0.441	-.0313244	.0136522
Inddir	-.0022644	.0122392	-0.19	0.853	-.0262607	.0217319
CEOdua	-.8381726	.6256482	-1.34	0.180	-2.064829	.3884837
Wombod	.0576103	.0178631	3.23	0.001	.0225876	.092633
Womexe	.2398271	.0448003	5.35	0.000	.151991	.3276633
Bodsize	.2766346	.0914722	3.02	0.003	.0972928	.4559765
ESGcomp	.0177589	.4174286	0.04	0.966	-.8006586	.8361764
Nbodmeet	-.1163988	.0421108	-2.76	0.006	-.198962	-.0338356
ESG_score	.6969314	.1722892	4.05	0.000	.3591383	1.034725
Fsize	-2.483552	.1373002	-18.09	0.000	-2.752745	-2.214359
AssEqu	.0084461	.0165242	0.51	0.609	-.0239514	.0408437
DebAss	-.104941	.012051	-8.71	0.000	-.1285684	-.0813135
Country_numeric	.0918431	.0376697	2.44	0.015	.0179873	.165699
Sector_numeric	-.4208482	.0687574	-6.12	0.000	-.5556552	-.2860412
_cons	61.7062	3.018996	20.44	0.000	55.78711	67.6253

Table 20: Board size and women executive

ROA	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
Bodsize#c.Womexe						
3	0	(omitted)				
4	.2262943	.1129746	2.00	0.045	.0048682	.4477205
5	.1276286	.0567105	2.25	0.024	.016478	.2387791
6	.1222596	.0375704	3.25	0.001	.0486229	.1958962
7	.050669	.0252919	2.00	0.045	.0010978	.1002402
8	.3643909	.0269247	13.53	0.000	.3116195	.4171624
9	.0746334	.0230918	3.23	0.001	.0293743	.1198925
10	.025976	.0221693	1.17	0.241	-.0174749	.069427
11	-.0087438	.0235821	-0.37	0.711	-.0549639	.0374763
12	-.0373651	.0258808	-1.44	0.149	-.0880904	.0133603
13	-.0582358	.0319763	-1.82	0.069	-.1209082	.0044366
14	-.0475237	.039163	-1.21	0.225	-.1242818	.0292345
15	-.1047815	.0417161	-2.51	0.012	-.1865435	-.0230195
16	-.0698613	.0521443	-1.34	0.180	-.1720624	.0323397
17	-.2500053	.1329705	-1.88	0.060	-.5106226	.0106121
18	-.0909882	.1030893	-0.88	0.377	-.2930395	.1110632
19	-.2242212	.1254581	-1.79	0.074	-.4701146	.0216722
20	-.1234965	.0488719	-2.53	0.012	-.2192837	-.0277093
21	-.2266635	.2070785	-1.09	0.274	-.6325299	.1792028
22	.268744	1.340564	0.20	0.841	-2.358713	2.896201
24	-.1359473	.2037955	-0.67	0.505	-.5353792	.2634846
_cons	5.546675	.2431049	22.82	0.000	5.070199	6.023152

Table 21: *Regression analysis with board size as moderator variable on TBQ*

TBQ	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
c.Womexe#c.Bodsize	-.0042115	.0011736	-3.59	0.000	-.0065126	-.0019104
Indaud	-.0021926	.0032364	-0.68	0.498	-.0085381	.0041528
Inddir	.0081026	.0034484	2.35	0.019	.0013414	.0148638
CEOdua	.0347995	.1735708	0.20	0.841	-.3055145	.3751135
Wombod	.0033705	.0050635	0.67	0.506	-.0065573	.0132983
Womexe	.0680054	.0128878	5.28	0.000	.0427368	.093274
Bodsize	.113125	.0259564	4.36	0.000	.0622332	.1640168
ESGcomp	-.0013622	.1174229	-0.01	0.991	-.2315892	.2288647
Nbodmeet	-.0080705	.0118451	-0.68	0.496	-.0312948	.0151538
ESG_score	.0091573	.0481387	0.19	0.849	-.0852264	.1035411
Fsize	-.7908795	.0392543	-20.15	0.000	-.8678441	-.7139149
AssEqu	.0201047	.0049592	4.05	0.000	.0103813	.029828
DebAss	-.0149195	.0034504	-4.32	0.000	-.0216845	-.0081545
Country_numeric	-.0019069	.0106497	-0.18	0.858	-.0227874	.0189735
Sector_numeric	-.1680251	.0193174	-8.70	0.000	-.2059001	-.1301501
_cons	19.86424	.8606791	23.08	0.000	18.17674	21.55174

Source: Data elaboration through STATA

3.2.9 Results discussion

The findings of our second empirical analysis tend to be consistent with previous researches. Several board characteristics reported a significant effect on ROA and/or Tobin's Q. To start with, companies exhibiting a strong presence of independent directors witnessed a significant boost in Tobin's Q, implying a rise in investor confidence and perceived company value. Independent board members effectively monitor firm management and company decisions, offering a more objective assessment of the company's risk profile. They are less likely to be influenced by management's self-interest. In addition, since independent directors often have experience in other industries or companies, they can provide a broader perspective of the company's competitive landscape too. This in turn can help them to identify potential threats and the company's long-term prospects. Therefore, the presence of independent directors has multiple important implications: can improve a company's corporate governance ensuring that the company is managed in the best interest of different stakeholders, can increase the company's transparency, consequently making the company more appealing to both lenders and investors. It would be interesting for future research to further explore the mechanisms that explain this relationship and investigating specific director characteristics, such as ethnicity, years of experience, and proximity to corporate headquarters (Liu et al. 2015). Furthermore, gender diversity within the boardroom revealed positive impact both on ROA and Tobin's Q, suggesting a valuable contribution to operational efficiency and overall financial health of a company. Diverse perspectives in leadership, unique outlooks, different cognitive capabilities are key resources for a firm. This approach is supported by human capital theory and resource dependency theory, all of which can foster creativity and innovation, problem-solving skills and superior performance (Lückerath-Rovers, 2013; Reguera-Alvarado, De Fuentes and Laffarga, 2017). Women directors are still under-represented on corporate boards. Our data paints a concerning picture, with an average of only 15% of board seats occupied by female executives, and a slight increase to 30% when considering all women board members. Many countries adopted the gender quota legislation according to which companies are mandated to have women directors on corporate boards. There are notable differences across countries. For instance, in Norway the quota was initially set at 40% in 2003, whereas Spain set the same quota four years later. According to a research by Wang and Kelan (2013), quota legislation may have an effect that varies

