

# A survey on ESG: investors, institutions and firms

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on ESG

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3

## Abstract

**Purpose** – Over the past two decades, the topics of Environmental, Social and Corporate Governance (ESG) and Corporate Social Responsibility (CSR) have attracted an increasing amount of interest, reflecting a growing sensitivity of investors and corporations towards environmental, social and governance issues.

**Design/methodology/approach** – This survey offers an overview of the academic literature on ESG/CSR through the lens of investors, institutions and firms. We first discuss the definitions of ESG and CSR and their relationship to each other.

**Findings** – We next describe how ESG is measured and note problems with the measurement of and quality of ESG data and discrepancies between different measures of ESG. We then turn our attention to investors, examining what types of investors invest in ESG and the role of institutional investors in ESG. From the firm's perspective, we discuss why firms themselves conduct ESG. We also summarize the literature on the impact of ESG on firms: how ESG affects firms' financing, disclosure and reporting activities and firm performance. Finally, we describe other consequences of the focus of ESG and CSR on firms and investors.

**Originality/value** – This survey offers an overview of the academic literature on ESG/CSR through the lens of investors, institutions and firms.

**Keywords** ESG, CSR, SRI, Firm performance, Firm value

**Paper type** Literature review

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Corporate Social Responsibility (CSR), Socially Responsible Investing (SRI) and Environmental, Social and Corporate Governance (ESG) are all topics that have received increasing attention from the public, investors, firms and academics over the past two decades. Recent crises such as the outbreak of COVID-19 and its aftershocks, the tensions between Russia and Ukraine and the subsequent European energy crisis have pushed these topics further under the spotlight. Principles for Responsible Investments (PRI), the largest investor network on responsible investment, documents 3,826 signatories to their framework in 2021, with a combined Assets Under Management (AUM) of 121.3 US\$ trillion [1].

Corporations are also increasingly assigning greater importance to CSR and ESG issues. For instance, anecdotal evidence suggests that large corporations such as Intel, General Electric and Google are building strategies aligned with the United Nations Sustainable Development Goals and are investing hundreds of millions of dollars in altruistic endeavors each year [2]. In addition, firms actively attempt to increase the visibility of their sustainability efforts. According to the 10th Anniversary Report issued by the Governance and Accountability Institute, a consulting company on corporate sustainability and ESG, 92% of S&P 500 firms and 70% of Russell 1,000 firms published their sustainability reports in 2020 (Governance and Accountability Institute, 2022). In a nutshell, CSR and ESG appear to be moving from a peripheral to a core concern for both investors and corporations.

Paralleling the increasing attention from industry, academic research on ESG/CSR has also grown significantly over the past two decades (examples include, Bénabou and Tirole, 2010; Brandon *et al.*, 2021a, b; Dimson *et al.*, 2015; Dyck *et al.*, 2019; Edmans, 2011; Hart and Zingales, 2017; Hong *et al.*, 2020; Hong and Kacperczyk, 2009; Liang and Renneboog, 2017,



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2020; Matos, 2020; Renneboog *et al.*, 2008a, b). Several surveys have summarized the literature of ESG/CSR in the economics and finance domain. These surveys review ESG/CSR through the lens of either investors or firms or focus on a specific sector.

From the investor perspective, for example, [Renneboog \*et al.\* \(2008b\)](#) provide an overview of the literature on socially responsible investments (SRI). They review several topics in their survey including the causes and impact of CSR, the risk and return of SRI funds and firms and fund subscription and redemption behavior of SRI investors. [Matos \(2020\)](#) reviews ESG and responsible institutional investing around the world with an emphasis on the role of institutions. He documents the evolution of research on responsible investing and the role played by institutional investors in public markets worldwide. In a similar vein, [Liang and Renneboog \(2020\)](#) analyze the literature on CSR and sustainable finance, discussing the definitions, scope, implications and measurement and disclosure of CSR. They also shed light on sustainable, responsible and impact investing with a focus on ESG investing strategies and green financing. All these surveys mainly focus on ESG/CSR from the investors' perspective, focusing on the role and effects of responsible investing (RI), which emphasizes that investors incorporate ESG issues into their decision-making and investment processes.

From the firm's perspective, [Gillan \*et al.\* \(2021\)](#) relate the research on ESG and CSR to corporate finance. They summarize numerous theoretical and empirical work in terms of the links between ESG/CSR activities and different aspects of firms such as the market in which the firm operates, firm structure, firm risk and firm performance. [Christensen \*et al.\* \(2019\)](#) offer a comprehensive review of accounting and finance studies on the topic of ESG/CSR reporting, concluding that ESG/CSR disclosure is beneficial to the capital markets because it increases the quantity and quality of the CSR information. [Tsang \*et al.\* \(2022\)](#) discuss motivations for and consequences associated with ESG information, in addition to disclosure- and user-level characteristics with the potential to affect the observed outcome of information disclosure. [Hassan \*et al.\* \(2022\)](#) provides a bibliometric and Scientometric analysis of CSR in the banking sector by studying 551 articles from the Scopus database.

This survey examines the evidence on ESG and CSR through all three perspectives – investors, intermediaries and firms. It is organized as follows. In [section 1](#), we begin our review by defining ESG and CSR. In particular, we review the concepts of shareholder vs stakeholder primacy and relate them to ESG and CSR. We then discuss how the definitions and scope of ESG and CSR are related to each other. [Section 2](#) describes how ESG is measured. We also discuss the problems with ESG data including its quality and the discrepancies between the different measures. [Section 3](#) reviews the research on investors by answering two main questions: what types of investors invest in ESG and the role of institutional investors in ESG. [Section 4](#) reviews the literature on ESG/CSR from the firm's perspective. We discuss why firms themselves conduct ESG and analyze different views regarding the motives behind firms conducting ESG. We also summarize the literature on the impacts of ESG on firms: how ESG affects firms' financing, disclosure and reporting activities and firm performance. [Section 5](#) describes other consequences of an ESG focus. [Section 6](#) concludes.

## 1. What does ESG and CSR mean?

### 1.1 Shareholder theory and stakeholder theory

Before introducing the concepts of ESG and CSR, we first discuss the two different views in modern finance: the shareholder value maximization perspective and the stakeholder value maximization perspective. [Friedman \(1970, 2007\)](#) argues that corporations are accountable only to shareholders and the social responsibility of business is to improve its profits. This shareholder primacy view emphasizes that shareholders are the only group for whom the firm is socially responsible. Friedman argues that shareholders have the discretion

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to conduct actions that are beneficial to society. Nevertheless, they do not require the firm to do these for them. The shareholder value maximisation view was popular and influential until the early part of the 21st century.

Different from the traditional view of shareholder wealth maximization, stakeholder theory, first introduced by Freeman (1984), focuses on the welfare of stakeholders. As an alternative perspective on understanding how corporations create value and trade with each other, it has gained growing attention and proponents since the 2000s, especially after the 2008 financial crisis. Stakeholder theory argues that the corporation should create value for all stakeholders including its customers, suppliers, employees, investors and others who have a stake in the organization, not only shareholders [3]. The notion of ESG and CSR gained momentum when the stakeholder theory came into popularity.

What accounted for this shift in emphasis by practitioners and academics? One possibility is that, for a long time, academics implicitly assumed that a form of Fisherian separation holds in efficient capital markets. This idea was particularly relevant in the 1970s because the concepts of general equilibrium theory, efficient capital markets, principal-agent theory and incentive design were being formulated. Specifically, academics argued that managers need not focus on determining exactly what their shareholders need, because in an efficient capital market, investors can borrow and lend to get to their optimal consumption patterns. Managers need to focus only on maximizing net present value (NPV). Maximizing NPV was synonymous with maximizing the value of the firm as a whole. To maximize the value of the firm, managers were advised to focus on the value of the residual income holder – the undiversified shareholder, who received cash flows after all the other stakeholders were paid out. This allowed academics to suggest a simple way to reduce agency problems – a singular focus on the share price. It is important to remember that the focus on the share price arises from all the underlying assumptions – shareholders are not diversified, the market is efficient and focusing on the share price is a simple way to set one goal for the manager, thus curbing agency costs.

