Review

Not peer-reviewed version

Sustainability, Sustainable Finance, Good Governance Codes and Gender Diversity. A Literature Review.

Janny Magdeline Núñez-Almonte , Alfredo Juan Grau Grau , Inmaculada Bel-Oms *

Posted Date: 22 December 2023

doi: 10.20944/preprints202312.1660.v1

Keywords: sustainability; sustainable finance; corporate governance

doi:10.20944/preprints202312.1660.v1

Review

Sustainability, Sustainable Finance, Good Governance Codes and Gender Diversity. A Literature Review

Janny Magdeline Núñez-Almonte, Alfredo Juan Grau-Grau and Inmaculada Bel-Oms *

Department of Corporate Finance, Faculty of Economics, University of Valencia, 46022 Valencia, Spain.
Janny.Nunez@uv.es (J. M. N.-A.), Alfredo.Grau@uv.es (A.G.-G.)
* Correspondence: Inmaculada.bel@uv.es (I.B.-O); Tel.: (9616 25624)

Abstract: The growing concern about climate change and global warming has driven greater involvement of international organizations, countries, companies, and society in general in acting and ensuring the life of our planet and the sustainability of future generations. Sustainability and finance are two concepts that are intertwined through sustainable finance, serving as an instrument that guides financial resources towards achieving sustainable development. Sustainability allows companies to identify risks and opportunities, being responsible for measuring their social, environmental, and economic impact under a multi-stakeholder approach. One of the three main criteria of sustainability is corporate governance, and the main corporate governance body is the board of directors, where the composition of the board and its supervision and monitoring functions improve the ESG performance. A relevant aspect within the board of directors is the adequate balance of gender diversity on the board, becoming an aspect regulated by laws and corporate governance code. This article develops the main concepts related to sustainability, sustainable finance and corporate governance describing the current situation of these topics and their relationship, creating a conceptual framework that allows identifying topics necessary for further empirical research and the implication of regulation in the scope of ESG issues.

Keywords: sustainability; sustainable finance; corporate governance

---

1. Introduction

This article builds a conceptual framework on Sustainable Finance, starting from the implication of sustainability in the area of finance, as well as the development of a sustainable investment market and the role of corporate governance in the scope of environmental, social and governance. (ESG) issues. Sustainability is a topic of interest to academics, business and regulatory institutions. Increasingly companies are adopting better sustainable practices and disclosing more ESG information. This behavior is due to greater regulation regarding ESG information as well as greater interest of investors and shareholders in considering risks and opportunities related to social and environmental aspects.

Sustainable finances are those that integrate ESG issues into their investment strategy. The development of sustainable finance has changed the dynamics of financial markets, with specific sustainable investment products emerging, as well as rating agencies and sustainable stock indices. There is a greater number of investors seeking to reconcile their economic interests with creating a positive impact on society and the environment. Therefore, companies are more aware of this, better socially responsible behavior not only attracts investment but also customers and employees, captures greater business opportunities, reduces environmental risks and possible fines.

The regulation regarding the disclosure of non-financial information of companies has allowed the creation of greater homogeneity in the information. In the European region, the European Commission has implemented a series of regulations and directives to ensure the transition towards a more sustainable economy. Recent regulations such as Directive 2022/2464 on corporate

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

sustainability reporting and the green taxonomy offer a regulatory framework that increases the quality of companies' non-financial information.

Within the three criteria of sustainability, corporate governance is the aspect that considers the governing bodies of companies as a mechanism for supervision and control of business management that promotes and regulates the ESG practices of a company, as well as aspects related to human rights, gender equality, transparency, stakeholders' protection, shareholder rights, among others. The corporate governance code are recommendations that allow improving the corporate governance practices of a company, being an important aspect the composition of the board of directors. The board composition should consider having an adequate balance of experiences, knowledge and gender diversity. Most good governance codes include gender diversity as a key aspect to ensure the proper functioning of the board, and several countries have implemented gender quota laws to ensure the participation of female on boards of directors.

This article argues about the development of sustainability in the framework of finance, emphasizing advances in the European region. The development of the article confirms that sustainability is an aspect that affects not only the field of financial markets and investment but also the governing bodies of companies. As a result, this article seeks to create a theoretical reference framework on Sustainable Finance.

Section 2 presents the theoretical framework about the development of sustainability in finance, the role of sustainable finance in achieving sustainable development, development of sustainable finance in the financial market through socially responsible investment, rating agencies and indices sustainable stock markets. Section 3 explores the principals corporate governance code of Europe and its implication in achieving greater participation of female on boards of directors. As well as a review of the main gender quota laws in European countries and a conceptual framework is built about the relevant literature and theory about the role of gender diversity on board. Section 4 covers main conclusions.

2. Sustainability in the framework of Finance

The origin of sustainability in finance is related to the appearance of ethical investment. In the mid-17th century in the United States and the United Kingdom, protestant religious groups called Methodists and Quakers excluded investing in activities related to the slave trade, war, tobacco, alcohol, and gambling ([1,2]). But it is not until the 20th century that ethical investment is consolidated as an investment philosophy, the first sustainable investment funds appear, becoming an instrument to claim civil rights, against rational segregation and war. By the mid-1990s there were a total of 60 sustainable investment funds with total assets of US$640 billion ([3]). At present, the different financial and corporate scandals, climate change, the promulgation of regulations on sustainability and corporate governance, the Principles of Responsible Investment (PRI) and the Sustainable Development Objectives (SDGs) have pushed socially responsible investment as an instrument to finance sustainable development ([4,5]).

The Environmental, Social and Governance (ESG) criteria are considered an evolution of Socially Responsible Investment (SRI), they are included for the first time by the United Nations Global Compact in 2006, through the integration of the PRI ([6]). This international initiative established a commitment for institutional investors, having to consider ESG criteria within their financial decisions and ownership policies ([7]). Investors are increasingly concerned about ESG issues and how companies consider these criteria within their business model, preferring to select more responsible and sustainable companies ([8,9]). Moreover, sustainable investment permit to reduce risks, increase profitability and improve the performance of portfolios ([10]). Another benefit of sustainable investment is generating a positive social impact, encouraging companies to be more sustainable and reorienting investment towards "green" firms and less towards "brown" firms. ([11]). It should be noted that "green" firms are considered climate-friendly, produce less carbon emissions and present better environmental performance, while "Brown" firms or less climate-friendly firms are exposed to greater environmental risks ([11–13]).

ESG criteria are indicators that measure and evaluate the sustainable practices of a company according to environmental (E), social (S) and governance (G) factors, allowing a holistic analysis of the impact of these sustainable criteria on economic and financial performance, social performance, environmental performance, and governance performance ([14,15]). ESG criteria are integrated into investments and business decision-making processes ([16]), allowing companies to monitor and control the impact of their activities ([17]). In turn, ESG criteria offer qualitative and quantitative information of the corporate sustainability performance of a company, measuring the impact of its sustainable practices ([18,19]). On the other hand, the integration of ESG criteria in the investment process allows to identified and managed risks and opportunities, considering the diversification of the investment, risk analysis and continuous evaluation ([20]).

The Environmental dimension (E) indicates the ability of a company to reduce its carbon footprint and minimize its environmental impact ([21]), in turn analyzing the use and management of renewable natural resource and non-renewable natural resources ([22]). The Social dimension (S) refers to the company's relationships with the different stakeholders that are directly or indirectly affected, such as the community where it operates, employees, suppliers, customers, investors, regulators among others, it promotes aspects such as respect for human rights, diversity, inclusion and equal conditions ([22,23]). Regarding the governance dimension (G), consider the corporate governance structure of a company as key to achieving sustainability through its corporate governance policies, level of transparency, internal controls, shareholder rights, stakeholder protection, gender pay gap, executive compensation, among others ([15]).

Another definition of ESG criteria is defined by [24] who considers ESG criteria as a dimensions of sustainability, where the Environmental dimension -E- refers to the conservation of the proper functioning of the ecosystem and the preservation of natural resources; the social dimension -S- seeks to guarantee basic human needs (security, food, employment, recreation, freedom, etc.); and finally, the governance dimension -G- refers to good corporate governance practices that influence environmental and social aspects, as well as transparency, disclosure of non-financial information, and compliance with Good Corporate Governance codes ([25]).

In recent years, the demand for ESG information by investors has increased, considering non-financial performance and the inclusion of ESG criteria within their investment decisions as a tool that helps identify risks and opportunities ([26]). In turn, ESG disclosure increases the quality of information ([27]), reduces information asymmetry ([28]), improves the efficiency of market information ([29]), increasing the level of transparency and encouraging investors, managers, and stakeholders to make better decisions ([15,30]).

The effect of ESG disclosure on firm performance it is a highly researched topic in financial literature. Most of the research's affirm that exist a positive relationship between ESG disclosure and firm performance ([31–33]), but others studies demonstrate that this relationship is negative or not exit ([34,35]). There are two points of views of the effect of ESG disclosure on firm performance. There are several theories that can joint the effect of ESG disclosure on firm performance, the shareholder theory and stakeholders' theory, among others. The shareholder theory argues that the main objective of a company is to maximize economic profit or shareholder value ([36–38]). Shareholder value is measured through the value of dividends and the increase in share prices ([39]). In turn, this theory considers shareholders as owners of the company, where managers and directors are the agents responsible for managing its resources in order to always increase profits but honestly ([36,40]). The shareholder theory maintains that the use of resources for environmental, social and good governance (ESG) practices could be detrimental to the main social objective of the firm that is maximizing shareholder value, considering that these socially responsible practices should be the responsibility of other purely social organizations such as the state ([39,40]). Furthermore, the shareholder theory considers that managers and directors do not have the right to act in their own interest or use company resources to obtain a social benefit that does not justify an improvement in firm performance ([40], [39]). Managers motivated by personal incentives can excessively increase spending on ESG practices, exceeding the level that could benefit firm performance and therefore decrease firm performance ([41]). This behavior could indicate that managers, at the expense of the shareholders wealth, act in a more socially responsible way to avoid making bad decisions that harm their personal reputation, which generates agency conflict that negatively affects firm performance ([42,43]).

In contrast to shareholder theory, the stakeholder theory ([47,48]) considers that companies as part of society have the responsibility of responding to the interests of the different agents or stakeholders with which they relate and who are affected by their activity. [49] describes that the objective of stakeholder approach is to manage and integrate the interests of the different stakeholders in order to ensure the long-term success of the firm. Under the stakeholder perspective, the collaborative relationships of the companies with the different stakeholders allow the value creation ([50]). The traditional business model answers the questions of why and for whom value is created, it is based on a unidirectional process between the company and customers. On the other hand, the value creation under the stakeholder's perspective is based on a multi-directional relationship between the company and the different stakeholders ([51–53]), responding to the questions of with and for whom, where the stakeholders are creators and recipients of the value creation process ([50,54]). This perspective considers stakeholders as partners and resources, the creation of value is mutually beneficial for the company and the different stakeholders ([50]). In this way, stakeholders are integrated into relevant decision-making within the business.

According to stakeholder theory, the inclusion of ESG criteria within value creation depends on the effectiveness of relationships with stakeholders, because unethical behavior of the company can weaken or break the support relationships of stakeholders, impacting negatively on business operations and risk the viability of the company ([50]). The multi-collaboration of stakeholders allows us to identify and solve problems related to sustainability ([55]). Moreover, the stakeholder theory affirms that ESG performance responds to the needs of different stakeholders, minimizing costs and increasing social benefits ([47,56]). Firms with better ESG performance benefit both shareholders and stakeholders, attracting long-term investors ([57]), improving external financing and sending a positive signal to the market ([58]) and increasing the firm performance ([59]).

In conclusion, ESG criteria are an instrument for measuring sustainability, which facilitate the growth of a green financial system that allows the reach of sustainable financial resources for investment and sustainable development ([60]). The disclosure of ESG information makes it possible to monitor the sustainable performance of companies; this information is demanded by investors and financial analysts ([61]). The importance of ESG criteria lies in their implication in the creation of corporate strategies ([62]), reduction of environmental and social risks and positively affects firm performance ([63]).

2.1. Sustainability and sustainable development

The definition of sustainable development and sustainability is used interchangeably as to refer to the same term, since sustainability implies sustainable development, shown in the literature ([64,65]). Many authors considered sustainable development like a controversial term, they argue that sustainable development understood as economic growth is inconsistent with sustainability ([66–68]). Others maintain the importance of economic growth seeking to compensate for the damage caused to the environment through the measured use of resources and the reduction of pollutants ([69,70]).

Sustainability is a complex concept that integrates different disciplines, based on an understanding covering various characteristics of life. The main areas that impact sustainability are: energy, resources, environment, economy, education, social, public policy and cultural ([24]). In general terms, sustainability is defined as that development in the present that does not compromise resources for future generations ([71]). [24] confirms this definition and adds that humans depend on the proper functioning of ecological systems, therefore human activity must be aware of saving the environment where it develops and on which its survival depends.

The concept of sustainable introduces development as a new term. This term is appeared in 1987 with the publication of the Our Common Future ([71]). In the Johannesburg World Summit on sustainable development celebrate in 2002, the United Nations secretary general describe three important pillars or dimensions about sustainable development: “economic development, social development and environmental protection” ([72]). In this sense, sustainable development provides solutions to environmental and social problems that affect the development and sustenance of human life on the planet Earth ([73]). Authors like [74] defines sustainable development such as the conservation of current resources by the different social actors, whose economic and productive development should not diminish the state of these resources to ensure the quality of life of present and future generations.

There are two antagonistic points of view regarding the issue of sustainability: the very strong and the very weak approach. Starting from the economic function of the capital stock (K), we understand that the K is made up of human capital (Kh), natural capital (Kn) and manufactured capital (Kmis). From the weak sustainability, considers that the decrease in Kn is offset by the increase in Kh and Kmis, maintaining the stability of the capital stock. Consequently, this perspective of sustainability results from a market mechanism, where at a level of demand, the price of natural capital increases. This effect motivates producers to increase human and manufactured capital to create good quality substitute products that help reduce natural capital depletion ([75,76]). As a result of the weak approach, have emerged two economic models of production and consumption based on sustainable development: Circular Economy ([77–79]) and Green Economy ([80–82]).

On the other hand, the strong sustainability considers that an increase in Kh and Kmis does not diminish the negative effect on Kn ([83]). Because natural capital is made up of various biotic and abiotic elements, whose relationship determines the supply capacity of the ecosystem for human society ([84]). In this perspective, Kn, Kh and Kmis are complements in production. Therefore, strong sustainability requires that the following conditions exist renewable natural resources must be renewed at the same rate at which they are consumed; waste production cannot exceed the level of environmental uptake; and the measure of exploitation of non-renewable natural resources cannot exceed the replacement rate of renewable resources ([85]). However, the strong sustainability approach places nature at the center of sustainability, primarily seeking its conservation in its purest state. Instead, the weak approach sees nature as a provider of resources, making it the mainstay of economic systems ([86–88]).

There exist commitments and international agreements that motivate and create normative to reach sustainable development ambitions and improve the global climate. Most important among these are the United Nations Framework Convention on Climate Change with the Paris Agreement on climate change ([89]), the Convention on Biological Diversity and the Aichi targets for biodiversity ([90]) and the SDGs adopted by United Nations in 2015 ([91–93]).

In recent years had fueled the need to create an action plan to financing sustainable development. Funds like the World Bank BioCarbon Fund, the Clean Development Mechanism, the Global Environment Facility and the Green Climate Fun have created to support the international global agenda ([94]). This movement has spread to other sectors, in the financial market has promoted the creation of sustainable instruments offering the opportunity to respond to the demands of the economy, which can positively impact sustainable development especially with to compliance of the SDGs and the reduction of the carbon footprint in accordance with the Paris agreement ([95,96]). At the same time, there has been an interest in investors to invest following environmental, social and good governance criteria, opting for sustainable investment funds. Through shareholding, investors have pushed fund managers to dictate strategies and pursue funds for impact investing ([97–101]).

According to the Global Sustainable Investment Alliance, global sustainable investment had increased a 15% in the last period (2018-2020), reaching USD35.3 billion in management ([102]). The rapid growth of responsible investment in the financial market, reflect the important function of sustainable finance in sustainable development model ([103]). The global damage caused by COVID-19 has affected the global process in terms of sustainability, in turn has revealed a greater need for sustainable funds for both developed and developing economies ([104]).

Some researchers have demonstrated the important, within Sustainable Development the role of Sustainable Finance, owing to the existence of limited information offered to financial markets about socially responsible investment alternatives, especially to emerging markets ([105–107]).