depending on the country considered. The study also discovered that the nomination of women to high leadership positions is positively impacted by an increase in the number of women directors. The authors also provide evidence that the chance of a board led by a woman director is positively impacted by the independent status of women directors. Moreover, our research found that board size positively impacts Tobin's Q, suggesting that a high number of board members positively contribute to better performance. One might anticipate that larger firms with more extensive boards would conduct more management meetings to improve performance (Agustia, Harymawan and Nowland 2022). Board meetings, according to Mangena and Tauringana (2008), may assist managers in comprehending the issues facing their companies and coming up with rapid remedies for emerging problems. However, our findings reveal a negative association concerning board interaction, measured by not only the quantity of meetings but also the particular board-management meetings. The result is in line with the research conducted by Hahn and Kühnen (2013). Frequent meetings require significant time and resources, including preparation, attendance and follow-up activities which negatively impact the operational efficiency of a company. Strategic meeting agendas and clear objectives could be the key for effective boards of directors. Ultimately, our study revealed a critical link between Environmental, Social, and Governance factors and financial performance. Companies with higher ESG scores showed a positive relationship with ROA, demonstrating the tangible financial benefits of sustainable practices. This supports the idea that sustainability is a wise and sound investment with observably positive outcomes in addition to being an ethical need. This is a result that aligns with the research conducted by Touati and Hult (2022) about the impact of ESG scores on European real estate firms. Example of other studies reporting the same result can be found in the works of Buallay (2020) which focused on the manufacturing sector, and Alareeni and Hamdan's (2020) analysis of all the S&P 500 European listed companies from 2009-2018.

Companies seeking to unlock their maximum potential need to understand the powerful influence of board composition and practices. Prioritizing sustainability, encouraging involvement, and embracing diversity are not merely aspirational goals; they are necessary ingredients for achieving and sustaining financial success. By continuously evaluating and reviewing their board compositions and practices, companies can ensure they are well-equipped to navigate the ever-changing business landscape and provide long-term value for all stakeholders.

Conclusions

The study investigates the tangible economic impact of implementing ESG practices, particularly emphasizing the G component. We explore the importance of effective and responsible governance, highlighting board diversity, strong ethical leadership, objective and impartial monitoring of the board's activities, aligning with stakeholder theory. According to the stakeholder theory, a company has the responsibility to represent and be accountable to the diverse internal and external stakeholders' interests to create sustainable long-term value. The board of directors serves as a key representative body for aligning with stakeholders' interests and reflecting stakeholders' considerations. By presenting and analyzing findings from previous research and evidence from the market, and considering the largest, mid-cap and small-cap European companies as a sample, the research developed important findings unveiling the powerful connection between board composition, sustainability practices, and financial performance. Independent directors act as overseers for ensuring proper management and ethical behavior, boosting investor confidence and firm market value (Liu et al., 2015; Knyazeva, Knyazeva and Masulis, 2013; Hu, Lin and Tosun, 2023). Gender diversity bring fresh perspectives, enhancing operational efficiency (Gaio and Gonçalves 2022; Bear et al. 2010), while larger boards hold potential for diverse viewpoints, avoiding excessive meetings, and instead finding a delicate balance that translates into better performance (Agustia, Harymawan and Nowland, 2022). High ESG scores, that positively impact profitability, prove that sustainability is a sound investment with observable economic outcomes and not just an ethical commitment (Earnhart and Lizal, 2007; Nakamura, 2011; Pekovic, Grolleau and Mzoughi, 2018). Further exploration of the specific factors driving the impact of ESG on financial performance, from greenhouse emissions to human rights practices, will equip companies with even more powerful tools for success. Therefore, establishing now different metrics that companies should be compliant to is about building a sort of foundation for long-term prosperity, both for the company and for the world we share. The challenge that companies, individuals, and the world at large are faced with is huge and extremely complicated. The world should start living, producing, consuming without emitting the same quantity of CO2 as before. It necessarily requires an enormous amount of capital to change how productive processes are currently in action. Finance plays a vital role in facilitating this transition by aligning financial tools with decarbonization goals. Green bonds, green loans and other green financial tools already exist and it is

becoming critical for companies to embrace sustainable practices. Failure to do so could result in decreased access to capital and higher borrowing costs in the near future. There is already a system that is hesitant to provide credit to organizations that do not have a transition path. Investors have become very concerning about these issues, and a lot of money is now invested on the basis of whether companies do a good job for the environment and for the society. Every company has an ESG rating and no geography, sector or firm size is spared from it. Sustainable performance is also driven by regulations and government's commitment to sustainability. When the government starts to set standards, criteria, then the industries follow. If the government does not follow up on it, the industries will find ways not to be as fully sustainable as they should be. In the recent evolving regulatory landscape, many changes have happened and were thoroughly presented in the first chapter of the work. With the introduction of the new EU sustainability reporting standards, companies need to prioritize compliance more than ever to remain competitive and secure favorable financing opportunities.

It is a very important challenge, but also a unique opportunity for companies to adapt, innovate, and build a more sustainable future. By embracing ESG principles and working collaboratively, companies can secure their own prosperity and contribute to a healthier planet for generations to come.

References

Bibliography

Achenbach, J. (2011), *BP's cost cuts contributed to oil spill disaster, federal probe finds*, The Washington Post.

Adams, R. B.; Ferreira, D. (2009), *Women in the boardroom and their impact on governance and performance*, Journal of Financial Economics, 94(2), 291–309.

Agustia, D.; Harymawan, I.; Nowland, J. (2022), *Joint board-management meetings and firm performance*, Australasian Accounting, Business and Finance Journal 16: 1–15.

Alareeni, B.A.; Hamdan, A. (2020), *ESG impact on performance of US S&P 500-listed firms*, Corporate governance (Bradford), 20(7), pp.1409–1428.

Aldrighi, D.M.; Postali F.A.S.; Montoya Diaz, M.D. (2018), *Corporate Governance and Pyramidal Ownership: The Role of Novo Mercado*, Revista Brasileira de Finanças (Online), Rio de Janeiro, Vol. 16, N.1.

Anthony, R. (1960), *The trouble with profit maximization*, Harvard Business Review, 38, p. 126–134.