Unfortunately, today, some of these assumptions no longer hold. With the introduction of index funds in the US over the same period, an increasing number of investors hold diversified portfolios. Because of diversification, these investors are likely to care about systematic risks far more than idiosyncratic risk. Hence, the performance of any individual firm matters less to them than it did. A firm choosing to maximize its own profits might have negative implications for all the other firms in the shareholder's portfolio. As an example, consider a firm that develops a new vaccine during a pandemic. The firm might wish to maximize its profits by setting high prices. However, by reducing the take-up of vaccines, the high price would lead to negative consequences for the stock prices for all the other firms in the investor's portfolio [4]. Finally, many of the factors that investors care about, such as environmental sustainability are not traded on efficient capital markets. It may hence be cheaper for the investors to force firms to undertake stakeholder related activities instead of attempting to get to their optimal preferences by themselves.

### *1.2 ESG and CSR: definitions and scope*

ESG and CSR are terms that are frequently used to reflect the stakeholder value maximization perspective. However, they are not interchangeable. ESG typically refers to the incorporation of ESG concerns into the decisions of investors. “ESG investing”, “responsible investing,” and “impact investing” are broad terms that correspond to investors integrating ESG factors into their portfolio decisions [5]. In contrast, CSR refers to the role of the corporation itself being socially responsible. The European Commission defines CSR as the responsibility of enterprises. CSR should be company-led. The European Commission states that companies can become socially responsible by integrating social, environmental, ethical, consumer and

human rights concerns into their business strategies and operations and following the law (European Commission. *Corporate Social Responsibility and Responsible Business Conduct, 2022*). It indicates that a corporation is not only socially accountable to itself but also to its stakeholders and public. In this view, CSR forms part of a self-regulating business model where companies are conscious of the influence they are having on wider society.

In short, whilst ESG and CSR are both concerned with the impact of a firm bringing to the environment and society, the major distinction between these two terms is that CSR is a business model led by companies, while ESG appears to involve the criteria that investors apply to assess a firm or corporations use to implement CSR. A secondary difference between CSR and ESG is that CSR incorporates environmental and social issues, while ESG explicitly adds corporate governance as well. In many studies, the terms CSR and ESG are interchangeable. In our survey, we use the relatively expansive terminology – ESG mostly and use CSR when we refer to firm behavior specifically [6].

ESG consists of three pillars: Environmental, Social and Corporate Governance. Each pillar, in turn, is composed of varied sub-pillars. However, the issues under the spotlight are time-varying and there appears to be no consensus on the exact list of ESG issues.

As an example, Table 1 displays the ESG issues under each pillar from CFA Institute in 2022. The environmental pillar measures a firm's efforts in the conservation of the natural world, through alleviating climate change and reducing carbon emissions, managing pollution and waste produced during the production process, the efficient use of energy and water and paying attention to deforestation and biodiversity. The social pillar captures a firm's consideration of people and relationships. It includes customer satisfaction, maintaining data protection and privacy, the consideration of gender and diversity, employee engagement, community relations and human rights and labor standards.

Pillar	Description	Issues
Environmental	Conservation of the natural world	Climate change and carbon emissions Air and water pollution Biodiversity Deforestation Energy efficiency Waste management Water scarcity
Social	Consideration of people and relationships	Customer satisfaction Data protection and privacy Gender and diversity Employee engagement Community relations Human rights Labor standards
Governance	Standards for running a company	Board composition Audit committee structure Bribery and corruption Executive compensation Lobbying Political contributions Whistleblower schemes

**Note(s):** Table 1 displays the three ESG pillars and the corresponding issues under each pillar from CFA Institute in 2022. The environmental pillar measures a firm's efforts in the conservation of the natural world. The social pillar captures a firm's consideration of people and relationships. The governance pillar covers standards for running a company

**Table 1.**  
ESG pillars and issues

**Source(s):** CFA Institute, <https://www.cfainstitute.org/en/research/esg-investing>, accessed in October 2022

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The governance pillar covers standards for running a company. It covers the composition of board and audit committee structure, avoidance of bribery and corruption, executive compensation policy and lobbying, political contributions and whistle-blower schemes.

Beyond the lack of consensus on what ESG really signifies, the materiality of ESG issues differ across firms and operating sectors of the firm [7]. Nevertheless, a handful of ESG issues are typically consistently cited as important for firms across most industrial sectors. These include business ethics, carbon emissions, community relations, emissions, effluents and waste, occupational health and safety and resource use (Chase, 2022).

## 2. How is ESG measured?

ESG information has become the primary concern for investors, decision-making for managers and empirical analysis for academics. Accordingly, the reliability of ESG data and measures is of tremendous importance. In this section, we discuss how ESG is measured and discuss some problems with this measurement.

### 2.1 Major ESG databases

ESG ratings provide an overview of a company's ESG performance. These ratings emerged in the early 1980s as a way for investors to screen firms on ESG performance. Over the past few years, ESG data has become widely available in response to the growing demand for information. There are several widely used ratings created by ESG data providers to guide investors in comparing and ranking companies in terms of their ESG performance. These providers collect and aggregate an overall ESG score, in addition to scores for each of the E, S and G pillars, separately.

The first ESG rating agency, Eiris, was established in France in 1983. It merged with Vigeo in 2015. Kinder, Lydenberg and Domini (KLD), a heavily used ESG database in academic studies, was established in the US in 1990. While it is unrealistic to detail all ESG data providers in this survey, the most prominent ESG data providers in the 2020s include MSCI, Refinitiv, S&P Global, Sustainalytics, Bloomberg, FTSE Russell, Institutional Shareholder Service (ISS) and RepRisk [8].

The KLD database provides a snapshot of CSR ratings since 1991 and has been widely used for comparative CSR academic research over time. The database covers all companies on the S&P 500 Index and the Domini 400 Social Index since 1991 and has subsequently expanded to the 3,000 largest U.S. publicly traded companies by market capitalization since 2008. To construct the database, throughout the year, KLD analysts review company public documents including annual reports, CSR reporting, website and other stakeholders and data sources. KLD then rates the companies along various dimensions of CSR and its ratings are identified based on a binary system. For each strength and concern rating applied to a company, a "1" indicates the presence of that rating and a "0" indicates the absence of the rating. KLD was acquired by RiskMetrics in 2009. A year later, RiskMetrics was bought by MSCI. Subsequently, the database was renamed to MSCI ESG KLD STATS as a legacy database.

Launched in 2010, the MSCI ESG (previously known as MSCI Intangible Value Assessment) database aims to measure a company's resilience to long-term, industry, material and financially relevant ESG risks [9]. MSCI identifies ESG key issues covering three pillars (environmental, social and governance). Each key issue is assigned a weight based on its importance in the industry. Each company is assigned an overall score that is determined by the weighted average of the key issue scores. A final letter ESG rating between best (AAA) and worst (CCC) would be assigned to each company after normalizing the overall score relative to ESG rating industry peers. As one of the largest independent ESG ratings providers, MSCI ESG provides ESG ratings for 8,500 companies and more than 680,000 equity and fixed income securities globally (MSCI ESG Ratings Brochure, 2020).

Refinitiv ESG (previously known as Thomson Reuters ASSET4 ESG) provides one of the most comprehensive ESG databases in the industry and covers over 85% of global market capitalization, across more than 600 different ESG metrics. Refinitiv ESG scores are calculated with a continuously expanding coverage of more than 12,000 global public and private companies in the 2020s. Refinitiv collects and scores companies on ESG principles dating back to fiscal year 2002. To measure relative ESG performance, research analysts gather more than 630 raw ESG data points per company from public resources such as annual reports, company websites, NGO websites, stock exchange filings and CSR reports etc. This raw data is then rolled up into 186 comparable measures, which are then grouped into 10 categories, including resource use, emissions, innovation, workforce, human rights, community, product responsibility, management, shareholders and CSR strategy. These 10 categories (themes) are classified into one of three pillars: environmental, social and corporate governance. The category scores are reformulated into three pillar scores and the final ESG score is a relative sum of the category weights. An overall ESG combined score (ESGC score) is also computed by discounting the ESG score for significant ESG controversies that materially impact corporations. Refinitiv then applies a percentile rank scoring methodology, enabling it to produce a score between 0 and 100, as well as letter grades from A+ to D-.

S&P Global acquired its ESG rating business from RobecoSAM in 2019. The acquisition includes the integration of the annual SAM Corporate Sustainability Assessment (CSA). S&P Global ESG Scores cover more than 8,000 companies with over 90% global market capitalization. S&P Global ESG Scores are created with a combination of verified company disclosures, media and stakeholder analysis and in-depth company engagement via the CSA research process. It collects approximately 1,000 data points per company from web-based questionnaires and company documents and uses them to construct three dimensional scores (E, S and G, separately). The S&P Global ESG Score is the sum of weighted dimension scores.