2.2. Sustainable Finance

The effects of the financial crisis of the last decade, the effects of climate change, the continuing decline in non-renewable resources, and the increasingly troubling predictions of the future of life on our planet are the main reasons that come to support the urgent need to change current business models around the world ([108]). The market has pushed a change in the financial paradigm, where the traditional objective of maximizing the shareholders', value becomes obsolete in the long term, ignores the needs of other key stakeholders necessary to achieve the creation of sustainable wealth ([109]). In this line, the triple bottom line explains how integrate social and environmental impact in addition to the economic impact, through the integration of social, economic and environmental issues in the business model ([110]). This triple impact is transferred to financial practices through sustainable finance, allowing maximized the multidimensional scope offered by triple-bottom line performance ([110,111]). Sustainable finance is finance that integrates social, environmental, and economic sustenance needs, to meet the needs of present generations without compromising the capabilities of future generations to meet their own needs, maintaining a balance between societies ([112,113]). In turn, sustainable finance including social and environmental aspects in traditional financial theory, allowing to response to social and environmental risks, ensuring the well-being of the global economy through sustainable development ([114–116]).

Sustainable finance is an enclave within sustainability; currently, the effects of climate change and the concern for action are becoming more and more noticeable. The sustainability and the impact of human activities is a topic of debate at the political and social level, taking a global role, after the adoption of the Sustainable Development Goals (SDGs) in the context of the United Nations Program of the United Nations for Development (UNDP) in September 2015 and the Paris Agreement reached in the United Nations Framework Convention on Climate Change (UNFCCC) in December of the same year ([117]).

In the European context, the European Commission ([118]) has adopted a series of strategic measures through the European Green Deal to contribute to the development of sustainability, seeks to make Europe climate neutral by 2050 and offering a general framework to facilitate the transition to a green economy. The regulation offers a development framework that allows homogenizing the criteria, concepts and improves the transparency of the financial actors and corporations. ([119]). Regarding the promotion of sustainability in corporate governance, the European Commission ([120]) published a proposal of the Directive on corporate sustainability due diligence, with the aim of encouraging socially responsible business behavior, where companies respond to the negative impacts of their activity within and outside the European Union, considering aspects like the protection of human rights, reduction of environment impact, gender diversity on board, compensation for executive directors, sustainable reporting, among others.

Another legislative measure promoted by the European Union to promote and regularize corporate social responsibility activities in Europe is the Directive 2014/95/EU (non-financial information directive, NFRD). The NFRD was published in 2014 to offer a regulatory framework on the disclosure of non-financial information for listed companies, banks and insurance companies with more than 500 employees. European member states had until 2016 to make the corresponding legal adaptations, having to report for the first time in 2018 ([121]). The NFRD regulates aspects such as the impact of business activity, integration of ESG aspects in the company's policies and strategies, treatment of employees, human rights, anti-corruption, and diversity in terms of gender, age, education and professional experience on the board of directors ([121]). An important aspect to highlight is that the NFRD considers the principle of double materiality; companies must report the effects of sustainability on their performance from an external perspective and, in turn, how the company's activity impacts people and the environment through an internal perspective ([122]). In 2017, the European Commission published a guide to principles and methods for preparing non-financial information reports aimed at companies required by the NFRD, with the aim of making non-financial information useful, consistent and comparable, offering greater transparency to the different stakeholders. Subsequently, in 2019 updates were made that integrated additional aspects regarding the reporting of climate-related information, this guide covers the gaps that exist in non-financial disclosure on the Environmental aspect, seeking to ensure that climate-related information reports on the risks, opportunities and dependencies on the impact of the company's activity on the environment and the effect of climate change on the company ([123]).

On these bases, the European Commission expand the scope of NFRD publishing the Corporate Sustainability Reporting Directive (CSRD) in 2020, introducing new changes such as the inclusion of small and medium-sized listed companies and increasing the credibility of the information, because the reports must be validated by an independent auditor or certifier. Companies must start the application of these standards from the year 2024, the disclosure of sustainable information must be carried out under the European Sustainability Reporting Standards (ESRS). Authors such as [124] analyzed the impact of the adoption of the NFRD on corporate social responsibility performance (CSR) of European non-financial companies in the period 2008-2018, demonstrating that after the adoption of the NFRD, improve the CSR performance and information transparency, also the companies presented lower levels of risks and cost equity.

Sustainability regulation has become an instrument that permit progress towards sustainable development by promoting sustainable finance ([125]). It should be noted that sustainable finance and sustainability are concepts that are intertwined in aspects such as: the rise of ESG criteria in investment decision-making, impact investing and social responsibility in investment approaches, the concern for climate change and human rights, the evaluation of the effect of financing in terms of negative externalities , or the role of sustainable finance for financial institutions where it is stated that financial performance must coexist with social objectives ([126]).

Furthermore, in 2020 the European Commission established a classification system for environmentally sustainable economic activities through the regulation of taxonomy, with the aim of using a common language for companies and investors, promoting sustainable investment ([127]). The new taxonomy obliges member states of the European Union, financial market participants and large public interest entities to report and identify their economic activities, whether they are environmentally sustainable.

The current business model considers sustainability as a key pillar to identify new opportunities and continue generating value, allowing it to adapt to constant changes in the economic, financial, social, political and demographic environment, while ensuring that limited resources (financial, physical and human) are being used responsibly and efficiently to improve people's lives and strengthen the relationships of organizations with the environment ([108]).

According to the stakeholder theory, companies must operate considering the needs of all stakeholders that are involved in the company's operations. ESG performance considers the different needs of stakeholders in terms of environmental, social and governance aspects and they will request the information they demand on these topics. Since, the satisfaction or dissatisfaction among the stakeholders affects the economic performance of the firm ([128]). Sustainability and the relationship with the performance of the company is a relevant research topic, although there are divergences in the results. [31] analyzed the effect of ESG disclosure on the firm performance of listed companies in the United States, demonstrating that ESG strengths disclosure positively impacts firm performance, but weaknesses ESG disclosure negatively affects firm performance. Other authors such as [129] analyze the impact of ESG practices on market valuation for companies listed on the Korean Stock Market, where investors positively value the ESG activities of these companies. [130] show in their study that ESG performance contributes positively to firm financial performance of listed energy companies.

While other studies concluded that this relationship is negative, [35] indicate that Latin American multinational companies with better ESG scores show lower economic profitability ratios (ROA), this could indicate that the costs derived from ESG practices reduce firm performance, or that companies do not have institutional support to expand the dissemination of its ESG practices. On the other hand, authors such as [34] analyze the effect of ESG factors on the firm performance of Malaysian public-limited companies, obtaining an insignificant effect on the economic profitability of the company and the firm performance measured by Tobin's Q. These differences results could be due to the fact that the sample is located in countries from different regions, where different country characteristics such as the level of corruption, poor legal system, social opportunities and labor system can affect the ESG disclosure of the companies ([131]). In turn, other factors such as the level of institutional factor, ownership structure and board strength can affect the firm performance and ESC disclosure of companies ([132]).

In turn, Sustainable finances have pushed for the development of a financial market that responds to challenges of their growth related to the way they are financed. As this result of the need to finance under the concept of sustainability, the so-called Socially Responsible Investment (SRI) arises. The SRI is defined as one that considers the environmental, social and corporate governance (ESG) perspective in making investment decisions and not only the aspect economic ([133,134]). The regulation of SRI is carried out through the Principles for Responsible Investment (PRI) in 2006 ([135]). These principles cover issues such as human rights, environment, transparency and workers' rights ([15]).

Through the Sustainable Stock Exchange (SSEs) capital market institutions have generated a new approach, by way this platform they can generate dialogue and exchange of good practices between the different stakeholders, and above all finance the commercial opportunities presented by the SDG ([135]). The SSEs is an initiative organized by the UN Conference on Trade and Development (UNCTAD) , the UN Global Compact, the UN Environment Program Finance Initiative (UNEP FI) , and the Principles for Responsible Investment (PRI), inviting the participation of regulators stock exchanges, investors, companies among other stakeholders to create a global platform that improve the divulgation of ESG information of listed companies, promoting transparency in the world's capital markets ([151]). Currently, the platform has 122 stock exchanges from developed and emerging countries from different regions of the world, with a total of 63,822 listed companies ([152]).

Companies are under pressure from different stakeholders to considerer in their operations environmental and social impacts. In response, many companies have integrated a variety of sustainability initiatives, which are published in the different corporate social responsibility reports or memories ([153]). “To help highlight corporations with exemplary sustainability performance, a number of ratings, awards, and indices have emerged” [153] (pp. 79). CSR reports are a barometer of an organization's actions and strategies in the face of social and environmental challenges, offering information to investors, customers, regulators among other stakeholders about the company's socially responsible behavior, as well as possible risks ([154–157]). There are international standards that serve as a guide to prepare these CSR reports, the Global Reporting Initiative (GRI) standards ([158]). The GRI standards offers a series of principles and indicators that allow reporting on non-financial information of companies on social, environmental and economic aspects ([159]).

The selection criteria of these indices focus on the responsible behavior of the issuers, excluding companies from certain sectors that have a negative impact on society or the environment, such as companies that are dedicated to the production of tobacco or weapons ([160]). Among the main sustainable stock indices are including: Dow Jones Sustainability Index (DJSI) Series, Calvert Social Index, FTSE4Good Series, KLD Global Sustainability Index Series and EuroNext Vigeo Index ([135]).

2.2.1. Sustainable Development Goals

In 2015, the United Nations General Assembly adopted an action plan called the 2030 Agenda. This agenda is based on 17 Sustainable Development Goals (SDGs) focused on people, planet, prosperity, justice and peace ([136]). The SDGs are an extension and enhancement of the Millennium Development Goals (MDGs), whose scope date expired in 2015. The process of elaboration of the SDGs was carried out through a public process, in which 70 governments and representatives of civil society participated, including both industrialized countries and developing countries ([137]). The SDGs are a global governance strategy that integrates efforts from the public and private sectors towards the fulfillment of an agenda of determining objectives in the sustainable development of all countries ([138]). However, the SDGs integrate the areas of environmental sustainability, economics and social inclusion to ensure human well-being ([136,139]). This combination of factors is very similar to that used by the Triple Bottom line technique ([136,139]). Currently, the SDGs are relevant global initiative at the level of sustainable development ([137]).

 doi:10.20944/preprints202312.1660.v1

An aspect to highlight of SDGs is to be an instrument for promote and encourage local economic development and social change in private business, NGOs and public organizations and institutions ([140]). Thus, the SDGs in the business context act as a structure for a new expansion of business ethics, corporate social responsibility (CSR) and corporate citizenship ([161]). The SDGs are policies and actions to reduce the impact of human action, especially referred to the scope of social inclusiveness (SDGs 1. No poverty, SDGs 11. Sustainable cities and communities, SGDs 15. Life and land, SDGs 16. Peace, justice and strong institutions), ecological inclusiveness (SDGs 1. No poverty, SDGs 2. Zero hunger, SDGs 6. Clean water and sanitation, SDGs 9. Industry, innovation and infrastructure, SDGs 11. Sustainable cities and communities, SGDs 15. Life and land), and relational inclusiveness (SDGs 3. Good Health and Well-being, SDGs 4. Quality education, SDGs 10. Reduced inequalities, SDGs14.Life bellow water, SDGs16.Peace, justice and strong institutions, SDGs17.Partnerships for the goals) ([162]).

The governance characteristic of the SDGs is the use of non-legally binding, which were established by member states of the United Nations ([137]). This characteristic of the SDGs does not force to include the fulfillment or not of these sustainable objectives in the national legal systems of the countries, because it is based on recommendations. The SDGs represent a new type of global governance based on a response to the needs and challenges of today's world to achieve sustainable development. ([137]). This goal-based style of governance offers nations freedom to choose among the specific needs and preferences of each country. Although being 17 global objectives, detailed in 169 specific objectives, they have a qualitative nature that permit the implementation of the objectives to be interpreted by the countries ([137]).

The achievement of the SDGs underlies large-scale financing focused on the mobilization of public and private resources for the fulfillment of the 2030 Agenda. The capacity exists to mobilize and redirect private capital towards the success of the 2030 Agenda, both in developed and developing economies. According to estimates by the International Monetary Fund, the financial flows of contributions to the SDGs around the world currently only add up to 2.5 trillion dollars per year, after the covid-19 pandemic and the Russian War against Ukraine and the climate emergency, the gap towards achieving the SGDs between developed countries and developing countries has increased, being necessary to have between 2 and 4 trillion additional dollars per year until 2030 ([163]).

The expectations established in the 2030 Agenda have been affected by the different world crises and conflicts, mainly due to the COVID-19 pandemic and the war between Russia and Ukraine, which has caused an increase in poverty rates, an increase in inflation, an energy crisis, humanitarian, and refugee ([164]).

The scope of these goals is affected by geographic context, resources, and governance ([165]). In the case of the type of business sector, it is necessary to consider the relationship of the SDGs with the activity and vision of their businesses, both private companies and public institutions can address existing gaps and align with the SDGs ([166]). A new business model denominates the progressive business model offers solutions to existing gaps in companies, it combines economic earnings with a real capacity to be socially and environmentally sustainable ([167]). The progressive business model proposes integrate sustainability through social innovation and social entrepreneurship ([167]). Further, integrating these models into the practice of the corporation, it allows companies to make a greater contribution to achieving the SDGs ([168]).

In a report published in 2015 by the International Monetary Fund, it shows the differences that developing countries face in terms of financing compared to low-income developing countries, for developing countries some USD $2.6 billion is required for investment in health, education, roads, electricity, water, and sanitation. For low-income developing countries, can represent up to 15% additional spending of their gross domestic product (GDP) ([169]). To achieve the SDGs, financing is indispensable ([170]).

In the literature exist different points about the relationship between finance and sustainability ([171,172]). The research results indicate that is primordial to consider the three dimensional criterial (environmental, social and governance) of sustainable development for financing SDGs, concluding that conventional finance is inadequate for achieving SDGs ([114,115]). [170] analyzed the relationship between sustainable finance and SDGs based on 23 European countries belonging to the OECD for 2016, where the highest-ranked positions include the Scandinavian countries (Denmark, Finland, and Sweden) and Netherlands. The lowest ranting positions according to sustainable finance were taken by Hungary, Lithuania, and Spain. This study concluded that the more sustainable the finance model, the better the results of a given country in achieving SDGs.

Focus on the development and achievement on SDGs, exist disparities in the European Union members ([173]). In this context, [173] analyzed these disparities based on research and development (R&D) and innovations factors, concluding that the greatest sustainable development disparities were observed between Denmark, Finland, Sweden (Members States that lead the change to the sustainable development model) and Luxembourg, Greece, Croatia, Latvia, Slovakia. These disparities can explain by different factors: (i) Sweden was a pioneer in implement national strategy on sustainable development in 2002 ([174]), and (ii) exist a cultural factor, some people's preferences or aversion for the sustainable consumption of goods and services; this reflects different levels of personal responsibility ([175]).

The success of the ODSs over the economic agenda depends on the manage of these three challenges: partnerships for the SDGs, measurement of SDG performance and the SDG Compass as the basis of a strategic tool for SDG implementation ([140]).

2.2.2. Principles of Sustainable Investment

The origin of the term of Socially Responsible Investment (SRI) was based in negative screening of certain investment (such as tobacco or firearms) by church-based investors ([1]). The term unites diverse ethical, social and environmental practices ([1,141–143]). SRI is defined by [144] a type of investment based on environmental, social and governance criteria (ESG) that select best sustainable companies. SRI is based on environmental, social, and corporate governance (ESG) criteria, this criterial permit to analyze and choose a quality selection of companies with good corporate social responsibility (CSR) profile ([145]). Consequently, ethical investors look for to maximize nonfinancial variables that are consistent with personal and social values ([146]). The author [147] affirm that Ethical investor also care about the nature of the company's, goods and services, the location of its business or the manner in which manages.

SRI is a growing international movement ([148]), and the recent financial crisis and market instability are factors that promote a change in practices investment ([149]). The SRI has become an international segment of the capital market, allowing investors international diversification, reducing portfolio risks ([150]). The total assets of sustainable investment in global investment industry rise to US$35.3 trillion ([102]).

After the emerge of a sustainable investment market, in 2006 the secretary general of the UN, at that time Kofi Annan with a group of institutional investors from around the world had the initiative to create a conjunct of principle to reflect the growing relevance of environmental, social and corporate governance issues in the context of investment practices ([104]). The PRI state that environmental, social, and corporate governance (ESG) issues can affect the performance of investment portfolios and affirm that applying these principles will allow to align investors with objectives of society ([176]).

Since the PRI system was started in 2006, an increasing number of institutions (asset managers, insurance companies, banks, financial service providers, or institutional investors) they committed to implement the principles. In 2018, there were more than 2,200 signatories from roughly 50 different countries ([177]. This rapid grown of UN PRI signatories, reflect the central role of principles and the strongly support that received signatories ([178]). The adoptions of these principles for responsible investment can benefit the signatory's attachment to responsible financial practices, improving its reputation, offering distinction over the competition, reduce investment risk and increases the legitimacy of ESG information disclosure ([177]).