Al-Matari, E.M.; Fadzil, F.H.; Al-Swidi, A.K. (2014), *The Moderating Effect of Board Diversity on the Relationship Between Board of Directors Characteristics and Firm Performance in Oman: Empirical Study*, Middle-East Journal of Scientific Research 21 (5): 782-791.

Arvidsson, S. (2010), *Communication of Corporate Social Responsibility: A Study of the Views of Management Teams in Large Companies*, Journal of Business Ethics 96, 339– 354.

Aydoğmuş, M.; Gülay, G.; Ergun, K. (2022), Impact of ESG performance on firm value and profitability, Borsa Istanbul Review, Volume 22, Supplement 2, p.S119-S127.

Bakken, C.; Korka, B. (2022), *Corporate Non-Financial Disclosure: How can the EU and the US align?*, Climate & Company, Available at: https://issuu.com/climateandcompany/docs/corporate_non-financial_disclosure_how_can_the_eu [last accessed 22/12/2023].

Barca, F. (1995), *On corporate governance in Italy: Issues, facts, and agency*, Unpublished manuscript, Bank of Italy, Rome.

Barney, J. (1991), *Firm Resources and Sustained Competitive Advantage*, Journal of Management, 17(1), 99–120.

Bear, S.; Rahman, N.; Post, C. (2010), *The impact of board diversity and gender composition on corporate social responsibility and firm reputation*, Journal of Business Ethics, 97(2), 207–221.

Bebchuk, L.; Reinier K., George T. (2000), *Stock Pyramids, Cross-Ownership, and Dual Class Equity: The Mechanisms and Agency Costs of Separating Control from Cash-Flow Rights*, Randall Morck (ed.), Concentrated Corporate Ownership, pp. 295-318.

Big Innovation Centre (2017), The Purposeful Company Executive Remuneration Report, Available at: https://thepurposefulcompany.org/wp-content/uploads/2021/01/feb-26_tpc_exec-rem-final-report_v3-tg-2.pdf [last accessed 19/01/24].

Blair, M. M. (1995), *Ownership and control: Rethinking corporate Governance* for the 21st century, Washington, DC: Brookings Institute.

Boffo, R.; Patalano, R. (2020), "*ESG Investing: Practices, Progress and Challenges*", OECD Paris, Available at: www.oecd.org/finance/ESG-Investing-Practices-Progress-and-Challenges.pdf [last accessed: 22/12/2023].

Bower, T. (2009), *The squeeze: oil money and greed in the 21st century*, London: Harper Press.

BP Annual Reports, Retrieved from: http://www.bp.com/extendedsectiongenericarticle.do?categoryId=9036021&contentId=7066689, BP Annual Report and Accounts 2007 bp.com/annual report.

Brady, J. (2019), *Teen Climate Activist Greta Thunberg Arrives in New York After Sailing the Atlantic*, NPR, Archived from the original on 2 October 2019. Available at: https://www.npr.org/2019/08/28/754818342/teen-climate-activist-greta-thunberg-arrives-in-new-york-after-sailing-the-atlan [last accessed 09/12/2023].

Brown, L.D.; Caylor, M.L. (2004), *Corporate Governance and Firm Performance*, Georgia State University.

Brown, J., Dillard, J. (2014), *Integrated reporting: On the need for broadening out and opening up*, Accounting, Auditing & Accountability Journal, Volume 27, Issue 7.

Buallay, A. (2020), *Sustainability reporting and firm's performance: Comparative study between manufacturing and banking sectors*, International journal of productivity and performance management, 69(3), pp.431–445.

Buniamin, S. (2020), *Managers' perception on Stakeholder Power in Relation to ESG reporting*, Driving sustainability through business technology synergy, Proceedings of the 9th International Economics and Business Management Conference, Available at:

https://www.europeanproceedings.com/article/10.15405/epsbs.2020.12.05.15 [last accessed: 22/12/2023].

Business Roundtable (2019), *Statement on the purpose of a corporation*, Washington DC: Business Roundtable.

Buysse, K.; Verbeke, A. (2003), *Proactive Environmental Strategies: A Stakeholder Management Perspective*, Strategic Management Journal, 24, 453-470.

Calkoen, W.J.L. (2011), *The One-Tier Board in the Changing and Converging World of Corporate Governance*, Core AC UK.

Capital & Main (2022), *Why Walmart Workers Are Still Broke*, Available at: https://capitalandmain.com/why-walmart-workers-are-still-broke [last accessed 14/01/24].

Cavaco, S.; Crifo, P.; Rebérioux, A.; Roudaut, G. (2017), *Independent directors: Less informed but better selected than affiliated board members?*, Journal of Corporate Finance, Volume 43, Pages 106-121.

Chapman, C.; Edmans, A.; Gosling, T.; Hutton, W.; Mayer, C. (2017), *The Purposeful Company: Executive Remuneration Report*, London: The Purposeful Company, Available at: https://thepurposefulcompany.org/wp-content/uploads/2021/01/feb-26_tpc_exec-rem-final-report_v3-tg-2.pdf [last accessed 10/01/24].

Cifrino, D.; McDermott, W. & E. (2023), *The Rise of International ESG Disclosure Standards*, Harvard Law School Forum on Corporate Governance.

Clarke, T. (2020), *The Contest on Corporate Purpose: Why Lynn Stout was Rights and Milton Friedman was Wrong*, Journal of Accounting, Economics, and Law: A Convivium.

Cohen, S.; Kadach, I.; Ormazabal, G.; Reichelstein, S. (2023), *Executive Compensation Tied to ESG Performance: International Evidence*, Journal of Accounting Research, Volume 61, Issue 3, p.805-853.

Cordazzo, M; Bini L.; Marzo G. (2020), *Does the EU Directive on non-financial information influence the value relevance of ESG disclosure? Italian evidence*, Business Strategy and the Environment, Volume 29, Issue 8 p. 3470-3483.

De Cristofaro, T.; Gulluscio, C. (2023), *In Search of Double Materiality in Non-Financial Reports: First Empirical Evidence*, MDPI (Multidisciplinary Digital Publishing Institute).

De Villiers, C.; Marques, A. (2016), *Corporate social responsibility, country-level predispositions, and the consequences of choosing a level of disclosure*, Accounting and Business Research, 46(2), 167–195.