Sustainalytics, a Morningstar company, rates the sustainability of listed companies based on their ESG performance. It covers and scores the ESG performance of more than 14,000 companies, from negligible to severe risk. Sustainalytics' ESG risk ratings measure a company's exposure to industry-specific material ESG risks and how well a company is managing those risks. They use a set of material ESG issues that are likely to have a potentially substantial impact on the company's economic value. The rating offers insights into company-level ESG risk by measuring the level of an organization's unmanaged ESG risk.

## *2.2 Problems with ESG data*

The phenomenal growth of ESG data provision has also been accompanied by problems. This section discusses these problems including issues of data quality and the divergence of ESG ratings.

*2.2.1 The quality of ESG data.* The growing provision of the ESG data has raised concerns regarding the quality of ESG data. ESG data were originally retrieved from public resources such as financial reports and company websites. With the deepening of ESG information disclosure requirements [10], an increasing number of firms are publishing annual CSR reports, which in part enhances the provision of ESG data, but in turn, raises concerns regarding the quality and reliability of the data. Specifically, the ESG metrics in these reports may be subject to "greenwashing" (Yang, 2021). Moreover, the indicators from these disclosures are often inconsistent across companies and are difficult to compare, leading to a disagreement across rating agencies (Christensen *et al.*, 2022).

*2.2.2 The divergence of ESG ratings.* A second problem with ESG data is the divergence of ESG ratings provided by ESG data providers. As introduced above, there exists considerable discrepancies among ESG data providers in the coverage, metrics, criteria and methodologies.

Previous literature documents the disagreement of ESG ratings. For example, [Chatterji et al. \(2016\)](#) assess the convergent validity (agreement) of six well-established social ratings – KLD, ASSET4, Calvert, FSET4Good, DJSI and Innovest – and find that these data providers exhibit low agreement in their assessments of CSR. [Berg et al. \(2022\)](#) confirm this finding and further investigate the divergence of ESG ratings based on ESG data from six major ESG rating agencies: KLD, Sustainalytics, Moody’s ESG, S&P Global, Refinitiv and MSCI. They find the correlations between ESG ratings range from 0.38 to 0.71. In a similar vein, [Brandon et al. \(2021b\)](#) systematically analyze the level of disagreement in ESG ratings based on ESG ratings from seven different data providers – ASSET4, Sustainalytics, Inrate, Bloomberg, FTSE, MSCI KLD, MSCI IVA – for a sample of S&P 500 firms from 2010 to 2017. They show that the average pairwise correlation between the ESG ratings of the seven data providers is less than 50%, with the lowest for the G pillar (16%) and highest for the E pillar (46%).

Scholars and practitioners provide several explanations for this discrepancy in ESG ratings. For instance, [Chatterji et al. \(2016\)](#) argue that the disagreement results from the differences in the way various data providers visualize the importance of CSR components and the lack of agreement on ESG metrics. [Berg et al. \(2022\)](#) analyze the discrepancies between sustainability ratings and identify three distinct sources of disagreement: scope divergence, measurement divergence and weight divergence, among which measurement divergence contributes more than 50% to the divergence while weight divergence accounts for the least (6%) [11]. [Christensen et al. \(2022\)](#) view the disagreement through the lens of ESG disclosure. They find that ESG disclosure plays a significant role in ESG rating disagreement with more disclosure leading to higher disagreement.

Other drivers leading to the disagreement in ESG ratings as emphasized by practitioners are the differing sizes of companies, geographical differences and sector bias ([Matos, 2020](#)). Specifically, larger firms are capable of preparing and publishing ESG disclosures. They are also able to better control reputational risk, resulting in better ESG scores. Additionally, since major ESG data providers normally cover companies around the world, it is plausible that there exist geographical differences in ESG assessments due to distinct reporting requirements in different countries. Finally, ESG ratings might suffer from sector bias since normalizing ESG ratings by industry might oversimplify them.

Overall, the existing ESG measurements are subject to considerable disagreements among different ESG data providers. All these biases underscore the potential problems with the simple overall ESG score from one source either for investors making investment decisions or for academics conducting academic research. Consequently, investors and academics should be conscious of the inconsistencies among ESG ratings provided by different ESG data providers. Currently, academic research typically addresses these problems by showing that the results are robust to using multiple providers or by making adjustments to the scores, emphasizing some factors over others. While this lack of consistency is understandable, it creates further issues with replication studies.

### 3. ESG: the investor perspective

Over the past decade, sustainable, responsible and impact investing have become prevalent in mainstream investing strategies. In this section, we discuss why ESG appears to be important from investors’ perspectives and emphasize the role of institutional investors in responsible investing.

#### 3.1 What types of investors invest in ESG?

The 2020 Global Sustainable Investment Review (GSIR) reports that at the start of 2020, global sustainable investment reached US\$35.3 trillion in five major markets – the United

States, Canada, Japan, Australasia and Europe, where the U.S. and Europe represent more than 80% of global sustainable investing assets [12]. In addition, sustainable investment AUM accounted for 35.9% of total AUM in 2020. The largest investor network on responsible investment, PRI, also documented 3,826 signatories to their responsible investing framework in 2021, with a combined AUM of 121.3 US\$ trillion.

Investors can implement several investing approaches for sustainable investments. Table 2 summarizes some of the major ESG investing approaches including ESG integration, corporate engagement and shareholder action, norms-based screening, negative/exclusionary screening, best-in-class/positive screening, sustainability themed/thematic investing, impact investing and community investing. Among the various sustainable investment strategies, the most common is ESG integration, followed by negative screening, corporate engagement and shareholder action, norms-based screening and sustainability-themed investment. These sustainable investment strategies can be applied together. In most regions, such as Europe, it is increasingly the case that the same investment product will combine several ESG investing approaches such as negative screening, ESG integration and corporate engagement.

Strategy	Description
ESG integration	The systematic and explicit inclusion by investment managers of ESG factors into financial analysis
Corporate engagement and shareholder action	Employing shareholder power to influence corporate behaviour, including through direct corporate engagement such as communicating with senior management and/or boards of companies, filing or co-filing shareholder proposals and proxy voting that is guided by comprehensive ESG guidelines
Norms-based screening	Screening of investments against minimum standards of business or issuer practice based on international norms such as those issued by United Nations, OECD and NGOs
Negative/exclusionary screening	The exclusion from a fund or portfolio of certain sectors, companies, countries, or other issuers based on activities considered not investable. Exclusion criteria based on norms and values can refer to product categories such as weapon, tobacco, gaming, etc. company practices such as animal testing, violation of human rights and corruption, or controversies
Best-in-class/positive screening	Investment in sectors, companies, or projects selected for positive ESG performance relative to industry peers and that achieve a rating above a certain threshold
Sustainability themed/thematic investing	Investing in themes or assets specifically contributing to sustainable solutions – environmental and social – such as sustainable agriculture, green buildings, lower carbon tilted portfolio, gender equity and diversity
Impact investing and community investing	Impact investing refers to investing to achieve positive, social and environmental impacts. It requires measuring and reporting against these impacts, demonstrating the intentionality of investor and underlying asset/investee and demonstrating the investor contribution Community investing is where capital is specifically directed to traditionally underserved individuals or communities, as well as financing that is provided to businesses with a clear social or environmental purpose. Some community investing is impact investing, but community investing is broader and considers other forms of investing and targeted lending activities

**Note(s):** Table 2 displays the diversified ESG investing approaches including ESG integration, corporate engagement and shareholder action, norms-based screening, negative/exclusionary screening, best-in-class/positive screening, sustainability themed/thematic investing, impact investing and community investing

**Source(s):** Global Sustainable Investment Review 2020, GSIA, <http://www.gsi-alliance.org/wp-content/uploads/2021/08/GSIR-20201.pdf>, accessed in October 2022

**Table 2.**  
ESG investing  
approaches



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Which type of investors invest in ESG and what are their motivations for doing so? There are several possibilities. Some investors might hold strong prosocial preferences and believe that firms should not only deliver profits but also care about the society and environment. Others might still value such efforts conducted by firms not because they care about society or environment *per se*, but they believe that firms can maximize profits by “doing good”. Some investors might simply not care whether firms are socially and environmentally responsible. Finally, anti-ESG investors might believe that ESG investments by firms are simply a waste of resources and undermine the maximization of shareholder wealth.