The PRI consist of six voluntary actions which are detailed below ([176]):

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

- *Principle 1:* Seeks the inclusion of ESG criteria in the investment study process, through the investment policy statement, the development of ESG measurement tools, assessing the knowledge of internal and external administrators on the incorporation of ESG criteria, the consideration of ESG criteria by financial services agents, encourage academic research and promote ESG training for investors.
- *Principle 2:* Maintain an active attitude on the part of the owners in the incorporation of the ESG criteria within the policies and practices of the property by disclosing information in accordance with the principles, protecting the right to vote of the shareholders, informing shareholders on long-term considerations related to ESG criteria and require investment managers to report ESG commitment.
- *Principle 3:* Search adequate disclosure on ESG issues about the entities in which invest through sustainability reports, financial reports, codes or standards of conduct and supporting shareholder initiatives that promote the disclosure of ESG information.
- *Principle 4:* Promote the implementation of the principles within the investment industry by including Principles-related requirements in requests for proposals, guiding investment positions, monitoring processes and performance metrics, maintaining effective communication with investment service providers investment, develop measurement tools for the integration of ESG criteria and encourage the development of standards and policies that facilitate the implementation of the principles.
- *Principle 5:* Ensure effective implementation of the principles through participation in resource-sharing platforms and increasing the level of learning about investor reports, addressing issues that arise and supporting collective initiatives.
- *Principle 6:* Reporting on the scope of implementation of the principles by disclosing investment practices that consider ESG issues, disclosing active ownership activities, determining the impact of using the principles, reporting on achievements in implementing the principles, and address a larger group of stakeholders.

In the literature exist evidence about the advantages of adopting PRI in financial decisions. [179] suggest that the role of the organizational platform provided by the PRI is to promote collaborative engagement between investors and companies. [177] analyze on financial companies' the effect of decisions to implementation or no PRI, obtaining that financial companies that are more likely to become PRI signatories have fewer available slack resources, are more examine by the public, are bigger and have a board of directors characterized by greater gender diversity and independence than non-signatory companies.

Concluding, the PRI are combined as an ally of the UNEP Finance Initiative and the UN Global Compact. The principles have become a speaker of the responsible investment movement in the world, it seeks to function in the real meaning of being a responsible investor, thus ensuring that responsible investment is not seen as an isolated concept ([104]).

2.2.3. Sustainability rating agencies

The great increase of the corporate sustainable practices has been driven by the different demands of the environment and society, contributing to sustainable development ([180]). For corporate sustainability to be effective, it is necessary to consider the current needs of the environment, society and the economy together with the future needs of stakeholders ([181]). According to [182] corporate sustainability refers to the achievement of environmental, social and economic objectives within the corporate strategies that configure the different operating, productive, administrative and organizational systems, through the short and long term.

The demand of the financial market, the pressure of activist groups, the implementation of standards and regulations on sustainability, and the level of competition of the company, are factors that motivate companies to improve their sustainable performance and become part of ESG ranting, given that this behavior sends positive signals to shareholders and stakeholders ([183]). The rise of ESG rating agencies has become an important niche in the financial market ([181]. This growth in the number of ESG rating agencies is due to the establishment of a network of alliances (e.g.,

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

RobecoSAM); mergers and acquisitions of different ESG agencies (e.g., Vigeo-EIRIS) or the introduction of financial data providers and raters in the ESG rating industry (e.g., MSCI) ([184]). According to study from the [185] there are around 600 ESG ranting agencies, other studies indicate 170 ESG indices ([186]) and 120 voluntary ESG standards ([187,188]).

Through their ESG evaluations, the environmental, social and government (ESG) rating agencies are the most important source of information for investors, their data show the sustainable behavior of companies, measuring their degree of contribution to sustainable development ([189]) The reflection of these ESG evaluations is shown in the sustainable indices, becoming the main benchmark for the socially responsible investment market ([189]). However, ESG rating agencies examine corporate sustainability performance through different sources of information such as extra-financial information and financial information ([184]), questionnaires, reports and public company information ([181]).

The absence of universal ESG metrics has led agencies to develop their own methodologies and indicators, therefore the same company may have different ESG qualification from various ESG ranting agencies ([190]). Resulting in a complete ecosystem of ESG measures, data sources and ratings ([191–193]). The divergence between the measurement methodologies used by ESG rating agencies is a relevant subject studied in the literature ([193–195]. The diversity of measurement methods is seen by agencies as a market differentiation strategy ([196]) and influenced by cultural and ideological factors ([197]). [193] recognizes three general aspects that ESG rating agencies always consider: (i) evaluate the categories according to the environmental, social and governance areas under positive criteria; (ii) examine the controversial practices of companies; and (iii) assess the normalization processes of their rantings for each industry.

The sustainable investment ecosystem includes the customers, corporations and ESG ranting firms ([198]). The customers of ESG rating agencies use the data to make investment and business decision (e.g., supply chain partners and institutional investors). Another actor in the sustainable investment ecosystem are the corporations, they obtain information about their sustainable performance, maintaining their good reputation and commitment. Finally, the ESG rating agencies create and select the data, metrics, indicators, obtaining the information for their customers.

Among the main ESG rating agencies are: FTSE Russell ESG Ratings, Morgan Stanley Capital International (MSCI) ESG Research, S&P Global Ratings ESG Evaluation, Sustainalytics and Vigeo EIRIS.

- *FTSE Russell ESG Ratings:* Offers a weighted average measurement model, where the most relevant ESG issues carry the greatest weight when determining companies' scores. The ESG score is made up of 300 indicator assessments and 7.200 securities in 47 Developed and Emerging markets. The ESG score focuses on the following sustainable dimensions: (i) environment integrates biodiversity, climate change, pollution and resources and water security. (ii) social issues include labor standards, human rights and community, health and safety, customer responsibility. (iii) governance issues integrated anti-corruption, corporate governance, risk management and tax transparency ([199]).
- *Vigeo EIRIS:* It is one of the global leading sustainable indices in ESG research and data base, it belongs as a filial of Moody's Corporation. Through its Equitics methodology, measures and scores the ESG performance of companies, based on 38 sustainable criteria and divided into six dimensions on Environmental, Human rights, Human resources, community involvement, business behavior and corporate governance. The Vigeo EIRIS methodology allows to analyze risks and opportunities by sector and companies at the ESG level. Of the 38 sustainable criteria, 20 to 25 criteria allow analyzing a specific sector, a weight between 0 to 3 is assigned based on three specific areas of the sector's impact on nature, level of exposure and corporate risk ([200]).
- *MSCI ESG Research:* Assesses a company's ESG risk and opportunity management, using the rules-based methodology to identify leading and laggard companies by industry. The MSCI ESG ranting has 35 key issues, which make it possible to evaluate and measure the three dimensions of sustainability (environment, social and governance). These key issues are divided into three pillars and various subcategories: (i) the environmental pillar with four subcategories: climate

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

change, natural capital, pollution and waste, environmental opportunities; (ii) the social pillar includes human capital, product liability, stakeholder opposition and social opportunities; and (iii) governance pillar considers aspects such as corporate governance and corporate behavior. As for the ratings, they start from leader (AAA, AA), average (A, BBB, BB) to laggard (B, CCC). Companies with a leader rating are those that show better management of their ESG risks and opportunities. As for the companies with an average rating, they present a mixed or not exceptional behavior in terms of ESG compared to their peers in the same industry. And finally, laggard companies show high exposure and inability to manage ESG risks and opportunities ([201]).

- *S&P Global Ratings ESG Evaluation:* Provides an opinion on the future risk and opportunity management ability of businesses for organization, banks and insurance firms. The ESG evaluation of these companies is carried out through the information provided by S&P Global Corporate Sustainability Assessment (CSA) questionnaires, in turn evaluation is made up of an ESG profile and Preparedness opinion. The ESG Profile summarizes the S&P Global Ratings opinion on short-term ESG risk management and opportunities. The ESG profile scores the environmental dimension with 30%, the social dimension with 30% and the governance dimension with 40%. Regarding the Preparedness opinion, it allows an evaluation of the company's ability to anticipate and adapt to changes and risks in the long term. The development of the Preparedness opinion is done through a meeting with a company's senior management and a board member to establish and assess their knowledge of emerging trends and risks, as well as their long-term strategic planning on these topics. These emerging trends and risks issues include: climate change, ecosystem decline, wealth distribution, cyber security, fuel and energy, deforestation, urbanization, childhood obesity, water scarcity, food security, material resource scarcity and aging and wellbeing. Finally, the ESG score is obtained through the combination of the ESG profile and Preparedness opinion, based on a 100-point rating scale ([202]).
- *Sustainalytics:* Is and independent ESG and corporate release belonging to a Morningstar Company. ESG Risk Ratings offers a quantitative score on the unmanaged risk of a company, allows to identify the ESG risk, the security and level of the portfolio and how it can affect the profitability of the investment in the long term. The composition of the ESG Risk Rating is based on three blocks: corporate governance, material ESG issues and idiosyncratic issues. The corporate governance block reflects the shortcomings of poor corporate governance and the high degree of risk it represents for the company. The second block considers ESG material as one topic or a set of topics that require a common or similar management strategy, e.g., diversity, employee recruitment, labor relationships are considered in the ESG issues of human capital. The unmanaged risk score is measured through a numerical scale from 0 to 100 and the companies are grouped into categories, where the negligible category encompasses a score of 0-10, the low category of 10-20, medium to 20- 30, high from 30-40 and severe over 40 ([203]).

The relevance of ESG rating agencies is not only a topic of interest for financial market agents, but also represents a highly important research topic for academia, where various aspects like the role of ESG agencies in the implementation of sustainable objectives on companies ([204]); the impact of ESG ratings on the company's sustainable performance ([205]); how the score used by ESG ratings affects companies and investors ([206]) the disclosure of EGS reports and disagreements among ESG rating agencies ([195]) among others. The great growth of ESG rating agencies and the sustainability indices reflect the demand of investors, stakeholders, shareholders for extra-financial information on the socially responsible behavior of companies, given that beyond the social and environmental commitment that companies must have on the development of their economic activity, ESG aspects also represent risks and opportunities for companies.

1.2.4. Sustainable indices

Sustainable investment practices have promoted the creation of stock market measures called sustainable indices, allows and facilitates quantifying the profitability of the portfolios of socially responsible companies ([207]). Since their beginning in the 1990s, the indices have provided a measure of the performance of shares of socially responsible companies. Its analysis approach is based on the triple bottom line, which refers to the relationship of the impact of the company's activity with three dimensions: economic, social and environmental ([153,208]). These indices are indicators of the evolution of the value of the most representative companies in the market, and in turn function as a representative measure of the entire market they represent; serve as the underlying asset in derivative and structured producer markets; and finally, they work as a benchmark in the management of socially responsible portfolios ([209]).

Sustainable indices or ESG differ from conventional financial indices, given that sustainable indices monitor and evaluate the firm's sustainability performance, including environmental, social and governance criteria and are categorized according to industry sustainability leaders ([210]). An extensive literature studies the differences between the performance of sustainable indices and conventional indices ([211–213]). Some author like [214] found no significant difference between the ESG index and conventional index of the Morgan Stanley Capital Internacional (MSCI) index family for developed and emerging countries. Other studies show lower risk and similar or better performance of ESG indices compared to conventional indices ([215]). Similarly, previous studies show that under periods of crisis, sustainable funds and socially responsible investment strategies present a lower risk compared to their conventional peers ([216,217]); on the other hand, ESG indices also show a similar behavior, having a better performance and faster recovery in times of crisis ([218]).

Sustainable investment is a growing market, by the beginning of 2020 the total sustainable assets in the global market amounted to USD35.3 trillion ([102]). Even though sustainable investing plays a determining role in the economy, its history is relatively short. In 1990, the first ESG index called the Domini 400 social index emerged, created by the company Kinder, Lydenberg, Domini, and Co. ([219,220]). Currently, the number of sustainable indices has increased, due to the great acceptance of investors and regulators in terms of socially responsible investment and a greater involvement of companies in terms of sustainability ([221]).

Among the main sustainable indices are:

- *Euronext Vigeo Eiris Eurozone 120:* Include the 120 most sustainable companies in the Eurozone among the 500 companies with the largest free float in Europe. The index is compiled from ratings provided by Moody's ESG Solutions ESG rating agency associated with Euronext, which assesses achievements based on ESG criteria ([222]). Liern and Pérez-Gladish (2018) use this sustainable index as a benchmark to obtain the ESG performance of European companies.
- *Euronext Vigeo Eiris Europe120:* Based on the Equities scores include the 120 most sustainable companies among the 500 companies with the largest free float in Europe ([222]).
- *Dow Jones Sustainability Europe Index:* This index is made up of the 146 companies that have stood out the most in the last year in terms of sustainability and governance, this index represents the 20% of the largest 600 European companies in the S&P Global BMI ([223]). Previous studies such as [224] have used this benchmark index for the analysis of the determinant effect of socially responsible investors and European companies' adoption of environmental measures.
- *MSCI EU index:* Includes large and mid-cap developed markets from 15 European countries, uses a best-in-class selection strategy for the top 25% of companies in each sector, and excludes companies that negatively impact social and environmental aspects. In turn, it classifies companies with a leader (AAA, AA), average (A, BBB, BB) or laggard (B, CCC) rating ([201]). Authors such as [212] compare the performance of different sustainable indices and traditional indices, including the MSCI EU index.
- *MSCI Leaders index:* selects the companies with the highest ESG performance in their sector, from different countries and regions. Its methodology is based on the assessment of a company's management of ESG risks and opportunities and the risks of each country ([201]). Previous studies such as [225] compare the possible effect between ESG indices and a country's economic growth, using the MSCI Leaders index as a reference.
- *Euronext Vigeo Eiris World 120:* It collects the 120 most sustainable companies among the 1,500 companies in terms of free float in North America, Asia-Pacific and Europe ([222]).

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

- *FTSE4 Good All World:* It is part of the FTSE4Good Index Series: The components of the index are classified into according to Industry Classification Benchmark (ICB), the global standard for industry sector analysis. The company selection strategy is based on negative screening, excluding companies from certain sectors such as weapons, non-renewable energy and vice products, and with negative practices or behaviors such as controversies according to the principles of sustainable investment and lack of diversity ([199]).
- *Calvert Social Index:* This index is provided by Calvert Investments. It consists of 680 largest companies, selected from approximately 1,000 of the largest publicly traded companies in the United States. These companies must operate in accordance with the Calvert Principles for Responsible Investment which fall broadly into one of three categories: Environmental sustainability and resource efficiency (E), Equitable Societies and respect for human rights (S) and Accountable Governance and transparent operations (G) ([226]).
- *MSCI KLD 400 Social Index:* It's designed to provide exposure to companies with high MSCI ESG Ratings while excluding companies who are involved in negative and controversial activities (e.g., Civilian Firearms nuclear weapons, Tobacco Adult Entertainment, Alcohol). It consists of 400 companies selected from the MSCI USA IMI Index, which includes large-, mid- and small-cap US companies ([227]). [228] use the US sustainable companies of the MSCI KLD 400 Social Index to analyze the relationship between corporate social responsibility and earnings management.
- *Dow Jones Sustainability North America Composite Index:* Consist of leader's companies recognize by S&P Global. It represents the top 20% of the biggest 600 North American companies ([223]). Research such as [229] have used this sustainable index as a proxy to measure firm's socially responsible investments.
- *Dow Jones Sustainability Emerging Markets:* Consist of leader's companies recognize by S&P Global. It represents the top 10% of the largest 800 companies in 20 emerging markets ([223]). Previous research has used this sustainable index as a reference for the study of the sustainable practices of companies in emerging countries such as Taiwan ([230]).
- *The Dow Jones Sustainability MILA Pacific Alliance Index:* This index includes best-in-class companies, those that meet certain sustainability criteria better than all other companies within a given industry, measures the ESG performance of companies in the countries of Chile, Colombia, Peru and Mexico ([223]).

There are other alternatives to sustainable indices, the so-called ESG disclosure scores. The ESG disclosure score allow measuring the impact of ESG performance through the ESG disclosure of a company in the different ESG dimensions, as well as knowing its level of compliance and initiative in ESG practices ([231,232]). Among the most used is Bloomberg's ESG disclosure, it has a database of more than 15,000 companies in more than 100 countries, with more than 120 indicators to measure environmental, social and governance aspects, and obtains ESG information from companies through their ESG reports, sustainability reports and reports, information on their website, press and corporate presentations, among others ([233–235]). Most of the information used by Bloomberg ESG disclosure scores is directly provided by the company, it is not possible to certify the quality of the information ([236]).

In conclusion, sustainable investment is a key instrument to solve social and environmental problems, encourages more responsible behavior in financial markets and allows investment to be redirected ([237]). Sustainable indices differ from traditional market indices, allowing investors to monitor firms' ESG practices, encouraging greater transparency and disclosure and pushing companies to obtain better ESG behavior ([210,238]).

3. Corporate Governance Codes

3.1. Development of Corporate Governance in Europe

Codes of corporate governance express the best governance practices for the companies, including themes such as board functions, board composition, nomination and remuneration members, auditing, information disclosure, typologies of directors, and relationships with shareholders. These codes try to fill the gap in the corporate governance systems of countries of European countries. Several countries have issued one or more codes, due among other things to globalization such as the financial markets, liberalization, privatization and increasing the role in the companies of institutional investors.