De Villiers, C.; Van Staden, C. J. (2011), *Where firms choose to disclose voluntary environmental information*, Journal of Accounting and Public Policy, 30(6), 504–525.

Dechow, P.M.; Sloan, R.G.; Sweeney, A. (1996), *Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC*, Contemporary Accounting Research, 13, l-36.

Deegan, C. (2002), *Introduction: the legitimizing effect of social and environmental disclosures: a theoretical foundation*, Accounting, Auditing and Accountability Journal, 15 (3), pp. 282-311.

Dharmastuti, C.; Wahyudi, S. (2013), *The Effectivity of Internal and External Corporate Governance Mechanisms Towards Corporate Performance*, Research Journal of Finance and Accounting, ISSN 2222–1697, Vol.4, No.4.

Diab, A.; Martin Adam, G. (2021), *ESG assets may hit $53 trillion by 2025, a third of global AUM*, Available at: https://www.bloomberg.com/professional/blog/esg-assets-may-hit-53-trillion-by-2025-a-third-of-global-aum/ [last accessed 12/12/2023].

Duque-Grisales, E.; Aguilera-Caracuel, J. (2019), *Environmental, social and governance (ESG) scores and financial performance of Multilatinas: Moderating effects of geographic international diversification and financial slack*, Journal of Business Ethics, 168, 1–20.

Edwards, J.; Fischer, K. (1994), *Banks, Finance and Investment in West Germany since 1970*, Cambridge University Press, Cambridge, U.K.

Earnhart, D., & Lizal, L. (2007), *Does better environmental performance affect revenues, cost or both? Evidence from a transition economy*, William Davidson Institute Working Paper, N.856.

EFRAG, European Financial Reporting Advisory Group (2023), Multi-stakeholder perspectives on connectivity summary report, 26 May 2023 – EAA 45th annual congress.

EFRAG, European Reporting Lab (2021), *Proposals for a relevant and dynamic EU sustainability reporting standards-setting*, Available at: https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FSiteAssets%2FEFRAG%2520PTF-NFRS_MAIN_REPORT.pdf&AspxAutoDetectCookieSupport=1 [last accessed 18/01/2024].

Eisendhardt, K. M. (1989), *Agency theory: An assessment and review*, Academy of Management Review, 141, 57–74.

Elalfy, A.; Weber, O. (2019), *Corporate Sustainability Reporting. The Case of the Banking Industry*. CIGI Papers, (11).

EmadEldeen, R.; Elbayoumi, A. F.; Basuony, M. A. K.; Mohamed, E. K. A. (2021), *The effect of the board diversity on firm performance: An empirical study on the UK*, Corporate Ownership & Control, 18(3), 337–347.

EPRS (European Parliamentary Research Service) (2021), *Non-financial Reporting Directive*, Available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/654213/EPRS_BRI(2021)654213_EN.pdf [last accessed 12/12/2023].

European Commission (2014), *Disclosure of non-financial and diversity information - FAQs*, Available at: https://ec.europa.eu/commission/presscorner/detail/en/MEMO_14_301 [last accessed 09/12/2023].

European Commission (2019), *Guidelines on reporting climate-related information*, Available at: https://ec.europa.eu/finance/docs/policy/190618-climate-related-information-reporting-guidelines_en.pdf [last accessed 12/12/2023].

European Parliament and Council: Regulation (UE) 2019/2088 of the European Parliament and of the Council, Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R2088 [last accessed 20/12/2023].

Farmer, A.; Morawetz J.; Moller T. (2022), *ISSB's proposed framework seeks to unify global sustainability disclosure standards*, Kirkland & Ellis, Available at: https://www.kirkland.com/-/media/publications/alert/2022/05/issbs-proposed-framework-seeks-to-unify-global-sus.pdf?rev=cc110e26a724470bb8a161d1097e38fc [last accessed 21/12/2023].

Fernandez-Temprano, M.A.; Tejerina-Gaite, F. (2020), *Types of director, board diversity and firm performance*, Corporate Governance, Vol. 20 No. 2, pp. 324-342.

Fernando, J.M.R.; Li, L.; Hou, Y. (2019), *Corporate governance and correlation in corporate defaults*, Corporate Governance: An International Review, Volume 28, Issue 3, p. 188-206.

Flammer, C.; Bansal, P. (2017), *Does a long-term orientation create value? Evidence from a regression discontinuity*, Strategic Management Journal, 38: 1827-1847, Available at: https://www.columbia.edu/~cf2870/PDFs/FlammerBansal_SMJ2017_inclAppendix.pdf [last accessed 10/01/24].

Flammer, C.; Hong, B.; Minor, D. (2019), *Corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: Effectiveness and implications for firm outcomes*, Strategic Management Journal, Volume 40, Issue 7, p. 1097-1122.

Freeman, R.E. (1984), *Strategic management: A stakeholder approach*, Cambridge: Cambridge University Press.

Freeman, R.E. (2010), *Managing for Stakeholders: Trade-offs or Value Creation*, Journal of Business Ethics, Vol. 96, Supplement 1.

Friedman, M. (1970), *A Friedman doctrine - The Social Responsibility of Business Is to Increase Its Profits*, The New York Times Magazine, Available at: https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html [last accessed 12/12/2023].

Gaio, C.; Gonçalves, T.C. (2022), *Gender Diversity on the Board and Firms' Corporate Social Responsibility*, International Journal Financial Studies, 10(1), 15.

GP (Global Policy) Opinion (2023), European Sustainability Reporting Standards (ESRS): Interoperability as innovation?, Available at: https://www.globalpolicyjournal.com/blog/01/08/2023/european-sustainability-reporting-standards-esrs-interoperability-innovation [last accessed 21/12/2023].

Graham, J.R.; Harvey, C.R.; Rajgopal, S. (2005), *The economic implications of corporate financial reporting*, Journal of Accounting and Economics 40 (2005) 3–73, Available at: https://people.duke.edu/~charvey/Research/Published_Papers/P89_The_economic_implications.pdf [last accessed: 10/01/24].

Gray, R.; Owen, D.; Adams, C. (1996), Accounting and Accountability: Changes and Challenges in Corporate Social and Environmental Reporting, London: Prentice Hall.

Greengage (2020), How do TCFD's and ESG work together, Available at: https://www.greengage-env.com/how-do-tcfds-and-esg-work-together/ [last accessed on 22/12/2023].