Of the first two investor types, responsible investors, who incorporate ESG considerations into their investment decisions, may be motivated by one or more of three primary reasons – strong intrinsic prosocial preferences, financial considerations, or social signaling (a concern for their social image). The academic literature on the relative importance of these motivations is inconclusive. In terms of prosocial preferences, [Gollier and Pouget \(2014\)](#) and [Heinkel et al. \(2001\)](#) theoretically model investor behavior when some investors are willing to pay more to invest in firms that are socially responsible. However, [Dufwenberg et al. \(2011\)](#) and [Sobel \(2015\)](#) argue that investing in SRI funds is not necessarily a reflection of social preferences. The empirical literature shows that SRI funds appear to attract net money inflows from social conscious investors. In particular, [Hartzmark and Sussman \(2019\)](#) use the exogenous shock of Morningstar introducing ESG ratings in 2016 to provide casual evidence that mutual fund investors in the U.S. value sustainability. They show that US funds given a low ESG rating observed net outflows while categorization as a high ESG fund led to net inflows.

With respect to financial reasons, the results from prior research are mixed as well. Several empirical papers find that SRI firms exhibit better (or not worse) performance compared to non-SRI firms. For instance, [Derwall et al. \(2005\)](#) show that SRI leads to superior portfolio performance. Using Innovest Strategic Value Advisor’s corporate eco-efficiency scores, [Derwall et al. \(2005\)](#) compare two equity portfolios differing in their levels of eco-efficiency. They present empirical evidence that a stock portfolio consisting of the “most eco-efficient” firms considerably outperform a less eco-efficient portfolio over the 1995–2003 period, suggesting that SRI produces superior performance. Similarly, [Kempf and Osthoff \(2007\)](#) examine the effect of SRI on portfolio performance based on the SRI ratings of KLD Research and Analytics. Implementing a trading strategy of buying stock with high socially responsible ratings and selling stocks with low socially responsible ratings over the period 1992–2004, they show that this strategy earns an abnormal return of 8.7% per year. Using an international database with 103 German, UK and US ethical mutual funds, [Bauer et al. \(2005\)](#) find that ethical funds do not perform worse than conventional funds over the period from 1990 to 2001.

However, other studies indicate that SRI is financially costly. A few empirical studies suggest that “sin” stocks such as tobacco, alcoholic beverage, weapons, or gaming have higher expected returns than other comparable stocks ([Dimson et al., 2020](#); [Fabozzi et al., 2008](#); [Hong and Kacperczyk, 2009](#)). In a similar vein, [Bolton and Kacperczyk \(2021\)](#) find that firms with higher total carbon dioxide emissions exhibit higher returns. As a result, divesting from these firms or industries, a strategy that has been frequently espoused by responsible investors, may be financially costly. [Renneboog et al. \(2008a\)](#) empirically investigate whether investors pay a price for investing in SRI funds based on a unique dataset consisting of nearly all SRI mutual funds around the world. They find that SRI funds in the US, the UK and in many continental European and Asia–Pacific countries underperform their domestic conventional benchmarks. Finally, [Krüger \(2015\)](#) shows that, on occasion, the stock market reacts negatively to positive CSR news. Thus, it is difficult to conclude that financial reasons are the dominant drivers for individuals investing in SRI firms.

Finally, in terms of social signaling motives, some theoretical and experimental studies suggest that self-image concerns and social identification play an important role in individuals' prosocial behaviours. As stressed by [Bénabou and Tirole \(2010\)](#), self-image concerns are important motivators when individuals act prosocially, in part to reassure themselves that they are good people. Laboratory experiments and field study conducted by [Ariely et al. \(2009\)](#) also show that people act more prosocially in the public sphere than in private settings out of the desire for social approval, suggesting that prosocial activity provides a positive self-image. Another study by [Bauer and Smeets \(2015\)](#) directly investigates the role of social identification in investment decisions made by individuals. Social identification is a part of an individual's self-image derived from a perception of social group belonging. They administer a survey to retail investors of two socially responsible banks in the Netherlands and measure clients' social identification and risk and return expectations. Their results show that social identification is a critical factor in investment decisions conducted by individuals.

However, these three motivations are not necessarily mutually exclusive. Individual investors appear to increasingly consider environmental and social impacts in addition to financial returns when making investment decisions. Previous theoretical studies show that individual investors are willing to sacrifice financial returns and pay premiums to invest in socially responsible firms (e.g. [Gollier and Pouget, 2014](#); [Heinkel et al., 2001](#)). Empirically, [Riedl and Smeets \(2017\)](#) investigate why individuals hold socially responsible equity funds. Using a unique data set linking administrative data on investors to survey responses and behavior in incentivized experiments, conducted using a large group of individual investors, they find that social preferences and social signalling appear to play more significant roles in explaining investors' SRI decisions than financial motives. Specifically, they show that most socially responsible investors expect SRI funds to earn lower returns than conventional funds, which indicates that some investors are willing to forgo financial performance to invest in line with their social preferences. Similar results have been found in a field survey conducted by [Bauer et al. \(2021\)](#). They study sustainable investment behaviour in which a Dutch pension fund grants its members a real vote on its future sustainable-investment policy. Two-thirds of participants are willing to engage with firms based on the selected United Nations' Sustainable Development Goals even when they expect such engagement to damage financial performance.

Overall, we can conclude that though there has been an increasing interest in SRI, the jury is out on whether individual investors who invest in ESG are motivated by strong intrinsic prosocial preferences, financial reasons, or social signalling concerns. We note that these drivers are not necessarily mutually exclusive. Understanding why individuals invest sustainably is critical not only to academics but also to institutional investors since they invest on behalf of individuals.

### *3.2 The role of institutional investors in ESG*

Institutional investors are companies or organizations that invest capital on behalf of their ultimate beneficiaries or individual clients. Mutual funds, pension funds, endowments, hedge funds and insurance companies are typical institutional investors. They are viewed as more sophisticated than retail investors and are subject to less restrictive regulations. Acting as agents for individual investors, institutional investors play an increasing critical role in capital markets by managing and investing clients' capital.

Nevertheless, in addition to financial concerns, individual clients may require their money to be invested responsibly. To meet the rising demand for sustainable investments from clients, an accelerating number of institutional investors have committed to incorporating ESG factors into their capital allocation process. For instance, the Big Three (BlackRock,

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Vanguard and State Street) all launched their impact investing funds to react to the growing demand for sustainable investment solutions [13]. According to Morningstar's Sustainable Funds U.S. Landscape Report in 2022, sustainable funds continued to grow with many new ESG-related funds being launched and receiving inflows [14].

Why do institutional investors cater to socially conscious investors? There are several drivers behind this phenomenon. First, institutional investors might be motivated by pecuniary reasons – fund managers are generally rewarded for increasing fund inflows and the value of AUM. Given that SRI commitments have the ability to attract substantial and persistent fund inflows, institutions may thus be willing to incorporate ESG issues into their portfolio selection and management [15]. In addition, Riedl and Smeets (2017) show that socially conscious investors are willing to pay higher management fees on SRI funds than conventional funds.

Second, institutional investors might consider sustainability compliance as a risk management tool in their portfolios. For example, Krueger *et al.* (2020) conduct a survey on climate-risk perceptions. They report that institutional investors believe that climate risks have financial implications for their portfolio firms and these risks, especially regulatory risks, have begun to materialize. Given that institutional investors are “universal owners” and typically hold long-term portfolios representing the whole capital market, their portfolios inevitably are likely to suffer from systemic ESG risks that cannot be diversified away (Chen *et al.*, 2020). Previous empirical research has shown the risk management effect of ESG (see, e.g. Brandon *et al.*, 2021a; Hoepner *et al.*, 2020). Consequently, institutional investors who positively engage with portfolio firms regarding ESG issues might be motivated by the attempt to minimize their overall exposure to ESG risks.

Third, institutional investors might find that influencing their portfolio firms' ESG practices is in line with their long-term investment horizons (Business Insider, 2016). For example, in his 2016 letter to corporate leaders, Larry Fink, the CEO of BlackRock, emphasized his belief that ESG issues have real and quantifiable financial impacts over the long-term. Empirical research (e.g. Dyck *et al.*, 2019; Starks *et al.*, 2020) appears to confirm the statement that financial benefits of ESG practices are only incorporated into firm value over the long run. Brandon *et al.* (2021a) further provide evidence that investors with higher ESG portfolio-level footprints have higher risk-adjusted returns over the long term.