The Cadbury Report in 1992 was the first code established in Europe, its contained recommendations about best practices in board structure for United Kingdom (UK) listed companies ([244]). This report is based on a guide of the control and reporting functions of the board of directors and of the auditors, which considers keys in the organization of a good corporate governance of the listed companies, which in turn look for the sake of management that is more attentive to the interests of the shareholders and, ultimately, of the investors. The [244] included recommendations based on the separation of power between the role of chief executive officer (CEO) and the chairman, the minimum number of non-executive directors on corporate board, the independent audit committees, and the improvement of the role of institutional investors through their voting rights ([239]). Furthermore, this code is based on the explain or comply principle, it's the principal approach of this report, considered as soft law which enable companies to comply with the recommendations or explain the reasons why they do not adopt this code of good corporate practices. This principle makes it possible to choose self-regulation and offers greater transparency, in turn indirectly forcing company directors to choose an alternative approach, showing themselves to be more sustainable over time ([240–242]). The development of corporate governance regulations has continued to be updated in the United Kingdom, with the Greenbury Report is first implemented in 1995, and later through the creation of the Corporate Governance Committee by the Financial Reporting Council, the Hampel Report was established in 1998, because of a review of the Cadburry Report and the Greenbury Report ([245,246]). Through the statutory authority under the Financial Council Report and Markets Act of 2000, a code is established on the one-size-fits-all principle, where shareholders and directors share the same responsibility for accountability, is created the Combined Code Report (1998) and has been revised and updated from 2003 to the latest version published in 2018 ([247]).The current UK Corporate Governance Code was published in 2018 and was designed to build on the relationships between companies, shareholders and stakeholders and make them key parties to the long-term sustainable growth of the UK economy ([248]). In terms of gender diversity on boards of directors, the [247] noted a transparent and rigorous process in the succession of new directors to the board, based on merit and objective criteria, being necessary to promote gender diversity and others important aspects such as social and ethnic backgrounds, experience, cognitive and personal skills. The process used in relation to board appointments and description of the board's policy on diversity, including gender should be reflected in the annual report [243] (pp. 8).

In the case of France, the implementation of good governance codes began in 1995 through the Viénot I report ([249]). In subsequent years, they are complemented by other reports and recommendations like the Viénot II report in 1999, the Bouton report in 2002, and the French Association of Large Companies (AFEP) and the Movement of the Enterprises of France (MEDEF) code. The [249] and [250] report consists of a series of recommendations on the corporate governance structure of French listed companies. The [249] report was based on several recommendations which proposed among other recommendations explains that directors do not serve on the boards of other companies (cross directorships), limited of independent directors, selected by their personal expertise, and can't have a dependent relationship with the company (for example, shareholders, investors, costumer, or supplier). Additionally, this code proposed to create of special committee with responsibilities in areas such remuneration, auditing or for the selection of directors and others corporate officers. Following this code, the [250] report offers the possibility of separating the chairman of the board and chief executive officer, favoring the power distribution and their effect in decision making. Other aspect that is take account the number of board meeting and the important role of the general shareholder meetings and favored the disclosure of information on management remuneration and offered recommendations on the communication of financial information. The [251] keep the same line of previous report and emphasize the present a greater independence of the

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

corporate board, higher degree of formalization and information divulgation concerning to the board of directors. In 2003, French Association of Large Companies (AFEP) and the Movement of the Enterprises of France (MEDEF)) code combined these three reports and published the corporate governance code of listed corporations, based on "comply or explain" the principles. The [252] is considered as a standard for the French capital market and has had different updates over the years. The first code was published in 2002 and the latest and current version being in 2020. This version is orientated on social and environmental issues. The code recognized the important role of social and environmental factors in the relationship between company's business activities, giving to show in this view that the board can generated long-term value creation. Also, these criteria should be considered into executive remuneration structures. Regarding to gender diversity, this code considers policies to promote diversity and non-discrimination on the board. In this line, this code recommends included a minimum number of females on the high committee, its required minimum of one woman on their seven-member High Committee. ([253–256]).

In 2003 was adopted The Financial Security Law (LSF) to strengthen the legal provisions related to corporate governance, demanding the transparency of information about the operations of the corporate boards. The first obligatory legislative about good governance report appears in 2008, through the LAW number 2008-649 relating to various provisions for the adaptation of company law to Community law (known as "DDAC"). The DDAC (2008) is focused on determining that these companies listed on a regulated market, it requires adherence to codes of good corporate governance based on the principle of comply or explain, that is, comply with those established by the code or explain the reason for its non-compliance ([256]).

Other European country whose development in terms of corporate governance stands out is the case of Spain. The first corporate governance code in Spain was the Olivencia report published in 1998, which included a series of non-binding recommendations based on the comply or explain principle for listed Spanish companies ([257]). This code was based on several recommendations such as: the main supervisory function of the corporate boards, the approval of company's strategy, the creation of risk policies, the implementation of internal control system and the evaluation and compensation of top executives. Other point is the distinction between internal and external directors, within the external members there is a difference between the external members linked to the company (significant shareholders) and the independent external members (prestigious professionals representing the free float). In turn, it recommends the election of independent members on the board, the creation of operative committees (Nominations, compensations, audit, and compliance committees) and take a balanced view of the remuneration of board member ([258]). In 2002, an update of the Olivencia Report (1998) is made, this change is motivated by the lack of transparency provided by the Spanish listed companies. Through the creation of the Special Commission for the Promotion of Transparency and Security in the markets and in listed companies, the Aldama Report is published. The Aldama Report (2002) considered the criteria of transparency and loyalty in first place, proposed to report on aspects related to the board's operations, capital ownership and risk control system through the annual corporate governance report ([259]). Moreover, this report suggested the regulation of legally business loyalty by limiting the improper use of privileged information and company assets ([260]). The recommendations contained in the Aldama Report in 2003 was published the Law 26/2003 (Law on transparency of listed corporations), later this law was updated and modified through Law 31/2014, by which the Capital Companies Law is modified to improve corporate governance to reinforce the transparency of listed corporations ([261,262]). This new regulation established standards of good governance practices for those listed Spanish public limited companies, introduces the mandatory presentation of corporate information through the annual corporate governance report according to the order number ECO/3722/2003 (Annual Corporate Governance Report and other information instruments of Listed Corporations and other entities), as well as has a web page to respond to the need for information on the part of shareholders and disseminate relevant information ([260], [263]). In May 2006, was approved by Agreement of the National Securities Market Commission (CNMV) the Unified Good Governance Code (UGGC). This code is based on the previous corporate governance codes, and this unified code is updated according to international good governance standards and the recommendations on corporate governance of the European Commission. This code [264] has been updated in different years (Unified Good Governance Code of Listed Companies, 2013; Good Governance Code of listed Companies, 2015), being its last version in 2020. This new code is made up of 64 recommendations, grouped into three large blocks which content general aspects about the general shareholders' meeting and board of directors. This code emphasizes the presence of female on boards of directors, promotes the integration of social and environmental criteria in business policies, encourage the transparency through non-financial information and sustainability, highlights the importance to reputational and non-financial risks and provide the aspects related to the remuneration of directors.

In Germany, the legislation related to control and transparency in business was introduced for the first time through the Control and Transparency in Business (KonTraG) ([266]). This law developed the main issues on corporate governance such as risk management and strengthening the rights of supervisory boards. The first corporate governance code was adopted in 2002, by an expert commission appointed by the German Federal Government (The German Corporate Code). This code is addressed to listed companies of the German Stock Exchange based on a voluntary act of self-regulation by business itself, but in the case, companies don't assume these recommendations are obliged to disclose and explain (comply or explain). In summary, the German Code indicate in their recommendations: the supervision of the corporate tasks of board management and its function in the identification of risks and opportunities of the company associated with the impact on social and environmental factors. Moreover, this code included the recommendations about the representation of female on board members and the establishment of legal gender quota, the responsible management on efficient internal control against risks and compliance with sustainability objectives and the detail of the functions and importance of the general meeting. This code also considered the appointments to the management board, consideration of the necessary requirements to elect the representatives of the supervisory board and the independent nature of some of these members, as well as recommendations on the transparency of information and disclosure of external and internal reports including corporate responsibility reports. The German Code has been revised several times from its first publication in 2002 to its last version published in 2022. The latest amendments aim to further sustainability transformation, showing the role played by management board in the development of ecological and social sustainability in companies ([267]). The German Code establishes the CEO and Chair division, under the dual board structure or the tow-tier model, clearly distinguishes two boards, management board and supervisory board. The chair is responsible for directing the management board, oversees coordinating the work of the board members, developing the company's strategies, identify risks and opportunities considering social and environmental factors, and coordinating with the supervisory board the implementation of the strategies. Another tasks of management board are to ensure gender diversity in executive positions, execute an internal monitoring and ensures the implementation of an effective control system and risk management system.

The Nordic corporate governance model has attracted attention in recent years ([268]). This model is characterized by the several concentrated distributions of power but its low private benefits of control ([269]). This behavior of low private benefits can be explained through the effect of social norms in these Nordic countries. ([270]). The Nordic model is based on national legislation, primarily accounting acts and acts governing the securities market and securities trading, as well as relevant European Union regulation, stock exchange rules and corporate governance codes. Some common aspects of corporate governance in listed companies in the Nordic countries are the strong shareholder power through active participation in the company's decision-making process, the shares with multiple voting rights but with limitations only in Sweden, in the other countries it is not common; balance power between major shareholders and minority shareholders through guaranteeing the right to vote; specify that at least half, or a majority, of the Board members have to be independent of the company; promote a stronger gender diversity on the board; use of board subcommittees; high degree of transparency and highlights the role of the board in risk supervision management and internal control system ([271]).

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

3.2. Gender diversity on board of directors

Gender diversity in the workforce has been a topic of great academic and social interest in the recent years ([272,273]). Past research, provide evidence that the barriers that female present to access labor market in lower and middle management positions ([274]) due to the fact of the glass ceiling effect ([275–277]). In this sense, glass ceiling is a phenomenon defined as a type of artificial barrier based on organizational prejudices that stagnates and prevents professional and qualified female from occupying positions of power in a company ([278]).This gender wage gap is defined based on two perspectives that is human capital theory and segregation occupational ([279,280]). Human capital theory explains that individuals invest in themselves, gain experience and knowledge over education or years of experience in the labor market, thereby increasing their productivity and value ([281]). The differences in the treatment between choosing female or men in the labor market, is the expectation of obtaining lower productivity or profitability ([278]). Based on this theory, female tend to invest less in human capital than men, mainly because they have more domestic and family responsibilities, causing absenteeism that would drive in a less implicated to their careers ([282], [283]). Furthermore, the occupational segregation explains that female is excluded from certain types of work. The existence of occupational segregation by gender is influenced by geographic and economic factors based on political systems, social, cultural and religious aspects ([284]). The occupational segregation can be separated in vertical and horizontal. The Vertical segregation is characterized by a dominant presence of men in high positions of power in a company, regardless of the sector, creating access barriers for female to this type of position or to the labor market (glass ceilings and sticky floors) ([285]). On the other hand, the horizontal segregation explains the predominant presence of female and men within a labor sector in jobs ([286]). For example, female tend to perform jobs related to the service or health sector, while men perform related jobs with the area of engineering, construction or mechanics ([287–289]). The occupational segregation is based on different reason: gender stereotypes ([284,290]) differences in education levels ([291]) or discrimination in hiring and promotion ([292]). This situation tends to create low-paying occupations and worse work conditions for female ([280,293–295]).

The role of female in today's society has gone from occupying functions limiting to the home and family care, to being considered key in the economic development of any society. The role of female in business has been ignored or marginalized over the years ([296]) due to the masculinity and patriarchy of local and global business structures ([297]). According to data from the [298], the global percentage of female in the labor force is 49%, compared to the 75% labor percentage of men, indicating a gender gap of 26, and in some regions of the world the difference can reach 50 points. However, according to the [299], the percentage of female in top management positions is much lower, the global number of women in management positions amounts to 31%. The presence of females in position of responsability is a matter has increased the relevance in the last decades ([274,300,301]). Females in position of responsibility run businesses differently, based on their values and self-schema, allow greater involvement of the company in the report on gender policies ([302]). The empowerment of female and their ability to understand the environment and generate change is determined by their experience, personal perspective and openness to change ([303]), female are more likely to present a transformational leadership style ([304]). On the other hand, female are significantly less likely to occupy a position of higher hierarchy and power in business and corporate governance than men, in turn earn less and are less voted for by members on decision-making committees ([305,306]). These exclusion barriers that affect the ascending of female in top management positions are due to the glass ceiling ([274]). Despite this, there is evidence that shows that gender diversity in top management improves the financial performance of companies ([307], [308]). However, gender diversity is not only an important topic for academic and researchers, but there is also a great responsibility on the part of international institutions and governments to implement policies and regulations that eliminate discriminatory barriers and generate greater access opportunities for females. Within the United Nations sustainability plan called the 2030 agenda, one of the objectives (SDG5) seeks to achieve gender equality and empower female. OECD data (2021) show the global position of female in managerial positions is only a third percentage in OECD

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

countries are held by female and in terms of CEOs, only 4.8% are female ([309]). In respect of regulations about gender quota on the boards, only around a quarter of the countries that make up the OECD have adopted mandatory gender quotas, while a higher proportion (30%) have adopted recommendations as voluntary goals, and 8% have introduced a combination of both ([309]).

The corporate governance codes in the international context promote the presence of female on boards of directors has increased (see Table 1). Within the European countries, Norway has been the pioneer in implementing a quota mandating that about 40% of board seats in listed firms are held by the female, it was first introduced in 2003 and took full effect in 2008. This tendency was followed for other European countries like France, Italy, Belgium, and Germany that implemented mandatory gender quotas on boards of directors. In the case of Iceland or Switzerland, the gender quota legislation is without sanctions, while Denmark, Sweden or the United Kingdom have established good governance codes that follow the "comply or explain" principle and contain recommendations regarding gender diversity on boards ([310]). Gender quotas is defined as a legal regulation that require a minimum participation of female (or men) within an institution, group, or position. Gender quotas have the mission to help female to overcomer cultural stereotypes gap that make them less likely to aspire to or be selected for such positions ([311,312]).

In this sense, the in French Code [313] recommend that the corporate board has the obligation to determine gender policies for governing bodies, considering deadlines and accomplishment of the objectives, with executive management being responsible for presenting the results achieved each year in the corporate governance report. In 2011, France publishes the Law no. 2011-103 (The balanced representation of female and men within the boards of directors and supervisory boards and on professional equality), which implements a gender quota of 40% for companies listed on the stock exchange (“CAC 40”), or those with more than 500 employees and turnover exceeding €50 million over the previous three years ([314]). Subsequently, in 2021 a new law called Rixaim Law was adopted in France. The Rixaim Law imposes gradual compliance with gender quotas, establishing that companies with more than 1,000 employees must have an initial representation of 30% by 2026, gradually increased to 40% from 2029. For the case of companies with 50 or more employees must publish an annual gender equality index based on Law 2018-771 ([315]). The Rixaim Law is considered as a hard regulation, non-compliance with sanctions by the appointment of directors in violation of the law is voided and the payment of attendance fees is suspended. The European Institute for Gender Equality (2021) show that 45.3% of board members in France largest publicly listed companies are female, showing the success of reaching the implemented gender policies ([316]).

In Spain, the [264] recommend the incorporation of female directors on corporate boards. However, the Spanish government publish in 2007 the Act 3/2007 for Effective Equality between Female and Men, which establishes that companies listed must achieve a quota of 40% of female in decision-making bodies by 2015 until 2022 ([317]) . According to a report from the National Securities Market Commission (CNMV) based on the annual corporate governance reports of issuing companies, by 2021 the total number of female directors was 29,26% ([318]).

In Germany, the Corporate Governance Code considered the legal gender quota in the composition of the supervisory board ([267]). In 2015, the Law on Equal Participation of Female and Men in Leadership Positions in the Private and Public Sector imposed a 30% quota of female representations in supervisory boards of around 100 companies in Germany ([319]). In 2021, this law is updated focus on executive boards, companies with more than 2,000 employees, must have a minimum participation of one woman and one man in their executive and administrative boards with more than three members ([320]). The law makes it possible to justify non-compliance with this quota through the “zero” objective, explaining in detail the considerations on which the decision is based. If the percentage of female is less than 30% when the objective is established, this proportion cannot be reduced, and deadlines must be set to meet the quota, with a maximum of five years. Those companies that do not comply with the presentation of the target or zero target will be penalized ([321].