Grewal, J.; Serafeim, G. (2020), *Research on Corporate Sustainability: Review and Directions for Future Research*, Foundations and Trends in Accounting, Vol. 14

GRI, Global Reporting Initiative (2023), *GRI and ESRS draft Interoperability Index*, Available at: https://www.globalreporting.org/media/z2vmxbks/gri-standards-and-esrs-draft-interoperability-index_20231130-final.pdf [last accessed 13/12/2023].

GSIA, Global Sustainable Investment Alliance (2020), *Global Sustainable Investment Review 2020*, Available at: https://www.gsi-alliance.org/wp-content/uploads/2021/08/GSIR-20201.pdf [last accessed 15/11/2023].

Guarino, M. (2010), *Gulf oil spill update: What's known now about cause and effect*, The Christian Science Monitor, Available at: http://www.csmonitor.com/Environment/2010/1109/Gulf-oil-spill-update-What-s-known-now-about-cause-and-effects [last accessed: 04/01/2024].

Guluma, T.F. (2021), *The impact of corporate governance measures on firm performance: The influences of managerial overconfidence*, Future Business Journal, *7*(1), 1-18.

Hahn, R.; Kühnen, M. (2013), *Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research*, Journal of Cleaner Production, 59, 5–21.

Halkos, G.; Nomikos S. (2021), *Corporate social responsibility: Trends in global reporting initiative standards*, Economic Analysis and Policy Volume 69, March 2021, Pages 106-117.

Hanh, L.T.M.; Ting, I.W.K.; Kweh, Q.L.; Hoanh, L.T.H. (2018), Board meeting frequency and financial performance: a case of listed firms in Vietnam, International Journal of Business and Society, Vol. 19 No.2, 464-472.

Hansmann, H.; Kraakman, R. (2001), *The End of History for Corporate Law*, 89 GEO. L.J. 439, 439.

Haque, F.; Ntim, C.G. (2020), *Executive Compensation, Sustainable Compensation Policy, Carbon Performance and Market Value*, British Journal of Management, Volume 31, Issue 3, p. 525-546.

Hicks., C. (2023), *ESG investing Trends for 2023*, US News & World Reports, Available at: https://money.usnews.com/investing/investing-101/articles/esg-investing-trends [last accessed 12/12/2023].

Hong, B.; Li, Z.; Minor, D. (2016), *Corporate governance and executive compensation for corporate social responsibility*, Journal of Business Ethics, 136(1), 199–213.

How, S.; Lee, C.G.; Brown, M. (2019), *Shareholder Theory Versus Stakeholder Theory in Explaining Financial Soundness*, International Atlantic Economic Society. 25:133-135.

Hsu, C.-S.; Lai, W.H.; & Yen, S.H. (2019), *Boardroom diversity and operating performance: The moderating effect of strategic change*, Emerging Markets Finance and Trade, 55(11), 2448–2472.

Hu, X.; Lin, D.; Tosun, O.K. (2023), *The effect of board independence on firm performance – new evidence from product market conditions*, The European Journal of Finance, Volume 29, Issue 4, Pages 363-392.

Humphrey, C.; O'Dwyer, B.; Unerman, J. (2016), *Re-theorizing the configuration of organizational fields: the IIRC and the pursuit of 'Enlightened' corporate reporting*, Accounting and Business Research Journal, 47 (1), pp. 30-63.

Hussain, N.; Rigoni, U.; Cavezzali, E. (2018), *Does it pay to be sustainable? Looking inside the black box of the relationship between sustainability performance and financial performance*, Corporate Social Responsibility and Environmental Management, Volume 25, Issue 6, p. 1198-1211.

IFRS (2023) *IFRS S1. IFRS Sustainability Disclosure Standard*, Available at: https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards-issb/english/2023/issued/part-a/issb-2023-a-ifrs-s1-general-requirements-for-disclosure-of-sustainability-related-financial-information.pdf?bypass=on [last accessed 13/12/2023].

IFRS, International Financial Reporting Standards (2021), CDSB Framework 2022, Available at: https://www.ifrs.org/content/dam/ifrs/groups/cdsb/cdsb-framework-2022.pdf [last accessed 13/12/2023].

IFRS Foundation (2021), *IFRS Trustees Chair Erkki Liikanen announces ISSB at COP26 [video]*, IFRS Foundation, Youtube, Available at: https://www.youtube.com/watch?v=6kMRAsJQIj8, [last accessed on 13/12/2023].

IFRS, International Financial Reporting Standards (2023), IFRS Sustainability Standards, Available at: https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s1-general-requirements/ [last accessed on 13/12/2023].

Investment and Pensions Europe (IPE) (2023), *Europe leads the way in global sustainable investing, says Morningstar report*, Available at: https://www.ipe.com/europe-leads-the-way-in-global-sustainable-investing-says-morningstar-report/10064824.article [last accessed 6/02/24].

Isaksson, R.; Steimle, U. (2009), *What does GRI-reporting tell us about corporate sustainability?*, The TQM Journal 21 (2).

Jackson, R.J. (2019), *Letter on Stock Buybacks and Insiders' Cashouts*, Harvard Law School Forum on Corporate Governance, Available at:

https://corpgov.law.harvard.edu/2019/03/08/letter-on-stock-buybacks-and-insiders-cashouts/ [last accessed 11/01/24].

Jensen, M.C.; Meckling, W.H. (1976), *Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure*, 3 Journal of Financial Economics 305.

Jensen, M.C.; Murphy, K.J. (1990), *CEO Incentives - It's Not How Much You Pay, But How*, Harvard Business Review.

Jensen, M.C.; Murphy, K.J. (1990), *Performance Pay and Top-Management Incentives*, The Journal of Political Economy, Vol.98, No.2, p.225-264.

Jiménez-Montañes, A.; Villaluenga De Gracia, S. (2023), *Sustainability as an Informative Business Strategy: New EU Directive and the Principle of Double Materiality*, Part of the Lecture Notes in Networks and Systems book series (LNNS, volume 741).

Kanagaretnam, K.; Lobo, G.; Whalen, D. (2007), *Does good corporate governance reduce information asymmetry around quarterly earnings announcements?*, Journal of Accounting and Public Policy, 26(4), 497–522.

Kang, H.; Cheng, M.; Gray, S.J. (2007), *Corporate governance & board composition: diversity and independence of Australian boards*, Corporate Governance International Review, 15 (2) (2007), pp. 194-207.