However, anecdotal evidence indicates that institutions have differing attitudes toward ESG policies. For example, the German asset manager DWS Group, BNY Mellon and Goldman Sachs Asset Management have all been investigated for greenwashing [16]. In these cases, regulators are fining the fund families not because the regulators have differing views of ESG from the funds. The fines arise because the funds explicitly listed the procedures and criteria they used for evaluating ESG and used them to market themselves to investors who care about ESG. However, the funds appeared to ignore those procedures or criteria when actually investing, either to pursue non-ESG goals or because of lack of effort. A number of institutions also have appeared to commit themselves to initiatives, such as PRI, but some of them fail to actually implement any procedures to improve ESG. Empirical research conducted by Gibson *et al.* (2020) finds that the U.S.-based PRI signatories who are partially committed to ESG strategies have worse ESG footprints than uncommitted institutions, which reflects the appearance of “greenwashing”. In a related study, Liang *et al.* (2022) indicate some “greenwashing” also exists among the hedge fund signatories.

Nevertheless, empirical evidence shows that institutional shareholders play an important role in CSR and can produce real social impact. For instance, Chen *et al.* (2020) use two distinct quasi-natural experiments (annual Russell Index reconstitutions and exogenous shocks to unrelated industries held by a firm's institutional investors) to examine the effect of institutional investors on CSR. They find that an exogenous increase in institutional holding improves portfolio firms' CSR performance, as measured by CSR ratings provided by the

KLD database. Moreover, they find that institutional investors can influence firms' CSR through CSR-related shareholder proposals. Overall, these results show that institutional investors can generate improvements in the social impact outcomes of their portfolio firms.

#### 4. ESG: the firm perspective

The previous section discussed ESG from the investor perspective. This section introduces research on ESG from the firm's perspective. Specifically, we discuss the firm-level determinants of ESG and the impacts of ESG on firms.

##### 4.1 Why do firms conduct ESG?

In addition to investors influencing firms to be more ESG-friendly, firms themselves are also increasingly conducting CSR activities and engaging with ESG issues. For instance, an increasing number of listed companies are creating separate board committees dedicated to CSR issues – the CSR committee (Chu *et al.*, 2022). Firms also attempt to communicate their sustainability efforts by publishing annual sustainability reports. In 2019, the Business Roundtable, an association of chief executives of leading US companies, released a new Statement on the Purpose of a Corporation signed by 181 CEOs. The statement moves away from shareholder primacy but instead commits to leading firms for the benefits of all stakeholders including customers, employees, suppliers, communities and shareholders (Business Roundtable, 2019).

What does the academic literature conclude about the determinants of firm-level ESG? In this section, we review literature on the motivations behind firms implementing ESG. There are three strands of literature on this topic. The first focuses on country-level characteristics, the second examines within-country characteristics and the last strand examines firm-level characteristics. Table 3 summarizes these motivations behind firms conducting ESG practices.

Category	Primary variables	Citations	
Country-level	Political system, labor and education system and the cultural system	Ioannou and Serafeim (2012)	
	Economic development, culture and institutions	Cai <i>et al.</i> (2016)	
Within-country	Legal origin	Liang and Renneboog (2017)	
	Political affiliation	Di Giuli and Kostovetsky (2014)	
Firm-level	Social capital	Jha and Cox (2015)	
	Top executives-driven	Altruism Financial incentives Agency problems	Bénabou and Tirole (2010) and Borghesi <i>et al.</i> (2014) Greening and Turban (2000), Kim <i>et al.</i> (2014) and Lins <i>et al.</i> (2017) Barnea and Rubin (2010), Bénabou and Tirole (2010), Cheng <i>et al.</i> (2013), Cronqvist <i>et al.</i> (2009), Pagano and Volpin (2005), Surroca and Tribó (2008) and Tirole (2001)
	Greenwashing	Dai <i>et al.</i> (2021), Delmas and Burbano (2011), Delmas and Montes-Sancho (2010), Duchin <i>et al.</i> (2022), Gibson <i>et al.</i> (2020), Kim and Lyon (2011, 2015), Liang <i>et al.</i> (2022), Lyon and Montgomery (2015) and Marquis <i>et al.</i> (2016)	

**Table 3.** Motivations behind firms conducting ESG practices

**Note(s):** Table 3 summarizes different motivations behind firms conducting ESG practices from preceding studies. We categorize the motivations as country-level characteristics, within-country characteristics and firm-level characteristics

*4.1.1 Country-level characteristics.* Ioannou and Serafeim (2012), Cai *et al.* (2016) and Liang and Renneboog (2017) argue that country-level characteristics are significant forces behind firms' ESG practices and performance. Based on a sample of firms obtained from the Thomson Reuters ASSET4 database, covering 42 countries over seven years, Ioannou and Serafeim (2012) empirically investigate the influence of country-level institutions on firms' corporate social performance (CSP). They create an annual composite CSP index for each firm building upon its social and environmental metrics. Using a standard regression methodology, they find that the political, labor and education and cultural systems are critical determinants of CSP and are more important than the financial system.

Along the same lines, drawing on the CSP ratings of more than 2,600 firms across 36 countries from the Morgan Stanley Capital International's (MSCI) ESG Intangible Value Assessment (IVA) database, Cai *et al.* (2016) provide evidence that variations in country-level factors account for a considerable proportion of variations in CSP ratings across countries. Specifically, economic development, culture and institutions appear to be critical drivers behind the differences. Firms' CSP ratings are higher in countries with higher income-per-capita, cultures more oriented toward harmony and autonomy, whose laws encourage competition and with stronger civil liberties and political rights. They also find that firm-level characteristics explain much less of the variations in CSP ratings than country-level characteristics.

Related but distinct to Cai *et al.* (2016), Liang and Renneboog (2017) show that legal origin plays a significant role in explaining firms' ESG activities and their CSR ratings. Liang and Renneboog (2017) examine whether a country's legal origin, which systematically shapes country-level institutions and firms' contracting environment, is a strong explanation for firms' CSR ratings. Using a comprehensive global CSR dataset (MSCI IVA database) of 23,000 firms from 114 countries, they find strong support for the legal origin explanation, much more so than other country-level explanations (social preferences, regulations, political institutions and culture) and firm-level characteristics (ownership structure, corporate governance and financial performance). Firms from civil law countries, with their rule-based mechanisms that limit firms' behavior *ex ante*, have higher CSR than firms from common law countries. They also show that civil law firms are more responsive to CSR shocks than common law firms by examining CSR scandals and natural disasters. Overall, Liang and Renneboog (2017) argue that a firm's CSR practices are fundamentally related to the legal origin of a country.

*4.1.2 Within-country characteristics.* The previous section introduced country-level characteristics that affect firms' ESG activities. However, there also exist within-country variations among firms' ESG practices. For example, Di Giuli and Kostovetsky (2014) show that political affiliation plays a significant role in firms' corporate social responsibility policies at the state level in the United States. Using CSR ratings from Kinder, Lydenberg and Domini (KLD) databases, they find that firms have a higher score on CSR when the firms have Democratic rather than Republican founders and senior executives and if they are headquartered in Democratic instead of Republican-leaning states. In particular, firms with a higher proportion of Democratic stakeholders (Democratic-leaning firms) spend \$20 million more on CSR practices than Republican-leaning firms.

Beyond the political environment, Jha and Cox (2015) show that CSR activities are related to the social capital in the region where the firm is headquartered at the county level in the United States. Social capital consists of the norms and networks that facilitate collective action (Woolcock, 2001). In regions with more social capital, they exhibit higher cooperative norms such as altruism and denser networks. In other words, people who live in regions with high social capital are more likely to be altruistic and less self-interested. Given the pro-social attributes of ESG practices, there is no surprise that the social capital of a firm's location could influence its ESG practices and performance.

In corporate finance, managers are the decision-makers behind the firm's choice of operational activities (including ESG practices) and they are likely to be affected by the social capital in the region where they live. To investigate the relationship between social capital and CSR, [Jha and Cox \(2015\)](#) use the KLD database and construct a social capital index as in [Rupasingha and Goetz \(2008\)](#) [17]. They find strong evidence of a positive association between a firm's CSR and social capital. A one standard deviation increase in social capital leads to 0.08 standard deviation improvement in CSR, holding all other variables constant. Furthermore, the authors find that the effect of social capital on CSR is driven by community, employees and products rather than human rights or the environment. In sum, [Jha and Cox \(2015\)](#) suggest that the location of the firm's headquarters affects firms' socially responsible activities due to social capital differences.