Table 1. Gender quota Law in Europe.

 doi:10.20944/preprints202312.1660.v1

Country	Gender Quota Law	Corporate Governance Code	Quota
Norway	Public Limited Liability Companies Act (2003)		40%
Iceland	Act on Equal Status and Equal Rights of Women and Men (2008)		40%
Switzerland		Federal Act on the Amendment of the Swiss Civil Code (2023)	At least by 30% on the board of directors and 20% in the executive board.
Denmark		Committee on Corporate Governance's Recommendations for corporate governance (2008)	Not mandatory quota, recommends that diversity (gender, age, educational and commercial background) be considered in the composition of the board.
Sweden		The Swedish Corporate Governance Code	Not mandatory quota, recommends a strive gender balance on board.
Netherlands	Act on balanced gender diversity at the top of large companies (2021)	The Dutch Corporate Governance Code (2022)	The gender quota law obliges large public and private companies to have at least 30% male and female on their supervisory boards. The Dutch CGC promotes those board be made up of an appropriate degree of diversity (sex, gender, nationality and cultural or other background).
Austria	Law on Equality for Women and Men as Non-Executive Directors on Company Boards (2018)	The Austrian Code of Corporate Governance (2021)	The supervisory board must be made up of at least 30% female and 30% male.
Belgium	Law to Guarantee the presence of women on the board of directors (2011)	Belgian Code on corporate Governance (2020)	33,3%
France	Law no. 2021-1774. Accelerating economic	Corporate Governance Code of Listed Companies (2022)	The board composition must have at least 30% of

	and professional equality (2021)		the executive members and 40% of the non-executive members will be of the underrepresented gender (male or female) by 2027 and should eventually increase to 40% by 2030.
Italy	Gender Parity Law (2011), modified in 2019.	Corporate Governance Code (2020)	The board of directors and control body must be composed of at least one third of the underrepresented gender (male or female). By 2020, companies that renew their board must increase their member quota from 1/3 to 2/5.
Spain	Law of effective equality of women and men (2007).	Corporate Governance Code (2020)	The Law recommends a gender-balanced participation quota (40%).
Germnay	Law on Equal Participation of Female and Men in Leadership Positions in the Private and Public Sector (2015)	Corporate Governance Code (2022)	30%
United Kingdom		UK Corporate Governance Code (2016)	Not mandatory quota, offers a voluntary approach of the presence of females on board.
Portugal	Law no. 62/2017. Regime of balanced representation between women and men in the management and supervisory bodies of entities in the public business sector and companies listed on the stock exchange.	Corporate Governance Code (2018). Revised in 2023	33,3%

4. Conclusions

This article has sought to explore the concept of sustainability in finance. It also sought to expand the origin and current state of sustainable finance. Highlighting the main European regulations on sustainability, as well as the role of sustainable finance in achieving sustainable development goals.

On the other hand, the principles of socially responsible investment are described as an instrument that encourages the behavior of responsible investors and facilitate the adoption of investment strategies with ESG criteria. Sustainable finance is a global trend, in the different financial markets there are sustainable investment products, as well as ESG rating agencies that evaluate companies according to their ESG performance and assign an ESG score. Within this market, there are also sustainability stock indices which integrate sustainable companies with the best ESG performance. Rating agencies and sustainable indices constitute a benchmark for investors, stakeholders, shareholders.

This article weaves together the relationship between sustainable finance and corporate governance, highlighting the development of corporate governance code in Europe and the consideration of gender diversity on board. Corporate governance is a key piece for the implementation and improvement of ESG practices in companies, which is why it is considered an important part of the conceptual development of the framework of sustainable finance.

The shared knowledge in the article builds an analytical framework that can be used as a theoretical basis for other empirical studies and as a reference to consult the current state of sustainable finance. In turn, this article offers operational means for socially responsible investors, companies, consultancies, and regulators to promote sustainable finance and identify challenges for improving the scope of sustainability in business.

Author Contributions: Conceptualization, J. M. N.-A., A.G.-G. and I.B.-O.; formal analysis, J. M. N.-A; investigation, J. M. N.-A, A.G.-G. and I.B.-O.; writing— original draft preparation, J. M. N.-A, A.G.-G. and I.B.-O.; supervision, J. M. N.-A, A.G.-G. and I.B.-O. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data is contained within the article.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Schueth, S. Socially Responsible Investing in the United States. *J. Bus. Ethics.* **2003**, 43(3), 189–194.
2. Townsend, B. From SRI to ESG: The Origins of Socially Responsible and Sustainable Investing. *J. Sustain. Finance Invest.* **2017**, 1(1), 1-16.
3. Social Investment Forum. Available online: https://www.ussif.org/index.asp (Accessed on 14 June 2023).
4. Kawabata, T. What are the Determinants for Financial Institutions to Mobilise Climate Finance? *J. Sustain. Finance Invest.*. **2019**,9 (4),263–281.
5. Streimikiene, D.; Mikalauskiene, A.; and Burbaite, G. The role of sustainable finance in achieving sustainable development goals. *Econ. Sociol.* **2023**, 16(1)
6. Fin, R.F.F. Environmental, social and governance investing from an idea to getting it done. *InFinance*. **2012**, 126, 42
7. Motta, E.M.; Uchida,K. Institutional investors, corporate social responsibility, and stock price performance". *J Jpn Int Econ.*. **2018**, 47,91-102.
8. Silva, F.; Cortez, M. The performance of US and European green funds in different market conditions. *J. Clean. Prod.*. **2016**,135, 558-566.
9. Jin, J.; Han, L. Assessment of Chinese green funds: performance and industry allocation. *J. Clean. Prod*. **2018**, 171,1084-1093.
10. Broadstock, D.C.; Chan, K.; Cheng, L.T.W.; Wang,X. The role of ESG performance during times of financial crisis: Evidence from COVID-19 in China. *Finance Res. Lett.* **2021**,38: 101716.
11. Pastor, L.; Stambaugh, R.F.; Taylor, L.A. Sustainable Investing in Equilibrium. *J financ econ.***2021**, 142(2), 550–571.
12. Bauer, M. D.; Huber, D.; Rudebusch, G. D.; Wilms, O. Where is the carbon premium? Global performance of green and brown stocks. *J Clim. Finance.* **2022**, 1, 1-15.
13. Liu, Y.; You, L. Does the market reward firms for being more green or less brown? *J. Econ. Financ.* **2023**, 47, 564–585.

 doi:10.20944/preprints202312.1660.v1

14. Sultana, S.; Zulkifli, N.; Zainal, D. Environmental, Social and Governance (ESG) and Investment Decision in Bangladesh. *Sustainability*, **2018**,10(6), 1831.
15. Cek, K.; Eyupoglu, S. Does environmental, social and governance performance influence economic performance? *J. Bus. Econ. Manag.* **2020**,21(4), 1165-1184.
16. Arora A.; Sharma, D. Do Environmental, Social and Governance (ESG) Performance Scores Reduce the Cost of Debt? Evidence from Indian firms. *Australas. Account. Bus. Finance J.*, **2020**,16:4–18.
17. Viranda, D.F.; Sari, A.D.; Suryoputro, M.R.; Setiawan, N. 5 S Implementation of SME Readiness in Meeting Environmental Management System Standards based on ISO 14001:2015 (Study Case: PT. ABC). *IOP Conf. Ser. Mater. Sci. Eng.*, **2020**,722.
18. Khalil, M.A.; Khalil, R.; Khalil, M.K. Environmental, social and governance (ESG) - augmented investments in innovation and firms' value: a fixed-effects panel regression of Asian economies. China Finance Review International, **2022**, Vol. ahead-of-print No. ahead-of-print.
19. Uyar, A.; Kuzey, C.; Karaman, A.S. Does aggressive environmental, social, and governance engagement trigger firm risk? The moderating role of executive compensation. *J. Clean. Prod.* **2023**, 398:136542.
20. de Souza Barbosa, A.; da Silva, M.C.B.C.; da Silva, L.B.; Morioka, S.N.; Fernandes de Souza, V. Integration of Environmental, Social, and Governance (ESG) criteria: their impacts on corporate sustainability performance. *Humanit. Soc. Sci. Commun*. **2023**, 10, 410.
21. . Lam, J.S.L.; Lai, K.H., Developing environmental sustainability by ANP-QFD approach: the case of shipping operations *J. Clean. Prod.* **2015**, 105 ,275-284.
22. Rajesh, R.; Rajendran, C. Relating Environmental, Social, and Governance scores and sustainability performances of firms: An empirical analysis. *Bus. Strategy Environ.* **2020**; 29: 1247–1267.
23. Li, J.; Wu, D. Do corporate social responsibility engagements lead to real environmental, social, and governance impact? *Manage Sci.* **2020**, 66:2564–2588.
24. Brown, B.J.; Hanson, M.E.; Liverman, D.M.; Meredith, R.W. Global Sustainability: Toward Definition. *Environ Manage*. **1987**,11, 713–719.
25. Scherer, A. G.; Rasche, A.; Palazzo, G.; Spicer, A. Managing for political corporate social responsibility: New challenges and directions for PCSR 2.0. *J. Manag. Stud.*,**2016**,53(3), 273–298.
26. Limkriangkrai, M.; Koh, S.; Durand, R.B. Environmental, social, and governance (ESG) profiles, stock returns, and financial policy: Australian evidence. *Int. Rev. Financ*. **2017**, 17, 461–471.
27. Cheng, B.; Ioannou, I.; Serafeim, G. Corporate social responsibility and access to finance. *Strateg. Manag. J.*, **2014**, 35(1),1-23.
28. El Ghoul, S.; Guedhami, O.; Kwok, C.C.; Mishra, D.R. Does corporate social responsibility affect the cost of capital? *J. Bank Financ.*, **2011**, 35(9), 2388-2406.
29. Ji,Y.; Xu, W.; Zhao,Q.; Jia, Z. ESG disclosure and investor welfare under asymmetric information and imperfect competition *Pacific-Basin Finance J.*, **2023**, 78.
30. Li, Y.; Gong, M.; Zhang, X.-Y.; Koh, L. The impact of environmental, social, and governance disclosure on firm value: The role of CEO power. *Br. Account. Rev.*, **2018**, 50, (1),60-75.
31. Fatemi, A.; Glaum, M.; Kaiser, S. ESG performance and firm performance: The moderating role of disclosure. *Glob. Finance J.*, **2018**, 38(C), 45–64.
32. Nguyen, X.-H.; Trinh, H.-T. Corporate social responsibility and the non-linear effect on audit opinion for energy firms in Vietnam. *Cogent Bus. Manag.*, **2020**, 7(1), 1–15.
33. Nisar, A.; Mobarek, A.; Roni, N. N. Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Bus. Manag.***2021**, 8(1).
34. Atan, R.; Alam, M.; Said, J.; Zamri, M. The impacts of environmental, social, and governance factors on firm performance: Panel study of Malaysian companies. *Manag. Environ. Qual.*, **2018**,29(2), 182–194.
35. Duque-Grisales, E.; Aguilera-Caracuel, J. Environmental, Social and Governance (ESG) scores and financial performance of multilatinas: Moderating effects of geographic international diversification and financial slack. *J. Bus. Ethics*. **2019**.
36. Friedman, M. A Friedman doctrine: The social responsibility of business is to increase its profits. *The New York Times Magazine*, **1970**,13, 32–33.
37. Jensen, M. C.; Meckling, W.H. Theory of the firm: managerial behavior, agency costs, and ownership structure. *J. Financ. Econ.*, **1976**,3,305-360.
38. Fama, E.F.; Jensen, M.C. Separation of ownership and control. *J. Law Econ.*, **1983**,26, 301-325.
39. O'Connell, M.; Ward, A-M. Shareholder Theory/Shareholder Value. In S. Idowu, R. Schmidpeter, N. Capaldi, L. Zu, M. Del Baldo, & R. Abreu (Eds.), Encyclopedia of Sustainable Management Article 1 Springer Nature. **2020**.
40. Castelo, B.M. *Shareholder Theory,* In: Idowu, S.O., Capaldi, N., Zu, L., Gupta, A.D. (eds); Encyclopedia of Corporate Social Responsibility. Springer, Berlin, Heidelberg, Germany,2013.
41. Barnea, A.; Rubin, A. Corporate Social Responsibility as a Conflict Between Shareholders. *J. Bus. Ethics*,**2010**, 97, 71–86.
42. Brown, W.O.; Helland, E.; Smith, J.K. Corporate Philanthropic Practices. *J. Corp. Fin.*,**2006**, 12, 855-877.

 doi:10.20944/preprints202312.1660.v1

43. Krüger,P. Corporate goodness and shareholder wealth. *J financ econ.***2015**,115 (2),304-329.
44. Freeman, R. E. *Strategic Management: A Stakeholder Approach*. Pitman, Boston, United States, 1984.
45. Carroll, A. B. The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Bus. Horiz.*, **1991**,34 (4), 39-48.
46. Freeman, R.E.*Strategic Management: A Stakeholder Approach*. Cambridge University Press, Cambridge, United Kingdom,2010.
47. Freudenreich, B.; Lüdeke-Freund, F.; Schaltegger, S. A. Stakeholder Theory Perspective on Business Models: Value Creation for Sustainability. *J Bus Ethics*, **2020**,166, 3–18.
48. Gordijn, J.; Akkermans, H.; van Vliet, H. What's in an electronic business model? In International Conference on Knowledge Engineering and Knowledge Management, Juan-les-Pins, France, 2-6 October 2000.
49. Bouwman, H.; van Den Ham, E. Exploring value networks enabling the delivery of back-office content to mobile workers. In ITI'03Europrix Conference. Tampere. California Management Review, 2003, 42(4), 55–69.
50. Andersson, B.; Bergholtz, M.; Edirisuriya, A.; Ilayperuma, T.; Johannesson, P.; Gordijn, J.; Grégoire, B.; Schmitt, M.; Dubois, E.; Abels, S. Towards a reference ontology for business models. In 25th International Conference on Conceptual Modeling, Tucson, AZ, USA, 6-9 November 2006.
51. Dentoni, D.; Bitzer, V.; Pascucci, S. Cross-sector partnerships and the co-creation of dynamic capabilities for stakeholder orientation. *J. Bus. Ethics*, **2016**,135(1), 35–53.
52. Hörisch, J.; Freeman, R. E.; Schaltegger, S. Applying Stakeholder Theory in Sustainability Management: Links, Similarities, Dissimilarities, and a Conceptual Framework. *Organ. Environ.*, **2014**, 27(4), 328-346.
53. Ruf, B. M.; Muralidhar, K.; Brown, R. M. et al. An Empirical Investigation of the Relationship Between Change in Corporate Social Performance and Financial Performance: A Stakeholder Theory Perspective. *J. Bus. Ethics*, **2001**,32, 143–156.
54. Eccles, R. G.; Ioannou, I.; Serafeim, G. The Impact of Corporate Sustainability on Organizational Processes and Performance. *Manag. Sci.*, **2014**, 60(11), 2835-2857.
55. Zhang, D.; Lucey, B.M. Sustainable behaviors and firm performance: The role of financial constraints' alleviation. Economic *Policy Ana.*, **2022**, 74, 220-233.
56. Maji, S. G.; Lohia, P. Environmental, social and governance (ESG) performance and firm performance in India. *Soc. Bus. Rev.*, **2023**, 18(1), 175-194.
57. Ng, A. W. From sustainability accounting to a green financing system: Institutional legitimacy and market heterogeneity in a global financial centre. *J. Clean. Prod.*,**2018**, 195, 585-592.
58. Barker, R.; Eccles, R. G. Should FASB and IASB be responsible for setting standards for nonfinancial information? Saïd Business School, University of Oxford, 2019.
59. World Economic Forum. (2020). The global risks report 2020. World Economic Forum. https://www.weforum.org/publications/the-global-risks-report-2020/ (Accessed on 20 July 2022)
60. Hawn, O.;Chatterji, A. K.; Mitchell, W. Do investors actually value sustainability? New evidence from investor reactions to the Dow Jones Sustainability Index (DJSI). *Strateg. Manag. J.*, **2018**,39(4), 949–976.
61. Olawumi, T. O.; Chan, D. A scientometric review of global research on sustainability and sustainable development. *J. Clean. Prod.*, **2018**,183, 231–250.
62. Sartori, S.; Da Silva, F.L.; and De Souza Campos, L.M. Sustainability and sustainable development: a taxonomy in the field of literature. *Ambiente and Sociedade*, **2014**, 17, 1.
63. Mitlin, D. Sustainable development: a guide to the literature. *Environ. Urban.*, **1992**, 4(1), 111-124.
64. Beckerman, W. Economic growth and the environment: whose growth? Whose environment? *World Dev.*,**1992**, 20, 481–496.
65. Spaiser, V.; Ranganathan, S.; Swain,R.B.; Sumpter, D.J.T. The sustainable development oxymoron: quantifying and modelling the incompatibility of sustainable development goals. *Int. J. Sustain. Dev. World Ecol.*, **2017**, 24, 457–470.
66. Dinda, S. Environmental Kuznets Curve Hypothesis: A Survey. *Ecol. Econ.*, **2004**,49, (4), 431-455.
67. Stern, D.; Common, M.; Barbier, E. Economic growth and environmental degradation: The environmental Kuznets curve and sustainable development. *World Dev.*,1996, 24 (7),1151-1160.
68. World Commission on Environment and Development (WCED). Our common future. Report of the World Commission on Environment and Development. Published as an Annex to the General Assembly Document A/42/427, 1987, United Nations.
69. United Nations. Report of the World Summit on Sustainable Development. 2002. https://digitallibrary.un.org/record/478154m (Accessed on 22 July 2022).
70. Millennium Ecosystem Assessment (MEA). Ecosystems and human well-being: synthesis. 2005, Island Press, Washington DC, United States.
71. Munashinge, M. Sustainable Development in Practice. Sustainomics Methodology and Applications. Cambridge University Press, Cambridge United Kingdom, 2009.