Kang, J.K; Kim, S.; Oh, S. (2019), *Board Diversity, Director Dissent, and Monitoring Effectiveness*, Available at: https://waf-e.dubuplus.com/apjfs.dubuplus.com/anonymous/O18C3WQ/DubuDisk/public/cafm/2019/2019-14-2.pdf

Kijkasiwat, P.; Hussain, A.; Mumtaz, A. (2022), *Corporate Governance, Firm Performance and Financial Leverage across Developed and Emerging Economies*, Risks, 10(10), 185.

King, R.O. (2010), *Deepwater Horizon Oil Spill Disaster: Risk, Recovery, and Insurance Implications*, Congressional Research Service, Report for Members and Committees of Congress, 7-5700, www.crs.gov R41320.

Knyazeva, A.; Knyazeva, D.; Masulis, R.W. (2013), *The Supply of Corporate Directors and Board Independence*, The Review of Financial Studies, Volume 26, Pages 1561-1605.

KPMG (2020), The time has come! The KPMG Survey of Sustainability Reporting 2020, Available at: https://assets.kpmg.com/content/dam/kpmg/be/pdf/2020/12/The_Time_Has_Come_KPMG_Survey_of_Sustainability_Reporting_2020.pdf [accessed 18/11/23].

KPMG (2022), *Survey of Sustainability Reporting 2022*. *Big shifts, small steps*, Available at: https://assets.kpmg.com/content/dam/kpmg/se/pdf/komm/2022/Global-Survey-of-Sustainability-Reporting-2022.pdf [last accessed 18/12/2023].

La Porta, R.; Lopez-De-Silanes, F.; Shleifer, A. (1999), *Corporate Ownership Around the World*, The Journal of Finance, Vol. Liv, No. 2, 471-517.

Landaw, J. (2020), *Maximizing the Benefits of Board Diversity: Lessons Learned from Activist Investing*, Harvard Law School Forum on Corporate Governance.

Landi, G.; Sciarelli M. (2019), *Towards a more ethical market: the impact of ESG rating on corporate financial performance*, Social Responsibility Journal, 11-27.

Lazonick, W.; Sakinc, M. E.; Hopkins, M. (2020), *Why stock buybacks are dangerous for the economy*, Harvard Business Review, Available at: https://hbr.org/2020/01/why-stock-buybacks-are-dangerous-for-the-economy#:~:text=Stock%20buybacks%20made%20as%20open,pay%20of%20the [last accessed 12/01/24].

Lazonick, W.; Jacobson, K. (2022), Letter to SEC: How Stock Buybacks Undermine Investment in Innovation for the Sake of Stock-Price Manipulation, Institute for New Economic Thinking, Available at: https://www.ineteconomics.org/perspectives/blog/letter-to-sec-a-policy-framework-for-attaining-sustainable-prosperity-in-the-united-states [last accessed 12/01/24].

Lee, H.; Rhee, T. (2023), *How Does Corporate ESG Management Affect Consumers' Brand Choice?*, Sustainability 2023, 15(8), 6795; Available at: https://doi.org/10.3390/su15086795 [last accessed 21/11/2023].

Leo E. Strine, Jr. (2012), *Our continuing struggle with the idea that for-profit corporations seek profit*, 47 Wake Forest Law Review, 135, 155, 171.

Lindrianasari, L.; Adriyanto, R. W. (2010), *Manager's Perception of the Importance of Environmental Accounting and its Effect on the Quality of Corporate Environmental Accounting Disclosures*: Case from Indonesia, Issues in Social and Environmental Accounting, 4(1), 74–86.

Liu, Y.; Miletkov, M.K.; Wei, Z.; Yang, T. (2015), *Board independence and firm performance in China*, Journal of Corporate Finance, Volume 30, Pages 223-244.

Lu J.; Ren L.; Yao S.; Qiao J.; Strielkowski W.; Streimikis J. (2019), *Comparative review of corporate social responsibility of Energy Utilities and Sustainable Energy Development Trends in the Baltic States Energies*, 12 (3417).

Lückerath-Rovers, M. (2013), *Women on boards and firm performance*, Journal of Management & Governance, 17(2), 491–509.

Lustgarten, A. (2010), *Furious Growth and Cost Cuts Led to BP Accidents Past and Present*, ProPublica Investigation, Available at: https://www.propublica.org/article/bp-accidents-past-and-present [last accessed 11/01/24].

Macey, J.R. (2008), *A Close Read of an Excellent Commentary on Dodge v. Ford*, 3 VA. L. & Business Review 177, 179.

Makni, R.; Francoeur, C.; Bellavance, F. (2008), *Causality Between Corporate Social Performance and Financial Performance: Evidence from Canadian Firms*, Journal of Business Ethics.

Mangena, M.; Tauringana, V. (2008), *Corporate boards, ownership structure and firm performance in an environment of severe political and economic uncertainty*, British Accounting Association Conference, April 2008, Blackpool.

Markham, J.; Medress, A. (2020), *IIRC and SASB announce intent to merge in major step towards simplifying the corporate reporting system*, The Business and Management Review, Volume 13 Number 2.

Martínez-Ferrero, J.; García-Sánchez, (2023), *The likely adoption of the IFRS Foundation's proposed sustainability reporting standards*, Available from: https://www.researchgate.net/publication/363642177_The_likely_adoption_of_the_IFRS_Foundation's_proposed_sustainability_reporting_standards [accessed Dec 22 2023].

Mason, J. (2015). *Disgorge the cash: The disconnect between corporate borrowing and investment*, Washington: The Roosevelt Institute.

Mechelli, A.; Cimini, R. (2019), *Corporate governance, legal systems and value relevance of fair value estimates. Empirical evidence from the EU banking sector*, Spanish Journal of Finance and Accounting, 48:2, 203-223.

Merendino, A.; Melville, R. (2019), *The board of directors and firm performance: Empirical evidence from listed companies*, Corporate Governance: The International Journal of Business in Society 1: 118–21.

Mio, C.; Venturelli, A.; Leopizzi, R. (2015), *Management by objectives and corporate social responsibility disclosure: first results from Italy*, Accounting, Auditing and Accountability Journal, Vol. 28 No. 3, pp. 325-364.

Mishra, S. (2018), *Global Governance: Board Independence Standards and Practices*, Harvard Law School Forum on Corporate Governance.