*4.1.3 Firm-level characteristics.* 4.1.3.1 CSR driven by top executive characteristics. [Bertrand and Schoar \(2003\)](#) argue that CEOs and other top executives are vital factors in determining firm operations and practices. They also show that managers have their own "styles" when managing their firms. It is plausible, therefore, that top executives may drive investments in ESG and CSR in corporations [18]. Theoretical studies by [Baron \(2008\)](#) and [Bénabou and Tirole \(2010\)](#) detail the reasons behind firm managers adopting CSR/ESG strategies. [Borghesi et al. \(2014\)](#) further conduct empirical research based on their theoretical framework.

[Bénabou and Tirole \(2010\)](#) and [Borghesi et al. \(2014\)](#) show that altruism is one reason for corporate managers to conduct ESG activities. This genuine, intrinsic altruism might drive managers implementing prosocial behaviors since they believe that they have the responsibility to invest in ESG practices such as environmental protection, securing employee welfare and other social activities. Consistent with this hypothesis of intrinsic altruism, [Lei et al. \(2022\)](#) show that CSR activities conducted by CEOs heading firms located in their home birth counties increase firm value. In contrast, there is no valuation effect for CEOs who lead firms that are not headquartered in the CEO's home birth counties. [Lei et al. \(2022\)](#) argue that place identification with her birthplace forms a key element of an individual's personal identity ([Proshansky, 1978](#)) and is unlikely to be an endogenous choice of the CEO (the birthplace is usually chosen by the CEO's parents). Hence, place identity forms an important part of the social identity of the CEO and is more likely to bind a home CEO closely to the local community than a non-home CEO. Prosocial behavior can also be triggered by life events for the CEO. For example, [Cronqvist and Yu \(2017\)](#) argue that CEOs of many companies in the U.S. are shaped by their daughters. When a firm's CEO has a daughter, the CSR rating is about 9.1% higher than the median firm in their sample.

Top executives might also choose to invest in ESG because of financial incentives. For example, managers might believe that they can increase firm value by conducting prosocial activities. This is consistent with the investment philosophy discussed in [section 3.1](#) that managers can do well by doing good. For instance, conducting ESG practices might be beneficial in attracting and retaining a capable workforce ([Greening and Turban, 2000](#)) and fostering better customer relations, both of which can potentially enhance firm value. In addition, spending on CSR/ESG may insulate firms from litigation or regulation risks. Managers may also value the insurance CSR offers against event risk. For instance, [Kim et al. \(2014\)](#) show that firms' efforts in CSR can mitigate stock price crash risk. Similarly, [Lins et al. \(2017\)](#) provide evidence that firms with higher CSR levels generated excess returns during the financial crisis. However, [Lei et al. \(2022\)](#) show that only firms conducting CSR activities with home CEOs earn higher stock returns during the 2008–2009 financial crisis and the COVID-19 pandemic periods, respectively. They argue that just engaging in CSR will not necessarily increase levels of social trust and firm value. The social identity of the CEO also matters.

Managers may also choose to invest in ESG practices because of agency issues. Several studies have argued that CSR is simply a manifestation of agency problems. For example,

Tirole (2001) notes that a stakeholder maximization paradigm may result in mission creep and agency issues. Cheng *et al.* (2013) find supporting evidence that managers appear to be doing good with other people's money. According to this line of view, managers pursue ESG practices since they believe that it will enhance their professional reputation, public image, and/or private benefits. In other words, managers are doing ESG practices for their own benefits (see Cronqvist *et al.*, 2009; Pagano and Volpin, 2005; Surroca and Tribó, 2008) rather than for bona fide economic reasons.

This motive is consistent with the insider-initiated corporate philanthropy as described by Bénabou and Tirole (2010). It is not philanthropy motivated by stakeholders' willingness to sacrifice profits for prosocial activities while reflecting only management's desires to engage in philanthropy. Empirical evidence in Masulis and Reza (2015) shows that corporate donations enhance CEO interests, which suggests that corporate resources have been misused and this behavior decreases the firm value. Barnea and Rubin (2010) also show that the agency problem exists when managers seek to over-invest in ESG to enhance their own reputations and private benefits. Nevertheless, these top executives-driven motivations are not necessarily mutually exclusive. For example, Borghesi *et al.* (2014) find that at least some CSR investments by corporations are pursued either out of moral reasons or to promote managers' career concerns.

4.1.3.2 Greenwashing. Yet another motive behind firms' participation in ESG/CSR activities is greenwashing. As with individuals, corporations also have image concerns. Greenwashing arises as a side-effect of firm image concerns, specifically, when firms try to project prosocial images and claim to conduct ESG practices but fail to fulfil their responsibilities (fail to "walk the (ESG) talk").

Greenwashing appears to be common in today's business world (Delmas and Burbano, 2011) and there are several forms that greenwashing can take such as selective or misleading narrative/disclosure, empty green claims, dubious certifications and labels etc. For example, Tesco, a large UK supermarket, was rebuked by the UK watchdog after it exaggerated how environmentally friendly its products were (Evans and Hodgson, 2022). Lyon and Montgomery (2015) summarize the academic literature on greenwashing and they find that corporations are the primary instigators of greenwashing although NGOs and governments may serve as partners in corporate greenwashing.

Given the fact that greenwashing appears widespread, a mounting number of academic studies also focus on the determinants of greenwashing. The drivers of corporate greenwashing can be separated into external (environmental) and internal (organizational) factors. For instance, a lax regulatory environment (Delmas and Burbano, 2011), strong regulatory pressure (Kim and Lyon, 2011), weak connections to the global economic system (Marquis *et al.*, 2016) and lack of scrutiny and global norms (Marquis *et al.*, 2016) are external drivers for corporate greenwashing. In terms of internal drivers, corporations that are of low visibility (Delmas and Montes-Sancho, 2010), large firm size (Kim and Lyon, 2011), being "relatively" green (Marquis *et al.*, 2016) and growing firms that are likely to face future regulatory interactions (Kim and Lyon, 2015) are more likely to greenwash.

Greenwashing can also be done by financial engineering. The carbon footprint of a firm consists of a set of accounting conventions. Particular types of firms, for example, large public firms with ESG-focused investors or large firms that use sustainability-linked bonds, are particularly sensitive to carbon accounting. Other types of firms such as Middle Eastern sovereign wealth funds are less sensitive to carbon accounting. Carbon-sensitive firms might therefore be better off by transferring their carbon assets to carbon-insensitive firms for a fee while claiming the benefits from issuing sustainability linked bonds for example [19]. In the academic literature, analyzing a dataset of 719 divestitures of pollutive assets, Duchin *et al.* (2022) show that the real asset market allows firms to sell off their polluting assets without lowering pollution levels. Their findings are consistent with a greenwashing strategy

wherein firms convey a false impression that they are more environmentally friendly without real consequences on the environment. Similarly, [Dai et al. \(2021\)](#) find evidence that U.S. firms reduce their carbon footprints by outsourcing carbon emissions to foreign suppliers. [Dai et al. \(2021\)](#) find that firms reduce Scope 1 GHG emissions at the expense of increasing Scope 3 emissions produced by their foreign suppliers [20].

Overall, corporate greenwashing is pervasive and stands as one motive behind firms' participating in ESG/CSR activities.

#### 4.2 Impact of ESG on firms

This section introduces the consequences of ESG activities on firms. In particular, this section discusses the impact of ESG on firms' activities including access to finance, disclosure and reporting activities. It then goes on to summarize the literature on the impact of ESG/CSR on firm performance.

*4.2.1 Impacts of ESG on firms' activities.* 4.2.1.1 Financing activity. Implementing ESG/CSR strategies may affect the firms' access to finance. There are two reasons for this. Conducting ESG/CSR practices may lead to better stakeholder engagement ([Eccles et al., 2014](#)), limit the myopic and entrenched behavior of top executives ([Bénabou and Tirole, 2010](#)) and reduce agency costs as a result. In addition, firms with superior ESG/CSR performance may be more willing to disclose their CSR efforts to the public ([Dhaliwal et al., 2011](#)), reducing information asymmetry and increasing transparency of nonfinancial information.