72. Stiglitz, J.E. *A neoclassical analysis of the economics of natural resources* V.K. Smith (Ed.), Scarcity and Growth Reconsidered, Johns Hopkins Press, Baltimore, United States, 36-66, 1979.
73. Neumayer, E. Weak Versus Strong Sustainability: Exploring the Limits of Two Opposing Paradigms (4th ed.), Edward Elgar, Cheltenham, UK, 2013.
74. Bina, O. The Green Economy and Sustainable Development: An Uneasy Balance? *Environ. Plann. C Gov. Policy.*, **2013**,31(6), 1023-1047.
75. Brand, U. Green Economy – the Next Oxymoron? No Lessons Learned from Failures of Implementing Sustainable Development. *Ecological Perspectives for Science and Society*, **2012**, 21(1), pp. 28-32(5).
76. Wanner, T. The New Passive Revolution of the Green Economy and Growth Discourse: Maintaining the 'Sustainable Development' of Neoliberal Capitalism. *New Political Econ.*, **2015**,20:1, 21-41.
77. Sauvé, S.; Bernard, S.; Sloan, P. Environmental sciences, sustainable development and circular economy: Alternative concepts for trans-disciplinary research. *Environ. Dev.*, 2015,17, 48-56.
78. Schroeder, P.; Anggraeni, K.; Weber, U. The relevance of circular economy practices to the sustainable development goals. *J. Ind. Ecol.*, **2019**, 23 (1), pp. 77-95.
79. Suárez-Eiroa, B.; Fernández, E.; Martínez, G.; Soto-Oñate, D. Operational principles of Circular Economy for Sustainable Development: Linking theory and practice. *J. Clean. Prod.*, **2019**, 214, 952-961.
80. Georgescu-Roegen, N. Methods in Economic Science. *J. Econ. Issues*, **1979**, 13 (2): 317–28.
81. Pelenc, J.; Ballet, J. Strong sustainability, critical natural capital and the capability approach. *Ecol. Econ.*, **2015**, 112(C), 36-44.
82. Lagoarde-Segot,T. Sustainable finance. A critical realist perspective. *Res. Int. Bus. Finance.*, **2019**, 47(C),1-9.
83. Norton, B. G. Sustainability, human welfare, and ecosystem health. *Environ Values*, 1992,1, 97–111.
84. Beckerman, W. Sustainable development: Is it a useful concept? *Environ Values*,**1994**, 3, 191–209.
85. Gallopín, G. C. Sostenibilidad y desarrollo sostenible: un enfoque sistémico. Serie Medio Ambiente y Desarrollo. CEPAL-Naciones Unidas, Santiago de Chile, 2003.
86. Rogelj, J.; Elzen, M.; Den, Fransen, T.; Fekete, H.; Winkler, H.; Schaeffer, R.; et al. Perspective: Paris agreement climate proposals need boost to keep warming well below 2 °C. *Nature*, **2016**, 534, 631–639.
87. Blackie, R.; Sunderland, T. Mapping Landscape Guidelines and Principles to the Aichi Targets. Center for International Forestry Research (CIFOR), infoBrief, Bogor, Indonesia, 2015.
88. Steffen, W.; Richardson, K.; Rockström, J.; Cornell, S.; Fetzer, I.; Bennett, E.; et al. Planetary boundaries: guiding human development on a changing planet. *Science*, **2015**, 348(6240), 1217.
89. Egler, H.-P.; Frazao, R. Sustainable infrastructure and finance: how to contribute to a sustainable future. United Nations Environment Programme UNEP (No. 16/09), 2016.
90. Waygood, S. A Roadmap for Sustainable Capital Markets: How can the UN Sustainable Development Goals Harness the Global Capital Markets? Aviva, London, UK, 2014.
91. Shames, S.; Clarvis, M.H.; Kissinger, G. Financing Strategies for Integrated Landscape Investment – Synthesis report. Washington, DC, USA, 2014.
92. Muganyi, T.; Linnan, Y.; Sun, H. P. Green Finance, Fintech and environmental protection: Evidence from China. *Environ. Sci. Technol.*, **2021**, 7.
93. Yu, C. H.; Wu, X.; Zhang, D.; Chen, S.; Zhao, J. Demand for green finance: Resolving financing constraints on green innovation in China. *Energy Policy*, **2021**,153.
94. Alda, M. ESG fund scores in UK SRI and conventional pension funds: Are the ESG concerns of the SRI niche affecting the conventional mainstream. *Finance Res. Lett.*, **2020**, 36.
95. Alda, M. The environmental, social, and governance (ESG) dimension of firms in which social responsible investment (SRI) and conventional pension funds invest: The mainstream SRI and the ESG inclusion. *J. Clean. Prod.*, **2021**, 298.
96. Chen, Y.; Ma, Y. Does green investment improve energy firm performance? *Energy Policy*, **2021**,153(C).
97. Joliet, R.; Titova, Y. Equity SRI funds vacillate between ethics and money: An analysis of the funds' stock holding decisions". *J. Bank Financ.*, **2018**, 97, 70–86.
98. Yesuf, A. J.; Aassouli, D. Exploring synergies and performance evaluation between Islamic funds and socially responsible investment (SRIs) in light of the Sustainable Development Goals (SDGs). *Heliyon*, **2020**, 6(8).
99. Global Sustainable Investment Review. Global Sustainable Investment Alliance. 2020 http://www.gsi-alliance.org/ (Accessed on June 6,2023).
100. Danilov, Y. A. Coalitions for Sustainable Finance and Sustainable Development. *Her. Russ. Acad. Sci.*, **2021**, 92(2), 91–S99.
101. United Nations Principles for Responsible Investment (UN PRI). A road map for responsible investment. 2021 https://www.unpri.org/about-us/what-are-the-principles-for-responsible-investment (Accessed on June 11, 2022).
102. Clark, R.; Reed, J.; Sunderland, T. Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance. *Land Use Policy*, **2018**, 71, 335–346.

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

103. Ari, I.; Koc, M. Philanthropic-crowdfunding-partnership: A proof-of-concept study for sustainable financing in low-carbon energy transitions. *Energy*, **2021**, 222, 119925.
104. Sinha, A.; Mishra, S.; Sharif, A.; Yarovaya, L. Does green financing help to improve environmental and social responsibility? Designing SDG framework through advanced quantile modelling. *J. Environ. Manage.*, **2021**, 292, 112751.
105. Popescu, C.; Popescu, G. An Exploratory Study Based on a Questionnaire Concerning Green and Sustainable Finance, Corporate Social Responsibility, and Performance: Evidence from the Romanian Business Environment. *J. Risk Res.*, **2019**, 12,162, 1-79.
106. Fatemi, A. M.; Fooladi, I.J. Sustainable finance: A new paradigm- *Glob. Finance J.*, **2013**, 24(2),101-113.
107. Elkington, J. *Cannibals with Forks: The Triple Bottom Line of the 21st Century*. New Society Publishers, Gabriola Island, Stony Creek, 1998.
108. Soppe, A. Sustainable Corporate Finance. *J. Bus. Ethics*, **2004**, 53, pp.213-224.
109. Brundtland, G. H. *Our common future*. Oxford University Press, New York, USA, 1987.
110. Weber, O. *Finance and Sustainability. In Sustain. Sci.: An IntroductioN.* edited by Heinrichs, H., Martens, P., Michelsen, G., and Wiek, A., 119–129. New York: Springer, 2005.
111. Pisano, U.; Martinuzzi, A.; Bruckner, B. The Financial Sector and Sustainable Development: Logics, Principles and Actors; ESDN Quarterly Report No 27; European Sustainable Development Network: Vienna, Austria, December 2012.
112. Fullwiler, S. T. *Sustainable finance: Building a more general theory of finance*. Routledge Handbook of Social and Sustainable Finance. (1et Ed) Routledge, London, UK, 2015.
113. Ziolo, M.; Filipiak, B.Z.; Bąk, I.; Cheba, K.; Tîrca, D.M.; Novo-Corti, I. Finance, Sustainability and Negative Externalities. An Overview of the European Context. *Sustainability*, **2019**, 11, 4249.
114. Migliorelli, M.; Dessertine, P. The Rise of Green Finance in Europe: Opportunities and Challenges for Issuers, Investors and Marketplaces. Palgrave Macmillan: London, UK, 2019.
115. European Commission. Communication from the Commission to the European Parliament, the European Coucil, the Council, the European Economic and Social Committee and the Committee of the Regions. The European Green Deal. Official Journal of the European Union, COM/2019/640 final, 2019.
116. Bengo, I.; Boni, L.; Sancino, A. EU financial regulations and social impact measurementpractices: A comprehensive framework on finance forsustainable development. *Corp. Soc. Responsib.* **2022**, 1-11.
117. European Commission. Proposal for a Directive of the European Parliament and of the Council on Corporate Sustainability due Diligence and amending directive (EU) 2019/1937. COM(2022) 71 final (Brussels: European Commission), 2022.
118. European Parliament and the Council. Directive 2014/95/EU of the European Parliament and of the Council—of 22 October 2014—Amending Directive 2013/34/EU as Regards Disclosure of Non-Financial and Diversity Information by Certain Large Undertakings and Groups. Official Journal of the European Union, 2014, L330, 1–9.
119. European Commission. Proposal for a Directive of the European Parliament and of the Council amending Directive 2013/34/EU, Directive 2004/109/EC, Directive 2006/43/EC and Regulation (EU) No 537/2014, as regards corporate sustainability reporting. Official Journal of the European Union, 2021, COM/2021/189 final.
120. European Commission. Communication from the Commission Guidelines on Non-Financial Reporting: Supplement on Reporting Climate-Related Information. Official Journal of the European Union, 2019, C209, 1–30.
121. Cuomo, F.; Gaia, S.; Girardone, C.; Piserà, S. The effects of the EU non-financial reporting directive on corporate social responsibility. *Eur. J. Finance*, **2022**, 1-27.
122. Colaert, V. The Changing Nature of Financial Regulation: Sustainable Finance as a New EU Policy Objective. *Common Mark. Law Rev*, **2022**, 59 (6), 1669-1710.
123. Migliorelli, M. What Do We Mean by Sustainable Finance? Assessing Existing Frameworks and Policy Risks. *Sustainability*, **2021**, 13, 975, 1-17.
124. European Parliament and the Council. Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.
125. Clarkson, M. A stakeholder framework for analyzing and evaluating corporate social performance. *Acad. Manage. Rev.*, **1995**, 20(1), 92–117.
126. Yoon, B.; Lee, J.; Byun, R. Does ESG performance enhance firm performance? Evidence from Korea. **Sustainability**, **2018**, 10(10), 3635.
127. Zhao, C.; Guo, Y.; Yuan, J.; Wu, M.; Li, D., Zhou, Y.; Kang, J. ESG and corporate financial performance: Empirical evidence from China's listed power generation companies. *Sustainability*, **2018**, 10(8), 2607.
128. Baldini, M.; Dal Maso, L.; Liberatore, G.; Mazzi, F.; Terzani, S. Role of Country- and Firm-Level Determinants in Environmental, Social, and Governance Disclosure. *J. Bus. Ethics*, **2018**.

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

129. Lozano, M.B.; Martínez-Ferrero, J. Do emerging and developed countries differ in terms of sustainable performance? Analysis of board, ownership and country-level factors. *Res. Int. Bus. Finance*, **2022**, 62.
130. Eurosif. European SRI study 2010. http://www.eurosif.org/research/eurosif-sri-study. (Accessed on june 11, 2022).
131. United Nations Principles for Responsible Investment (UN PRI). The principles for responsibleinvestment. 2011 http://www.unpri.org/principles/. (Accessed on 11 June 2022).
132. Panait, M.; Voica, M.; Hysa,E.; Siano, A.; Palazzo,M. The Bucharest Stock Exchange:A Starting Point in Structuring a Valuable CSR Index. *J. Risk Financ. manag.*, **2022**, 15, 94.
133. United Nations. Transforming our world: The 2030 Agenda for sustainable development. United Nations General Assembly, New York,USA, 2015. https://sdgs.un.org/2030agenda (Accessed on June,11 2022).
134. Biermann,F.; Kanie, N.; Kim, R. E. Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals. *Curr. Opin. Environ. Sustain.* , **2017**, 26–27, 26-31.
135. Stevens, C.; Kanie, N. The transformative potential of the Sustainable Development Goals (SDGs). *Int. Envirom. Agreem-P*, **2016**, 16, 393–396.
136. United Nations. Transforming our world: The 2030 Agenda for sustainable development, 2018. https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf (Accessed on June 11, 2022).
137. Rendtorff, J.D. Philosophy of Management and Sustainability: Rethinking Business Ethics and Social Responsibility in Sustainable Development. Emerald Group Publishing, Bingley, UK, 2018.
138. Hawley, J. P. Political Voice, Fiduciary Activism, and the Institutional Ownership of U.S. Corporations: The Role of Public and Non-Corporate Pension Funds. *Sociol. Perspect.*, **1995**, 38(3), 415-435.
139. Richardson, B. Keeping Ethical Investment Ethical: Regulatory Issues for Investing for Sustainability. *J. Bus. Ethics*, **2009**, 87(4), 555-572.
140. Sparkes, R.; Cowton, C. J. The Maturing of Socially Responsible Investment: A Review of the Developing Link with Corporate Social Responsibility. *J. Bus. Ethics*, **2004**, 52(1), 45-57.
141. Sethi, S. Investing in Socially Responsible Companies is a Must for Public Pension Funds – Because There is no Better Alternative. *J. Bus. Ethics*, **2005**, 56: 99–129.
142. Renneboog, L.; Ter Horst, J.; Zhang, C. Socially Responsible Investments: Institutional Aspects, Performance, and Investor Behavior. *J. Bank Financ.*,2008, 32 (9): 1723– 1742.
143. Bollen, N. P. B. Mutual Fund Attributes and Investor Behavior. *J. Financial Quant. Anal.*, **2009**, 42 (3): 683–708.
144. Cowton, C. **The Development of Ethical Investment Products**, in A.R. Prindl and B. Prodhan (eds.), The Association of Corporate Treasurers Guide to Ethical Conflicts in Finance (Blackwell Publishers), Nueva Jersey, USA,1994.
145. Mill, G. A. The Financial Performance of a Socially Responsible Investment Over Time and a Possible Link with Corporate Social Responsibility. *J. Bus. Ethics*, **2006**, 63 (2): 131–148.
146. Woods, C.; Urwin, R. Putting sustainable investing into practice: A governance framework for pension funds. *J. Bus. Ethics*, **2010,** 92(1), 1–19.
147. Miralles-Quirós, M.M.; Miralles-Quirós, J.L. Improving Diversification Opportunities for Socially Responsible Investors. J Bus Ethics, **2017**, 140, 339–351.
148. UN SSE Initiative. Sustainable Stock Exchange Initiative. 2019 http://www.sseinitiative.org/ (Accessed on 28 October 2023)
149. UN SSE Initiative. Sustainable Stock Exchange Initiative. 2023 http://www.sseinitiative.org/ (Accessed on 28 October 2023)
150. Searcy, C.; Elkhawas, D. Corporate sustainability ratings: An investigation into how corporations use the Dow Jones Sustainability Index. *J. Clean. Prod.*, **2012**, 35, 79–92.
151. Esrock, S. L.; Leichty, G. B. Social responsibility and corporate web pages: Self-presentation or agenda-setting? *Public Relat Rev.*, **1998**, 24(3),305-319.
152. Kolk, A. Trends in sustainability reporting by the Fortune Global 250. *Bus. Strategy Environ.*, **2003**, 12(5), 279-291.
153. Jose, A.; Lee, S.M. Environmental Reporting of Global Corporations: A Content Analysis Based on Website Disclosures. *J. Bus. Ethics*, **2007**, 72, 307-321.
154. Tate, W.L.; Ellram, L.M.; Kirchoff, J.F. Corporate social responsibility reports: a thematic analysis related to supply chain management. *J. Supply Chain Manag.*, **2010**, 46: 19-44.
155. Skouloudis,A.; Evangelinos,K.; Kourmousis,F. Assessing non-financial reports according to the Global Reporting Initiative guidelines: evidence from Greece. *J. Clean. Prod.*, **2010**, 18(5),426-438.
156. Global Reporting Initiative (GRI). Global Reporting Initiative (GRI) Sustainability Reporting Guidelines GRI, Boston, USA, 2022.
157. Daszynska- Zygadło, K. Impact of CSR on Operating Financial Results: The Case of Companies from RESPECT Index". Corporate Social Responsibility in Poland. Springer Cham, New York, USA, 2019.