Mistry, M.; Mwatsama, M. (2023), *Expert reaction to ongoing heatwaves in Europe and the US, Science Media Centre*, Available at: https://www.sciencemediacentre.org/expert-reaction-to-ongoing-heatwaves-in-europe-and-the-us/ [last accessed 13/01/2024].

Mohan, A.; Chandramoha, S. (2018), *Impact of corporate governance on firm performance: Empirical evidence from India*, IMPACT: International Journal of Research in Humanities, Arts and Literature 6: 209–18.

MSCI (2020), *Deconstructing ESG Ratings Performance Risk and Returns for E, S and G by Time Horizon, Sector and Weighting*, MSCI, Summary of the findings available at: https://www.msci.com/our-solutions/esg-investing/deconstructing-esg-performance [last accessed 08/02/2024].

Muniandy, B.; Hillier, J. (2015) *Board independence investment opportunity set and performance of South African firms.* Pacific-Basin Finance Journal 35: 108–24.

Murphy, K.J. (1998), *Executive compensation*, Retrieved from SSRN:

Nakamura, E. (2011), *Does environmental investment really contribute to firm performance? An empirical analysis using Japanese firms*, Eurasian Business Review, 1(2), 91–111.

Navickas V.; Kontautiene R. (2012), T*he influence of stakeholder-company relationship on competitiveness of company*, Econ. Manage., 17 (3), pp. 58-67.

Nielsen, C. (2023), *ESG Reporting and Metrics: From Double Materiality to Key Performance Indicators*, Sustainability 2023, 15(24), 16844.

OECD (2019), *OECD Trust in Business Initiative*, Available at: https://www.oecd.org/corporate/trust-business.htm#:~:text=The%202019%20OECD%20Business%20and,public%20trust%20in%20business%20and [last accessed 14/01/24].

OECD (2023a), *The G20/OECD Principles of Corporate Governance*, Available at: https://www.oecd-ilibrary.org/governance/g20-oecd-principles-of-corporate-governance-2023_ed750b30-en [last accessed: 06/01/24].

OECD (2023b), *OECD Corporate Governance Factbook 2023*, Available at: https://www.oecd-ilibrary.org/docserver/6d912314-en.pdf?expires=1705619083&id=id&accname=guest&checksum=BB2133C378FFD6036475FE0693635D67 [last accessed 18/01/24].

Ornitz, B.E.; Champ, M.A. (2002), *Oil spills first principles: prevention and best response*, New York, Elsevier.

Paula, J.; Gaspar, J.; Leatherman, M.; Williamson, S. (2023), *The CEO Shareholder: Straightforward Rewards for Long-term Performance*, Harvard Law School Forum on Corporate Governance, Available at: https://corpgov.law.harvard.edu/2023/10/23/the-ceo-shareholder-straightforward-rewards-for-long-term-performance/#22 [last accessed 10/01/24].

Pekovic, S.; Grolleau, G.; Mzoughi, N. (2018), *Environmental investments: Too much of a good thing?,* International Journal of Production Economics, 3(197), 297–302.

perspectives on connectivity summary report, 26 May 2023 – EAA 45th annual congress.

Petersen, A.; Herbert, S.; Daniels, N. (2022), *The likely adoption of the IFRS Foundation's proposed sustainability reporting standards*, The Business and Management Review, Volume 13 Number 2.

Phillips, K. W.; Loyd, D. L. (2006), *When surface and deep-level diversity collide: The effects on dissenting group members*, Organizational Behavior and Human Decision Processes 99, 143–160.

Pizzi, S.; Principale, S.; De Nuccio, E. (2022), Material sustainability information and reporting standards. Exploring the differences between GRI and SASB, Meditari Accountancy Research, Vol. 31, N.6.

Pritchard, A.C. (2018), *Corporate Governance, Capital Markets, and Securities Law*, The Oxford Handbook of Corporate Law and Governance, Oxford Handbooks, Oxford University Press.

Prowse, S. (1992), *The structure of corporate ownership in Japan*, Journal of Finance 47, 1121–1140.

PwC (2019), *Implementing Integrated Reporting*, Available at: https://www.pwc.com/gx/en/audit-services/publications/assets/pwc-ir-practical-guide.pdf [last accessed 20/11/2023].

PwC (2019), PwC's 2019 Annual Corporate Directors Survey, Available at: http://www.circulodedirectores.org/wp-content/uploads/2019/12/pwc-2019-annual-corporate-directors-survey-full-report-v2.pdf [last accessed 18/01/24].

PwC (2022), *Global Investor Survey 2022*, Available at: https://www.pwc.com/gx/en/issues/esg/global-investor-survey-2022.html [last accessed 12/12/23].

Qureshi, M.A; Kirkerud, S.; Theresa, K.; Ahsan, T. (2019), *The impact of sustainability (environmental, social, and governance) disclosure and board diversity on firm value: The*

moderating role of industry sensitivity, Business Strategy and the Environment, Volume 20, Issue 3, p.1199-1214.

Rappaport, A. (1999), *New Thinking on How to Link Executive Pay with Performance*, Harvard Business Review, Available at: https://hbr.org/1999/03/new-thinking-on-how-to-link-executive-pay-with-performance [last accessed 10/01/24].

Reguera-Alvarado, N.; De Fuentes, P.; Laffarga, J. (2017), *Does board gender diversity influence financial performance? Evidence from Spain*, Journal of Business Ethics, 141(2), 337–350.

Rhee, R.J. (2018), *A Legal Theory of Shareholder Primacy*, Minnesota Law Review. 122.

Rock, E.B. (2013), Adapting to the New Shareholder-Centric Reality, University of Pennsylvania Law School, Faculty Scholarship, Paper 457, Available at: https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1029&context=penn_law_review [last accessed 09/01/24].

Rödl & Partner (2023), *ESRS 1 and 2: Materiality, reporting structure and disclosure requirements*, Available at: https://www.roedl.com/insights/esg-news/2023-4/esrs-1-and-2-materiality-reporting-structure-disclosure-requirements [last accessed 12/12/2023].

Rödl & Partner (2023), *The Adoption of The European Sustainability Standards is imminent*, Available at: https://www.roedl.com/insights/esg-news/2023-3/adoption-of-european-sustainability-reporting-standards-imminent [last accessed 11/12/2023].