Empirical evidence exists to support the above statements. For instance, focusing on a particular dimension of CSR (environmental risk), [Sharfman and Fernando \(2008\)](#) show that improved environmental risk management is associated with a lower cost of capital. In a similar vein, [Dhaliwal et al. \(2011\)](#) show that an intention to lower firms' cost of equity capital is one explanation for intensifying CSR disclosure activities. Moreover, for CSR-initiating firms with superior CSR performance, the cost of equity capital is lower than for their counterparts. Based on a sample of more than 10,000 US firm-year observations spanning from 1992 to 2007, [El Ghouli et al. \(2011\)](#) find similar results in that firms with better CSR performance (proxy by CSR score) exhibit lower cost of equity capital. Finally, [Cheng et al. \(2014\)](#) use a large cross-section of firms to show that firms with superior CSR performance suffer less from capital constraints. They provide evidence that enhanced stakeholder engagement and increased transparency regarding CSR performance are two channels for reducing capital constraints.

Apart from the cost of equity capital, CSR also has been shown to have an impact on the cost of bank loans. For example, [Goss and Roberts \(2011\)](#) investigate the link between CSR and bank debt based on a sample of 3,996 loans to US firms. After controlling for known firm characteristics, they find that firms with high CSR concerns end up paying 7 to 18 basis points (statistically significant) more than socially responsible firms for bank debt. [Lins et al. \(2017\)](#) also show that firms with higher CSR levels experienced higher profitability, sales growth and employee productivity and can raise more debt compared to low-CSR firms. In their review paper, [Christensen et al. \(2019\)](#) show that increasing the quantity and quality of CSR information could benefit the capital markets through enhanced liquidity, lower cost of capital and better capital allocation. In sum, the previous literature indicates that conducting ESG practices leads to better access to finance for corporations.

4.2.1.2 Firms' disclosure and reporting activity. However, part of the effect on the access to finance may also be driven by changes in the firms' disclosure and reporting activities. It is plausible that firms that conduct CSR activities may also behave responsibly in firms' disclosure and reporting activity. In terms of empirical evidence, for example, [Kim et al. \(2012\)](#) show that socially responsible firms deliver more transparent and reliable financial reporting, are less likely to engage in earnings management and are less likely to be the subject of SEC



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investigations compared to other firms. Furthermore, evidence shows that high sustainability firms exhibit higher measurement and disclosure of nonfinancial information (Eccles *et al.*, 2014).

There is a growing literature studying the firm's CSR reporting specifically, in addition to its financial reporting. Normally, firms report and communicate their CSR efforts/nonfinancial information through voluntary CSR reporting [21]. Different from financial reporting, which conveys information on the business activities and financial performance of a firm, CSR reporting conveys information on a wide range of ESG activities carried out by the firm. As an important tool of CSR communication, it involves the measurement, disclosure and communication of CSR-related information such as CSR activities, risks and policies (Christensen *et al.*, 2019).

Christensen *et al.* (2019) summarizes the key features integral to CSR reporting. First, the potential users of CSR reporting are diversified. Unlike traditional financial reporting, CSR information could be used for purposes beyond financial analyses. Second, CSR reporting consists of a plethora of ESG topics that differ significantly across firms, industries and countries. Third, there exists heterogeneity in the motivations behind CSR reporting since this type of reporting activity responds to different interests and preferences from inside and outside of the firm. Fourth, there is little uniformity in measurement for CSR reporting. Fifth, it is voluntary, going well beyond what is mandated. Sixth, CSR reporting normally deals with long-term prospects. Finally, CSR reporting pertains to externalities such as firms' impacts on the society and environment [22].

Regular CSR communication could confer advantages to corporations such as increasing transparency, enabling supervision of CSR activities of firms, strengthening the relationship with stakeholders and their involvement in firms and supporting cross-sector cooperation. Moreover, Dhaliwal *et al.* (2011) show that voluntary disclosure of CSR activities could reduce the firm's cost of equity capital. A recent study by Allman and Won (2021) further shows that non-financial disclosure requirements could mitigate adverse selection problems for underinvesting firms in debt markets and improve investment efficiency [23].

Given the potential benefits of CSR disclosure and reporting, why do not all firms report their CSR activities and why is it not compulsory worldwide? The answer is that ESG/CSR disclosure and reporting involve costs. Specifically, it can potentially bring about proprietary and other litigation costs. If a company has a publicized policy of CSR and then it does something inconsistent with that policy, in the U.S. in particular, the company is likely to be sued. For example, a company that publishes a code of ethics, followed by a newspaper report that an executive in the firm did something unethical, is likely to be sued for fraud. The argument would be along the lines that the firm said it had a code of ethics, which implied that its executives were ethical, but the firm neglected to mention that one of them wasn't. In the academic literature, based on evidence from China, Chen *et al.* (2018) show that mandatory CSR disclosure changes the behaviour of the firm and produces externalities at the cost of shareholders. Grewal *et al.* (2019) find that, on average, the financial market reacts negatively to the news of an EU mandatory nonfinancial information disclosure directive. Only firms whose benefits of CSR reporting outweigh those costs may voluntarily disclose and report their ESG/CSR efforts [24]. In contrast, anecdotal evidence suggests that an increasing number of firms choose not to publicize their net zero emissions targets, a concept termed as greenhushing by the *Financial Times* (Speed, 2022).

Beyond the choice of disclosure, Christensen *et al.* (2019) show that there also exists a substantial variation in firms' CSR disclosures. Currently, most ESG or CSR reporting by firms is voluntary and the contents of those reports are heterogeneous based on firms' business activities. Due to this fact, it is difficult to enforce and follow unified reporting standards (Amel-Zadeh and Serafeim, 2018; Kitzmüller and Shimshack, 2012; Liang and Renneboog, 2017). In addition, mandatory CSR reporting would encounter implementation

issues in light of the difficulties in the CSR standard-setting process, the materiality of disclosures and enforcement. These challenges make compulsory CSR reporting quite difficult. Despite this, the United Nations calls for global sustainability reporting and recommends that all large businesses should be mandated to publish sustainability reports by 2030 (United Nations, 2013).

*4.2.2 Impact of ESG on firm performance.* Does ESG matter for firm value? The answer is almost certainly a yes, though the sign of the effect is inconclusive. Anecdotally, ESG appears to have a large impact on firm value. For example, Marks and Spencer, a large UK retailer, conducted a CSR program called “Plan A” in 2007 which turned out to be significantly profitable over a five-year period (Brokaw, 2012; MIT Sloan Management Review, 2012). In contrast, an ESG incident in which firm activity causes a negative social and/or environmental impact (externalities) appears to negatively influence firm value over a long period. High-profile examples of ESG incidents are the 2001 Enron Corporation accounting fraud, the 2010 BP Gulf of Mexico oil spill and the 2018 Facebook data privacy scandal [25].

However, there is no clear-cut and consistent evidence of whether ESG/CSR enhances the firm’s financial performance. In addition, the empirical relationship between corporate ESG/CSR performance and financial performance might be time-varying. For example, Ioannou and Serafeim (2015) examine the relation between CSR strategies and firm value through the lens of financial analysts’ recommendations. Based on a large sample of publicly traded U.S. firms spanning over 15 years, they find that analyst perceptions changed during their sample period. In the early years of their sample, the authors report a negative association between CSR strategies and firm value. In contrast, during the latter years, CSR strategies were perceived as value-enhancing activities and socially responsible firms received more favourable analyst recommendations. In short, the effect of ESG/CSR activities appears to be time-varying [26].

Bénabou and Tirole (2010) theoretically propose three different views on the impact of CSR on firm performance. The first view argues that CSR is about firms adopting a more long-term perspective to maximize profits. Another view is that CSR acts as a form of delegated philanthropy where firms exercise prosocial behavior on behalf of stakeholders. These two views indicate a positive relation between CSR and firms’ profit. A contrasting view on CSR argues that it is just insider-initiated corporate philanthropy where firms do charity with others’ money. In this case, firms’ profits are negatively related to CSR.