 doi:10.20944/preprints202312.1660.v1

158. Van Zanten, J.A.; Van Tulder, R. Multinational enterprises and the Sustainable Development Goals: An institutional approach to corporate engagement. *J. Int. Bus. Policy*, **2018**, 1(3– 4): 208–223.
159. Gupta, J.; Vegelin, C. Sustainable development goals and inclusive development. *Int. Envirom. Agreem-P.*, **2016**, 16, 433–448.
160. OECD. Global Outlook on Financing for Sustainable Development 2023: No Sustainability Without Equity, OECD Publishing, Paris, France, 2020. https://doi.org/10.1787/fcbe6ce9-en (Acessed on 10 June 2020).
161. United Nations. Sustainable Development Goals Report 2022. United Nations General Assembly, New York, USA, 2020. https://www.un.org/development/desa/dspd/2022/07/sdgs-report/ (Accessed on 11 June 2022).
162. Nilsson, M.; Chisholm, E.; Griggs, D.; Howden-Chapman, P.; McCollum, D.; Messerli, P.; Neumann, B.; Stevance, A. S.; Visbeck, M.; Stafford-Smith, M. Mapping interactions between the sustainable development goals: lessons learned and ways forward. *Sustain. Sci.*, **2018**, 13, 1489–1503.
163. Kremer, M.; Biesheuvel, W. Aligning a corporate sustainability performance measurement system with the Sustainable Development Goals: A case study at a global automotive supplier. Master's Thesis, Quality and Operations Management and Management and Economics of Innovation, Chalmers University of Technology, Sweden, June 2017. Chalmers Open Digital Repostory. Available online: https://odr.chalmers.se/server/api/core/bitstreams/dd4d2c8a-4190-4927-ab98-d505257fbbd7/content (Acessed on 10 June 2020).
164. O'Higgins, E.; Zsolnai, L. *Progressive Business Models: Creating Sustainable and Pro-Social Enterprise*. Palgrave Macmillan, London and New York: USA, 2017.
165. Verboven, H. and Vanherck,L. Sustainability management of SMEs and the UN. *Uwf Umweltwirtschaftsforum*, **2016**, 24(2–3): 165–178.
166. United Nations. More money needed to implement Sustainable Development Goals, Secretary General tells ECOSOC Financing for Development Forum, calling 2019 "Defining Year". Secretary General. Statements and Messages. SG/SM/19546-ECOSOC/6973-DEV/3397, 2019. https://www.un.org/press/en/2019/sgsm19546.doc.htm (Accessed on June,11 2022).
167. Ziolo, M.; Bak, I.; Cheba, K. The role of sustainable finance in achieving Sustainable Development Goals: does it work? *Technol. Econ. Dev. Econ.*, **2021**, 27(1), 45-70.
168. Aspinall, N. G.; Jones, S. R.; Mc Neill, E. H.; Werner, R. A.; Zalk, T. Sustainability and the financial system. Review of literature 2015. *Br. Actuar. J.*, **2018**, 23, e10.
169. Ferreira, M. C.; de Carvalho, R.; Amorim, S. V.; Kimura, H.; de Moraes Barboza, F. L. A. systematic review of literature about finance and sustainability. *J. Sustain. Finance Invest.*, **2016**, 6(2), 112–147.
170. Constantin, M.; Dinu, M.; Pătărlăgeanu, S.R.; Chelariu, C. Sustainable Development Disparities in the EU-27 Based on R&D and Innovation Factors. *Amfiteatru Econ.*, **2021**, 23 (15), 948-963.
171. Ahlberg, M. Sustainable Development in Sweden – a success story. *L'Europe en Formation*, **2009**, 352(2), 157-179.
172. Berglund, T.; Gericke, N.; Boeve-de Pauw, J.; Olsson, D.; Chang, T.-C. A cross cultural comparative study of sustainability consciousness between students in Taiwan and Sweden. *Environ. Dev. Sustain.*, **2020**, 22(7), 6287-6313.
173. United Nations Principles for Responsible Investment (UN PRI). Frequently Asked Questions,2009. http://www.unpri.org/faqs/. (Accessed on September 25, 2022).
174. Peillex, J.; Comyns, B. Why do financial companies adopt the United Nations Principles for Responsible Investment? *Account. Audit. Control.*, **2020**, 26,79-117.
175. Sievänen, R.; Sumelius, J.; Islam, K. M. Z.; Sell, M. From struggle in responsible investment to potential to improve global environmental governance through UN PRI. *Int. Environ Agreem-P.*, **2013**, 13,197–217.
176. Gond, J.-P.; Piani, V.Enabling institutional investors' collective action: The role of the principles for responsible investment initiative. *Bus Soc.*, **2013**, 52 (1): 64-104.
177. Abdelkafi, N.; Täuscher, K. Business models for sustainability from a system dynamics perspective. *Organ. Environ.*, **2016**, 29, 74–96.
178. Escrig-Olmedo, E.; Fernández-Izquierdo, M.; Ferrero-Ferrero, I.; Rivera-Lirio, J.; Muñoz-Torres, M. Rating the Raters: Evaluating how ESG Rating Agencies Integrate Sustainability Principles. *Sustainability*, **2019**, 11(3), 915.
179. Lozano, R. A holistic perspective on corporate sustainability drivers. *Corp. Soc. Responsib*, **2015**, 2, 22,32–44.
180. Mackenzie, C.; Rees, W.; Rodionova, T. Do responsible investment indices improve corporate social responsibility? FTSE4Good's impact on environmental management. *Corp. Gov.*, **2013**, 21, 495–512.
181. Avetisyan, E.; Hockerts, K. The consolidation of the ESG rating industry as an enactment of institutional retrogression. *Bus. Strategy Environ.*, **2017**, 26, 316–330.
182. SustainAbility. Rate the Raters 2019: Expert Views on ESG Ratings. 2019 https://www.sustainability.com/thinking/rate-raters-2019/ (Accessed on 5 june 2023)
183. Lydenberg, S.; White, A. *Responsible investment indexes. Origins, nature and purpose.* Routledge Handbook of Responsible Investment. Eds. T. Hebb, et al. Routledge: New York, USA, 2015.

184. Bowen, F. After Greenwashing: Symbolic Corporate Environmentalism and Society. Cambridge University Press: Cambridge, UK, 2014.
185. Mooij, S. The ESG Rating and Ranting Industry: Vice or Virtue in the Adoption of Responsible Investment? *J. Environ. Investing*, **2017**, 8(1), 331 – 351.
186. Muñoz-Torres, M. J.; Fernández-Izquierdo, M. Á.; Rivera-Lirio, J.M.; Escrig-Olmedo, E. Can environmental, social, and governance rating agencies favor business models that promote a more sustainable development? *Corp. Soc. Responsib. Environ. Manag.*, **2019**, 26, 439– 452.
187. Eccles, R. G.; Ioannou, I.; Serafeim, G. The Impact of Corporate Sustainability on Organizational Processes and Performance. *Manag. Sci.*, **2014**, 60(11), pp. 2835-2857.
188. Doh, J. P.; Howton, S. D.; Howton, S. W.; Siegel, D. S. Does the market respond to an endorsement of social responsibility? The role of institutions, information, and legitimacy. *J. Manage.*, **2010**, 36(6), 1461–1485.
189. Delmas, M.; Etzion, D.; Nairn-Birch; N. Triangulating environmental performance: what do corporate social responsibility ratings really capture? *Acad. Manag. Perspect.*, **2013**, 27(3), 255–267.
190. Chatterji, A. K.; Durand, R.; Levine, D. I.; Touboul S. Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strateg. Manag. J.*, **2016**, 37, 1597–1614.
191. Berg, F.; Kölbel, J.F.; Rigobon, R. Aggregate Confusion: The Divergence of ESG Ratings. *Rev Financ.*, **2022**, 26 (6), 1315–1344.
192. Kimbrough, M. D.; Wang, X.; Wei, S.; Zhang, J. Does Voluntary ESG Reporting Resolve Disagreement among ESG Rating Agencies? *Eur Account Rev*, **2022**.
193. Saadaoui, K.; Soobaroyen, T. An analysis of the methodologies adopted by CSR rating agencies. *Sustain. Account. Manag. Policy J.*, **2018**, 9, 43–62.
194. Sandberg, J.; Juravle, C.; Hedesstrom, T.M.; Hamilton, I. The heterogeneity of socially responsible investment. *J. Bus. Ethics*, **2009**, 87, 519–533.
195. SustainAbility. Rate the Raters 2023: ESG Ratings at a Crossroads. 2023 https://www.sustainability.com/thinking/rate-the-raters-2023/ (Accessed on 5 june 2023).
196. FTSE Russell. ESG score. 2023 https://www.ftserussell.com/data/sustainability-and-esg-data/esg-ratings (Accessed on 6 June 2023).
197. Euronext Indices. ESG providers methodologies rulebook. 2021 indices.euronext.com (Accessed on 6 June 2023).
198. MSCI. ESG Ranting. 2023 https://www.msci.com/our-solutions/esg-investing/esg-ratings (Accessed on 4 October 2022).
199. S&P Global Ratings. ESG Evaluation, Sustainable Practices, Sustainable Returns. 2023 https://www.spglobal.com/ratings/en/research/pdf-articles/190401-esg-evaluation-brochure (Accessed on 6 June 2023).
200. Sustainalytics. ESG Risk Ratings -Methodology Abstract. 2021 https://www.sustainalytics.com/esg-data (Accessed on 1 june 2023).
201. Veenstra, E.M.; Ellemers, N. ESG Indicators as Organizational Performance Goals: Do Rating Agencies Encourage a Holistic Approach? *Sustainability*, **2020**, 12, 10228.
202. Clementino, E.; Perkins, R. How Do Companies Respond to Environmental, Social and Governance (ESG) ratings? Evidence from Italy. *J. Bus. Ethics*. **2021**, 171, 379–397.
203. Zumente, I.; Lāce, N. ESG Rating—Necessity for the Investor or the Company? *Sustainability*, **2021**, 13, 8940.
204. Bianchi, R. J. and Drew, M. E. Sustainable stock indices and long-term portfolio decisions. *J. Sustain. Finance Invest.*, **2012**, 2:3-4, 303-317.
205. Elkington, J. Triple Bottom-Line Reporting: Looking for Balance. Australian CPA, 1999, 69 (2):18–21.
206. Fernández-Izquierdo, M., Muñoz-Torres, M. Inversión socialmente responsable: Estrategias, Instrumentos, medición y factores de Impulso. Documento AECA serie Responsabilidad Social Corporativa, núm.5, 2009.
207. Del Mar Miralles-Quiros, M.; Miralles-Quiros, J. L.; Guia-Arraiano, I. Sustainable Development, Sustainability Leadership and Firm Valuation: Differences across Europe. *Bus. Strategy Environ.*, **2017**, 26: 1014–28.
208. Santis, P.; Albuquerque, A.; Lizarelli, F. Do sustainable companies have a better financial performance? A study on Brazilian public companies. *J. Clean. Prod.*, **2016**, 133: 735–45.
209. Jain, M.; Sharma, G. D.; Srivastava, M. Can Sustainable Investment Yield Better Financial Returns: A Comparative Study of ESG Indices and MSCI Indices. *Risks*, **2019**, 7(1), 15.
210. Kurnoga, N.; Šimurina, N.; Fučkan, F. Performance Differences between ESG Indices and Conventional Market Indices: a Multivariate Analysis of Indices. *Zagreb Int. Rev. Econ. Bus.*, **2022**, 25(s1) 85-103.
211. Plastun, A.; Bouri, E.; Gupta, R., Price, Q. J. Effects after one-day abnormal returns in developed and emerging markets: ESG versus traditional indices. *North Am. J. Econ. Finance.*, **2022**, 59.
212. Whelan, T.; Atz, U. ESG and financial performance: Uncovering the Relationship by Aggregating Evidence from 1, 000 Plus Studies Published between 2015 – 2020. Rockefeller Asset Management, Center for Sustainable Business. Available online:

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 22 December 2023 doi:10.20944/preprints202312.1660.v1

https://www.stern.nyu.edu/sites/default/files/assets/documents/NYU-RAM_ESG-Paper_2021%20Rev_0.pdf (Accessed on 7 June 2023).
213. Ortas, E.; Moneva, J. M.; Burritt, R.; Tingey-Holyoak, J. Does sustainability investment provide adaptive resilience to ethical investors? evidence from Spain. *J. Bus. Ethics*, **2014**, 124, 297–309.
214. Fernández, M.S.; Ahmad, A. A.; Ghadeer M. K. Do German green mutual funds perform better than their peers. *Int. J. Bus. Econ. Res.*, **2019**, 10, 297–312.
215. Wu, J.; Lodorfos,G.; Dean, A.; Gioulmpaxiotis, G. The Market Performance of Socially Responsible Investment during Periods of the Economic Cycle—Illustrated Using the Case of FTSE. *Manage. Decis. Econ.*, 2017, 38, pp.238–51.
216. Guerard, J.B. Additional Evidence on the Cost of Being Socially Responsible in Investing. *J. Invest.*, **1997**, 6,31–36.
217. Guerard, J. B. Is there a cost to being socially responsible in investing. The *J. Invest.*, **1997**, 6,11–18.
218. La Torre, M.; Mango, F.; Cafaro, A.; Leo, S. Does the ESG Index Affect Stock Return? Evidence from the Eurostoxx50. *Sustainability*, **2020**, 12(16), 6387.
219. Euronext. Index rule book. Euronext Vigeo® Family. 2020 https://www.euronext.com/en/for-investors/indices (Accessed on 6 June 2023).
220. S&P Dow Jones Indices. Dow Jones Sustainability Indices Methodology. 2023 https://www.spglobal.com/spdji/en/index-family/esg/core-esg/dow-jones-sustainability-indices/#indices (Accessed on 6 June 2023).
221. Arco-Castro,M. L.; López-Pérez,M. V.; Macías-Guillén, A.; Rodríguez-Ariza, L. The role of socially responsible investors in environmental performance. An analysis of proactive and reactive practices. *J. Clean. Prod.*, **2023**, 419.
222. Tanjung, M. Can we expect contribution from environmental, social, governance performance to sustainable development?. *Business Strategy and Development*, **2021**, 4, 386–398.
223. Calvert Research and Management. Calvert us responsible indices. Index Rules and Methodology. 2020 https://www.calvert.com/calvert-indexes.php (Accesed on 6 june 2023).
224. MSCI. MSCI SRI indexes. 2021 https://www.msci.com/msci-sri-indexes#:~:text=MSCI%20SRI%20Indexes%20The%20MSCI%20Socially%20Responsible%20Investing,each%20sector%20according%20to%20their%20MSCI%20ESG%20Ratings (Accesed on 6 june 2023).
225. Khanchel, I.; Lassoued, N. Is it hard to be different during the COVID-19 crisis? Investigating the relationship between corporate social responsibility and earnings management. *Int. J. Ethics Syst.*, **2022**.
226. Ching-Hui,S.; Chun-Da, C. Does sustainability index matter to the hospitality industry?. *Tour. Manag.*, **2020**, 81.
227. Hsu, C.W.; Chang, D.S. Investigating critical organizational factors toward sustainability index: Insights from the Taiwanese electronics industry. *Bus Ethics.*, **2017**, 26, 468–479.
228. Reynolds, M.; Yuthas, K. Moral discourse and corporate social responsibility reporting. *J. Bus. Ethics*,2008, 78 (1-2), 47-64.
229. Giannarakis G. The determinants influencing the extent of CSR disclosure. *Int. J. Law Manag.*, 2014, 56(5), 393–416.
230. Cucari, N.; De Falco, S. E.; Orlando, B. Diversity of Board of Directors and Environmental Social Governance: Evidence from Italian Listed Companies. *Corp. Soc. Responsib.*, **2018**, 25, 250–266.
231. Khemakhem, H.; Arroyo, P., Montecinos, J. Gender diversity on board committees and ESG disclosure: evidence from Canada. *J. Manag. Gov.*, **2022**, 27, 1397–1422.
232. Bloomberg. ESG and Sustainable Finance Solutions. 2023 https://www.bloomberg.com/professional/solution/sustainable-finance/?tactic-page=588597 (Accesed on 9 June 2023).
233. Tamimi, N.; Sebastianelli, R. Transparency among S&P 500 companies: an analysis of ESG disclosure scores. *Manag. Decis.*, **2017**, 55(8), 1660-1680.
234. Talan, G.; Sharma, G.D. Doing Well by Doing Good: A Systematic Review and Research Agenda for Sustainable Investment. *Sustainability* **2019**, 11, 353.
235. Aboud, A.; Diab, A. The impact of social, environmental and corporate governance disclosures on firm performance: Evidence from Egypt. *J. Account.*, **2018**, 8(4), 442-458.
236. Dedman, E. The Cadbury Committee Recommendations on Corporate Governance - A Review of Compliance and Performance Impacts. *Int. J. Manag. Rev.*, **2003**, 4(4),335-352.
237. Roach, L. The Uk Stewardship Code. *J. Corp. Law Stud.*, **2011**, 11, 463-493.
238. Haxhi, I., Van Ees, H.; Sorge, A. A Political Perspective on Business Elites and Institutional Embeddedness in the UK Code-Issuing Process. *Corp. Gov.*, **2013**, 21, 535-546.
239. Magnier, V. Harmonization Process for Effective Corporate Governance in the European Union: From a Historical Perspective to Future Prospects. *J. Law Soc.*, **2014**, 41, 95-120.