S&P Global (2020), *What is the difference between ESG investing and socially responsible investing?*, Available at: https://www.spglobal.com/en/research-insights/articles/what-is-the-difference-between-esg-investing-and-socially-responsible-investing

Sarhan, A.A.; Al-Najjar, B. (2022), *The influence of corporate governance and shareholding structure on corporate social responsibility: The key role of executive compensation*, International Journal of Finance and Economics, Volume 28, Issue 4, p. 4532-4556.

Sakinc, M.E. (2017), *Share Repurchases in Europe. A Value Extraction Analysis*, Innovation-Fueled Sustainable and Inclusive Growth project, Available at: http://www.isigrowth.eu/wp-content/uploads/2017/06/working_paper_2017_16.pdf [last accessed 11/01/24].

Samuelson, J. (2022), The Impact of Shareholder Primacy: What It Means to Put the Stock Price First, The Aspen Institute, Business and Society Program, Available at:

https://www.aspeninstitute.org/of-interest/the-impact-of-shareholder-primacy-what-it-means-to-put-the-stock-price-first-2/ [last accessed 13/01/24].

Segrestin, B.; Hatchuel, A. (2011), *Beyond Agency Theory, a Post-crisis View of Corporate Law*, British Journal of Management, Volume 22, Issue 3, p.484-499.

Shaikh, I. (2021), *Environmental, Social, and Governance (ESG) practice and firm performance: an international evidence*, Journal of Business Economics and Management, Vilnius Tech, Volume 23 Issue 2-218-237.

Sharma, D.; Bhattacharya, S.; Thukral, S. (2019), *Resource-based view on corporate sustainable financial reporting and firm performance: evidences from emerging Indian economy*, International Journal of Business Governance and Ethics, 13(4), 323–344.

Song, H.J; Yoon, Y.N.; Kang, K.H. (2020), *The relationship between board diversity and firm performance in the lodging industry: The moderating role of internationalization*, International Journal of Hospitality Management, Volume 86.

Stout, L.A. (2012), *The problem of corporate purpose, Issues in Governance Studies*, Washington: Brookings Institute, Number 48, June 2012.

Stout, L.A. (2012), *The Shareholder Value Myth: How Putting Shareholders First Harms Investors, Corporations, and the Public*, Cambridge University Press, Journal Business Ethics Quarterly, Volume 23 Issue 3.

TCFD (Task Force on Climate-related Financial Disclosures) (2023), Status Report, Available at: https://www.fsb.org/2023/10/2023-tcfd-status-report-task-force-on-climate-related-financial-disclosures/ [last accessed 21/11/2023].

The Conference Board (2015), *Is Short-Term Behavior Jeopardizing the Future Prosperity of Business?*, Available at: https://www.wlrk.com/docs/IsShortTermBehaviorJeopardizingTheFutureProsperityOfBusiness_CEOStrategicImplications.pdf [last accessed 10/01/24].

The New York Times (2015), Walmart Stock Sinks After a Warning on Sales, Available at: https://www.nytimes.com/2015/10/15/business/walmart-sales-forecast-share-buyback.html [last accessed 14/01/24].

The Sydney Morning Herald (2009), *BP ups cost cut target as profits dive*, The Sydney Morning Herald, Available at: https://www.smh.com.au/business/bp-ups-cost-cut-target-as-profits-dive-20090728-dzyj.html [last accessed 11/01/24].

Ting, I. W.; Azizan, N. A.; Bhaskaran, R. K.; Sukumaran, S. K. (2020), *Corporate social performance and firm performance: Comparative study among developed and emerging market firms*, Sustainability, 12(1), 26.

Tingle, B.C. (2018), *What is Corporate Governance? Can We Measure It? Can Investment Fiduciaries Rely on It?*, Queen's Law Journal, Vol. 43, No. 2.

Townsend., B. (2020), *From SRI to ESG: The Origins of Socially Responsible and Sustainable Investing*, The Journal of Impact & ESG Investing, Bailard, volume 1 issue 1.

Touati, A.; Hult, S. (2022), *Exploring the Impact of ESG on Firm Performance, Empirical Evidence for the European Real Estate Sector*, KTH Royal Institute of Technology.

Turco, E.M. (2018), *Are stock buybacks crowding out real investment? Empirical evidence from U.S. firms*, University of Amsterdam.

Wang, M.; Kelan, E. (2013), *The gender quota and female leadership: Effects of the Norwegian gender quota on board chairs and CEOs*, Journal of Business Ethics, 117(3), 449–466.

Welford R. (2004), *Corporate social responsibility in Europe, North America and Asia*, J corp citizenship 17, 33-52.

Windsor, C.; McNicholas, P. (2012), *The BP Gulf Oil Spill: Public and Corporate Governance Failures*, 11th Australasian Centre on Social and Environmental Accounting Research (A-CSEAR) Conference, Available at: https://ro.uow.edu.au/cgi/viewcontent.cgi?article=1036&context=acsear2012 [last accessed: 04/01/2024].

Wong, W.K.; Teh, B.H.; Tan, S.H. (2023), *The Influence of External Stakeholders on Environmental, Social, and Governance (ESG) Reporting: Toward a Conceptual Framework for ESG Disclosure*, Foresight and STI Governance, 17(2), 9–20.

Yang, T.; Zhao, S. (2014), *CEO duality and firm performance: Evidence from an exogenous shock to the competitive environment*, Journal of Banking and Finance, Volume 49, p. 534-552.

Zamil, I.; Ramakrishnan, S.; Jamal, N.; Hatif, M.; Khatib, S. (2023), *Drivers of corporate voluntary disclosure: a systematic review*, Journal of Financial Reporting and Accounting.

Sitography

Executive pay and challenges for the board of directors – Jan 2021, https://iuslaboris.com/insights/executive-pay-and-the-challenges-for-boards-of-directors/

Official website of GRI standards, https://www.globalreporting.org/

Official website of IFRS Foundation, https://www.ifrs.org/

Official website of Integrated Reporting, https://integratedreporting.ifrs.org/

Official website of SASB standards, https://sasb.org/

What is ESG Investing and Analysis, https://www.cfainstitute.org/en/rpc-overview/esg-investing#:~:text=ESG%20stands%20for%20Environmental%2C%20Social,material%20risks%20and%20growth%20opportunities

What is ESG, why is it important - Jul 2023, ihttps://www.daato.net/articles/esg-what-it-is-and-why-its-important