240. Financial Reporting Council. The UK Corporate Governance Code Financial Reporting Council. 2018 https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.pdf (Accessed on 2 October 2022).
241. Cadbury, A.The Report of the Committee on the Financial Aspect of Corporate Governance. Gee and Co. Ltd., London, UK, 1992. https://www.frc.org.uk/getattachment/9c19ea6f-bcc7-434c-b481-f2e29c1c271a/The-Financial-Aspects-of-Corporate-Governance-(the-Cadbury-Code).pdf (Accessed on 30 September 2022).
242. Greenbury Committee. Directors' remuneration: Report of a study committee chaired by Sir Richard Greenbury. Gee and Co. Ltd., London, UK, 1995. file:///C:/Users/usuario/Downloads/greenbury.pdf (Accessed on 30 September 2022).
243. Hampel Committee. The Hampel Committee: Final Report. The European Corporate Governance Institute. Gee Publishing Ltd, London, UK, 1998. https://ecgi.global/code/hampel-report-final (Accessed on 30 September 2022).
244. Combined Code. The combined code: Principles of good governance and code of best practice derived by the Committee on Corporate Governance from the committee's. Final Report and from the Cadbury and Greenbury Reports. Gee Publishing Ltd, London, UK, 1998. https://www.frc.org.uk/getattachment/53db5ec9-810b-4e22-9ca2-99b116c3bc49/Combined-Code-1998.pdf
245. Financial Reporting Council. The UK Corporate Governance Code Financial Reporting Council 2018. https://www.frc.org.uk/getattachment/88bd8c45-50ea-4841-95b0-d2f4f48069a2/2018-UK-Corporate-Governance-Code-FINAL.pdf (Accessed on October 2, 2022).
246. Conseil National du Patronat Francais . Vienot, I Report. 1995 https://ecgi.global/code/vienot-i-report (Accessed on October 3,2022).
247. Conseil National du Patronat Francais. Vienot II Report. 1995 https://ecgi.global/code/vienot-ii-report (Accessed on October 3,2022).
248. Bouton, D. Promoting Better Corporate Governance in Listed Companies. 2002 https://ecgi.global/code/promoting-better-corporate-governance-listed-companies (Accessed on October 2, 2022)
249. French Association of Large Companies (AFEP) and the Movement of the Enterprises of France (MEDEF). Corporate Governance Code of Listed Companies. 2003 Https://www.ecgi.global/sites/default/files/codes/documents/cg_oct03_en.pdf (Accessed on 2 October 2022).
250. Charreaux, G. and Wirtz, P. Corporate Governance in France. Working Papers CREGO 1070201, UniversitÃ© de Bourgogne - CREGO EA7317 Centre de recherches en gestion des organisations, 2007.
251. Lückerath-Rovers, M. A Comparison of Gender Diversity in the Corporate Governance Codes of France, Germany, Spain, the Netherlands and the United Kingdom. *Electron. J.*, **2010**, 1,40.
252. Zenou, E.; Allemand, I.; Brullebaut, B. Gender Diversity on French Boards: Example of a Success from a Hard Law. In: Seierstad, C., Gabaldon, P.; Mensi-Klarbach, H. (eds) Gender Diversity in the Boardroom. Palgrave Macmillan, Cham, 2017.
253. Elage, A.; Mard, Y. Corporate governance code and earnings management: The French case. *Account. Audit. Control.*, **2018**, 24, 113-147.
254. Olivencia, M. El código del buen gobierno de la empresa, Documento ÉTNOR no. 4. 1998. https://etnor.org/wp-content/uploads/2017/02/pub_olivencia.pdf (Accessed on 2 October 2022).
255. Fernández- Fernández, J.L. Ethics and the board of directors in Spain: The Olivencia code of good governance. *J. Bus. Ethics*, 1999, 22(3), 233–247.
256. Special Commission to foster transparency and security in the markets and listed companies. Aldama Commission. 2003 https://www.cnmv.es/DocPortal/Publicaciones/CodigoGov/INFORMEFINAL_Een.PDF (Accessed on October 2, 2022).
257. Chivite, S.; Monroy, C. R. Análisis de los diez años de Gobierno Corporativo en España y cumplimiento del Código Unificado o Código Conthe. *Dirección y Organización. Revista de Ingeniería de Organización*, **2009**, 37.
258. Law 26/2003 of 2003. Which modifies Law 24/1988, of July 28, on the Stock Market, and the revised text of the Public Limited Companies Law, approved by Royal Legislative Decree 1564/1989, of December 22, in order to reinforce the transparency of listed public limited companies. 17 July 2003.
259. Ley 31/2014, de 3 de diciembre, por la que se modifica la Ley de Sociedades de Capital para la mejora del gobierno corporativo. https://www.boe.es/eli/es/l/2014/12/03/31
260. ECO/3722/2003 of 2003. Relative of the annual corporate governance report and other information instruments of listed corporations and other entities. 26 December 2003.
261. National Stock Market Commission (CNMV). Unified Good Governance Code of Listed Companies. 2006 https://www.cnmv.es/DocPortal/Publicaciones/CodigoGov/Codigo_unificado_Esp_04.pdf
262. National Stock Market Commission (CNMV) (2020) Good Governance Code of Listed Companies https://www.cnmv.es/portal/Publicaciones/CodigosGovCorp.aspx

263. Seibert, U. Control and Transparency in Business (KonTraG): Corporate Governance Reform in Germany. *Eur. Bus. Law Rev.*, **1999**,10 (2).
264. Government Commission on the German Corporate Governance Code. German Corporate Governance Code. 2020, Berlin, Germany. https://dcgk.de/files/dcgk/usercontent/en/download/code/220627_German_Corporate_Governance_Code_2022.pdf
265. Ilmonen, K. R. A Political Narrative of Nordic Corporate Governance: Shareholders, Stakeholders and Change of Control. *Eur. Bus. Law Rev.*, **2015**, 489-538.
266. Gilson, R. Controlling Shareholders and Corporate Governance: Complicating the Comparative Taxonomy, (August 2005). ECGI - Law Working Paper No. 49/2005 1642
267. Nordic Corporate Governance. Danish Corporate Governance Committee Finnish Securities Market Association, Icelandic Committee on Corporate Governance, Norwegian Corporate Governance Board, Swedish Corporate Governance Board, 2022. https://corporategovernance.dk/sites/default/files/media/document/corporate-governance-in-the-nordic-countries_sep2022_wa.pdf (Accessed on 3 October 2022).
268. Li, H.; Chen, P. Board gender diversity and firm performance: The moderating role of firm size. *Bus Ethics.*, **2018**, 27:294–308.
269. Gonçalves, T. C. Gaio, C.; Rodrigues, M. The Impact of Women Power on Firm performance. *Administrative Sciences*, **2022**, 12: 93, 1-15.
270. Goodman, J. S.; Fields, D. L.; Blum, T. C. Cracks in the glass ceiling: In what kinds of organizations do women make it to the top? *Group Organ. Manag.*, **2003**, 28(4), 475-501.
271. Ryan, M. K.; Haslam, S. A. The Glass Cliff: Evidence that Women are Over-Represented in Precarious Leadership Positions". British *J. Manage.*, **2015**, 16, 81-90.
272. Farag, H.; Mallin, C. The impact of the dual board structure and board diversity: Evidence from Chinese Initial Public Offerings (IPOs). *J. Bus. Ethics*, **2016**, 139(2), 333-349.
273. Manta, F.; Tarulli, A.; Morrone, D.; Toma, P. Toward a Quadruple Bottom Line: Social Disclosure and Financial Performance in the Banking Sector. *Sustainability*, **2020**, 12:1-18.
274. Mohamed, J.; Nordmanb, C. J.; Wolff, F.C. Evidence on the glass ceiling effect in France using matched worker-firm data. *Appl. Econ.*, **2018**, 40, 3233–3250.
275. Perales, F. Occupational sex-segregation, specialized human capital and wages: evidence from Britain. *Work Employ. Soc.*, **2013**, 27(4), 600–620.
276. Pucheta-Martinez, M.C.; Bel-Oms, I. The gender gap in pay in company boards. *Ind. Corp. Chang.*, **2015**, 24(2),467–510.
277. Becker, G.S. Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education. 3rd Edition, The University of Chicago Press, Chicago, USA, 1964.
278. Wood, R. G.; Corcoran, M. E.; Courant, P. N. Pay differences among the highly paid: the male-female earnings. *J. Labor Econ.*, **1993**, 11(3), 417–441.
279. Lips, H. M. The gender pay gap: concrete indicator of women's progress toward equality. *Anal. Soc. Issues Public Policy*, **2003**, 3(1), 87–109.
280. Anker, R. La segregación profesional entre hombres y mujeres. *Revista Internacional del Trabajo*, **1997**, 116 (3), 343-370.
281. Longarela, I. R. Explaining vertical gender segregation: a research agenda. *Work Employ. Soc.*, **2017**, 31(5), 861–871.
282. Kreitz-Sandberg, S. Gender inclusion and horizontal gender segregation: stakeholders' strategies and dilemmas in Swedish teachers' education. *Gender and Education*, **2013**, (25), 4, 444-465.
283. Hakim, C. Occupational segregation: A comparative study of the degree and pattern of the differentiation between men and women's work in Britain, the United States and other countries. London: Department of Employment. Research Paper, No. 9, 1979.
284. Walby, S. Gender Segregation at Work. Open University Press, 1988.
285. Charles, M.; Bradley, K. Indulging our gendered selves? Sex segregation by field of study in 44 countries. *Am. J. Sociol*, **2009**, 114 (4), 924-976.
286. Tobío, C. Cuidado e identidad de género. De las madres que trabajan a los hombres que cuidan. *Revista Internacional de Sociología*, **2012**, 70 (2), 399-422.
287. Valentova, M.; Šmídová, I.; Katrňák, T. Gender Segregation in the Labour Market Placed in the Context of Educational Segregation: Cross-National Comparison. *Sociologia*, **2007**, 39(3), 214-244.
288. Abbas, Q.; Hameed, A.; Waheed, A. Gender Discrimination & Its Effect on Employee Performance/Productivity. *Int. J. Humanit.*, **2011**, 1 (15).
289. Dolado, J.; Felgueroso, F.; Jimeno, J. F. Where do women work? Analysis patterns of occupational segregation by gender. *Annales d'Economie et de Statistique*, **2004**, 71–72, 293–315.
290. Leaker, D. The gender pay gap in the UK. *Econ. Labour Relat. Rev.*, **2008**, 2(4), 19–31.

 doi:10.20944/preprints202312.1660.v1

291. Olsen, W.; Gash, V.; Vandecasteele, L.; Heuvelman, H.; Walthery, P. The gender pay gap in the UK 1995–2008. Work Pensions and Labour Economics Group. WPEG 2009 Annual Conference. University of Nottingham, 2009.
292. Lluch, A.; Salvaj, E. Women may be climbing on board, but not in first class: A long-term study of the factors affecting women's board participation in Argentina and Chile (1923–2010), *Business History*, **2022**.
293. Marlow, S. Self-Employed Women. New Opportunities, Old Challenges? *Entrepreneurship Reg. Dev.*, **1997**, 9, 199-210.
294. International Labor Organization. Towards a better future for women and work: Voices of women and men. 2016 https://www.ilo.org/global/publications/books/WCMS_546256/lang--en/index.htm (Accessed on 30 September 2022).
295. Grant Thornton. Women in business: a window of opportunity. 2021 https://www.grantthornton.es/en/insights/women-in-business-2021/#:%7E:text=The%20Women%20in%20Business%202021,level%20roles%20held%20by%20women (Accessed on September 30, 2022).
296. Oakley, J. G. Gender-based Barriers to Senior Management Positions: Understanding the Scarcity of Female CEOs. *J. Bus. Ethics*, ***2020***, 27, 321–334.
297. Dezső, C.L.; Ross, D.G.; Uribe, J. Is there an implicit quota on women in top management? A large-sample statistical analysis. *Strateg. Manag. J.*, **2016**, 37, 98-115.
298. Furlotti, K.; Mazza, T.; Tibiletti, V.; Triani, S. Women in top positions on boards of directors: gender policies disclosed in Italian sustainability reporting. *Corp. Soc. Responsib.*, **2019**, 26: 57– 70.
299. Bookman, A.; Morgen,S. Rethinking Women and Politics: An Introductory Essay. In Women and the Politics of Empowerment, ed. Ann Bookman and Sandra Morgen. Philadelphia: Temple University Press, 3–29, 1988.
300. Eagly, A. H.; Carli, L. L. Through the labyrinth: The truth about how women become leaders. Harvard Business School Press, 2007.
301. Ryan, M. K.¸ Haslam, S. A. The glass cliff: exploring the dynamics surrounding the appointment of women to precarious leadership positions. *Acad. Manage. Rev.*, **2007**, 32, 549– 572.
302. Gallo, P.; Balogová, B.; Čabinová, V. and Dobrovič, J. The perception of gender stereotypes in managerial positions of industrial companies. Polish *J. Manag. Stud.*, **2021**, 23(2), 149-164.
303. Campbell, K.; Mínguez-Vera, A. Gender diversity in the boardroom and firm financial performance. *J. Bus. Ethics*, **2008**, 83(3), 435–451.
304. Perryman, A.; Fernando, G.; Tripathy,A. Do gender differences persist? An examination of gender diversity on firm performance, risk, and executive compensation. *J. Bus. Res.*, **2016**, 69(2), 579-586.
305. OECD. Corporate Governance Factbook. 2021 https://www.oecd.org/corporate/corporate-governance-factbook.htm (Accessed on 1 October 2022).
306. Martínez-García, I. and Gómez-Ansón, S. Effectiveness of Gender Regulations on Boards of Directors: The Role of the Institutional Environment. *CNMV Bulletin, Quarter* I, **2020**, 149-176.
307. Dahlerup, D.Women, Quotas and Politics. Routledge, London, UK, ed. 2006.
308. Geissel, B.; Hust, E. Democratic mobilisation through quotas: experiences in India and Germany. *Commonw*, **2005**, 43(2), 222–44.
309. French Association of Large Companies (AFEP) and the Movement of the Enterprises of France (MEDEF). Corporate Governance Code of Listed Companies. 2022 https://investors.societegenerale.com/fr/strategie-et-gouvernance/gouvernance/code-afep-medef#:~:text=Le%20code%20de%20r%C3%A9f%C3%A9rence%20en%20mati%C3%A8re%20de%20gouvernance,r%C3%A9mun%C3%A9ration%20des%20dirigeants%2C%20le%20contr%C3%B4le%20et%20la%20transparence
310. (Accessed on 2 October 2022).
311. Law no. 2011-103 of 2011. Relative to balanced representation of female and men within the boards of directors and supervisory boards and on professional equality. 27 January 2011.
312. Law number 2021-1774. Accelerating economic and professional equality. December 24, 2021. France https://www.legifrance.gouv.fr/jorf/id/JORFARTI000044559205
313. The European Institute for Gender Equality. Statistical brief: gender balance in business and finance. 2021. https://eige.europa.eu/publications-resources/publications/statistical-brief-gender-balance-business-and-finance-2021 (Accessed on 3 October 2022).
314. Act 3/2007 for Effective Equality between Female and Men https://www.mjusticia.gob.es/es/AreaTematica/DocumentacionPublicaciones/Documents/Organic_Act_for_Effective_Equality_Between_Women_and_Men_%28Ley_de_Igualdad%29.PDF
315. National Securities Market Commission (CNMV) 2021. The Annual Corporate Governance Reports (ACGRs). https://www.cnmv.es/Portal/Publicaciones/PublicacionesGN.aspx?id=21&lang=en (Accessed 4 on October 2022).

316. Act to Supplement and amend the Regulations for the Equal Participation of Women in Management Positions in the Private Sector and the Public Sector. 2015 https://dip.bundestag.de/vorgang/.../64384 (Accessed 4 on October 2022).
317. Act to Supplement and amend the Regulations for the Equal Participation of Women in Management Positions in the Private Sector and the Public Sector (2021) https://www.bgbl.de/xaver/bgbl/start.xav?startbk=Bundesanzeiger_BGBl&jumpTo=bgbl121s3311.pdf#__bgbl____1702781545284 (Accessed 4 on October 2022).
318. Ahrens, P.; Scheele, A. Mobilizing for Corporate Equality Through A Mixed Approach: The Long and Disappointing Road to a Gender Quota in Germany. In Gender Equality and Policy Implementation in the Corporate World: Making Democracy Work in Business, edited by Isabelle Engeli, and Amy Mazur. Oxford: Oxford University Press. Forthcoming, 2021.