Perhaps not surprisingly, empirical evidence on whether firms that incorporate ESG/CSR activities exhibit higher profitability and firm value (“doing well by doing good”) is mixed. Table 4 summarizes the impact of ESG on firms’ performance as documented in the empirical academic literature. Gillan *et al.* (2010) find evidence that stronger ESG performance increases firms’ operating performance, efficiency and firm value [27]. Using the KLD database to measure firms’ ESG performance, Gillan *et al.* (2010) find a positive association between firms’ operating returns (ROA) and their net scores (strength minus concerns) on E, S and G components. They further decompose ROA into asset turnover and operating expense ratios and find that the positive correlation between ESG and operating returns results from the improvement of efficiency. In addition, they find that higher E and G scores are associated with higher firm values (as measured by Tobin’s  $q$ ). In aggregate, their findings appear more consistent with the “doing well by doing good” view rather than entrenched managers using ESG practices as a tool to extract private benefits from firms at the cost of shareholders. Eccles *et al.* (2014) investigate the effect of corporate sustainability on firm performance based on a matched sample of 180 U.S. firms. They find that firms with high sustainability considerably outperform their counterparts either based on accounting or market proxies over the long run. Similarly, Albuquerque *et al.* (2019) examine the effect of CSR on firm value

Sign	Firm performance variables	ESG measures	Sample	Citations
Positive	ROA; Tobin's $q$	ESG ratings from KLD database	21,638 firm-year observations from 1992 to 2007	Gillan <i>et al.</i> (2010)
	Accounting and market indices Tobin's $q$	ASSET 4 data set	A matched sample of 180 U.S. firms	Eccles <i>et al.</i> (2014)
		MSCI's ESG Research database	A panel of U.S. firms from 2003 to 2015 with a total of 28,578 firm-year observations	Albuquerque <i>et al.</i> (2019)
	Tobin's $q$	A stringent global corporate environmental standard	The U.S. Standard and Poor's 500 list of corporations from 1994 to 1997	Dowell <i>et al.</i> (2000)
	Short-run stock returns	The announcement of corporate news related to the environment from Factiva	All US publicly traded companies from 1980 to 2009	Flammer (2013)
	Long-run stock returns	Employee satisfaction	The list of the "100 Best Companies to Work for in America"	Edmans (2011, 2012)
	Tobin's $q$	KLD Stats database	Firms covered in KLD from 1991 to 2005	Servaes and Tamayo (2013)
Long-run stock returns	Proprietary database of CSR engagements	613 U.S. public companies from 1999 to 2009	Dimson <i>et al.</i> (2015)	
Negative	Long-run stock returns	Carbon dioxide emissions	3,421 U.S. companies from 2005 to 2017	Bolton and Kacperczyk (2021)
	Long-run stock returns	KLD database	A sample of 11,711 firm years from 1992 to 2006	Borghesi <i>et al.</i> (2014)
	Long-run stock returns; ROA	KLD database	A panel of Russell 3,000 from 2003 to 2009	Di Giuli and Kostovetsky (2014)
	Long-run stock returns	Sin stocks including alcohol, tobacco and gaming	U.S. sin stocks from 1926 to 2006	Hong and Kacperczyk (2009)
	Short-run stock returns	Corporate giving from National Directory of Corporate Giving	Fortune 500 companies between 1996 and 2006	Masulis and Reza (2015)
Zero	Long-run stock returns	Proprietary ESG ratings from Sustainability Asset Management Group GmbH	UK firms in SAM database from 2002 to 2010	Humphrey <i>et al.</i> (2012)
Positive but small	Meta-analysis of 192 effects in 167 studies			Margolis <i>et al.</i> (2009)

**Note(s):** Table 4 summarizes the impact of ESG on firms' performance as reported by preceding empirical studies. The first column indicates the sign of the relationship between firm-level ESG and firm performance. The second column shows the variables that are used to measure firm performance. The third column shows the corresponding ESG measures. The fourth column documents the sample used and the final column contains the citation to the empirical literature

**Table 4.** Empirical research on the impacts of ESG on firms' performance

based on a comprehensive ESG data set from MSCI's ESG Research database (KLD). Based on a panel of U.S. firms spanning from 2003 to 2015, they find a positive association between firm-level CSR and firm value (as proxied by Tobin's  $q$ ).

There are other studies that provide evidence that companies conducting ESG practices enhance firm value and shareholder wealth. For example, [Dowell et al. \(2000\)](#) show that firms committing to a single stringent global environmental standard exhibit higher market values, as measured by Tobin's  $q$ . In a similar vein, [Flammer \(2013\)](#) conducted an event study on the corporate news announcement regarding the environment for U.S. listed firms from 1980 to 2009. [Flammer \(2013\)](#) finds that companies reported to behave in an environmentally-friendly manner experience a significant stock price jump. Furthermore, [Edmans \(2011, 2012\)](#) found a positive relationship between employee satisfaction (one theme under the "S" pillar) and long-run stock return. [Servaes and Tamayo \(2013\)](#) also provide evidence that CSR activities can add value to firms under certain conditions, though [Lei et al. \(2022\)](#) argue that the effect is executive-specific, not firm-specific.

Lastly, [Dimson et al. \(2015\)](#) analyze the effect brought by ESG activism. Specifically, they show that the market reacts positively to successful engagements, especially on corporate governance and climate-change engagements and no market reaction to unsuccessful ones. For targeted firms, the outcomes from ESG changes are improved operating performance, profitability, efficiency, shareholdings and governance. In sum, these studies provide examples of channels through which CSR can enhance shareholder wealth [28].

Beyond these studies, there is a mass of academic literature examining the relationship between ESG and firm performance. Summarizing more than 2,000 empirical studies, [Friede et al. \(2015\)](#) extract provided data from about 2,200 individual studies. They find that roughly 90% of previous studies find a nonnegative ESG and firm performance relation. Most studies have positive results. They argue that the positive impact of ESG on firm performance seems to be stable over time.

However, despite this mass of literature supporting the idea that CSR/ESG improves firm performance, some studies find a negative relation between CSR investments and firm performance (e.g. [Bolton and Kacperczyk, 2021](#); [Borghesi et al., 2014](#); [Di Giuli and Kostovetsky, 2014](#); [Hong and Kacperczyk, 2009](#); [Masulis and Reza, 2015](#)). For example, [Borghesi et al. \(2014\)](#) find that there is a negative relation between the industry-adjusted CSR level and shareholder returns based on the Fama-French 4-factor model. Their findings suggest that some CSR investments are made for the private benefits of managers – either out of moral reasons or simply to enhance their personal reputation. Similarly, [Di Giuli and Kostovetsky \(2014\)](#) show that an expansion of CSR activities comes with negative future stock returns and a deterioration in firms' ROA. Their evidence supports that socially responsible activities that are beneficial to stakeholders are at the expense of firm value. These studies help explain why not all firms vigorously implement ESG practices. After all, if ESG or CSR investments are financially profitable, we would expect all firms to actively conduct ESG policies.

Finally, some studies show that there is no or a slightly positive correlation between ESG and corporate returns. For example, [McWilliams and Siegel \(2001\)](#) posit a supply and demand model of CSR from the firm perspective. They predict that there is a neutral relationship between CSR and financial performance. Empirically, [Humphrey et al. \(2012\)](#) use a proprietary CSP ratings database from Sustainability Asset Management Group GmbH (SAM) and find that UK firms with high or low ESG ratings do not have differing risk-adjusted returns. They draw the conclusion that CSP does not have a systematic effect, either good or bad, at least in the UK market. In a review paper, [Margolis et al. \(2009\)](#) conduct a meta-analysis of 167 quantitative studies regarding corporate social performance (CSP) and corporate financial performance (CFP). They find that the overall effect is positive but small.

However, one critical limitation of this strand of literature is that CSR is endogenous with respect to firm value or other performance measurements. To examine whether the relationship is causal rather than simply driven by correlation, [Flammer \(2015\)](#) uses a regression discontinuity design (RDD) approach by exploiting close-call shareholder

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proposals on CSR. Since those CSR proposals could pass or be rejected by a minor margin of votes, it acts as a random assignment of CSR to firms. The findings imply that CSR leads to superior financial performance resulting from increased labor productivity and sales growth. However, this study cannot be taken as a generalized result but only suggests that adopting close CSR proposals is beneficial to corporations.

Apart from the endogeneity issue, the sign of the empirical relationship between CSR/ESG and firm performance is still inconclusive. There are several reasons behind this lack of conviction. First, the conflicting results might arise from the different motives behind firms' conducting CSR/ESG. Differing motives may imply differing relationships between CSR/ESG and firm returns. Second, as noted previously, different studies pick different proxies for CSR/ESG performance and firm performance. Though most of the recent studies use the ESG ratings from data providers, there exist huge discrepancies among ESG ratings providers (Berg *et al.*, 2022; Liang and Renneboog, 2020). In addition, several studies apply accounting numbers to measure corporate returns while others use market indices. Third, most empirical studies analyze the U.S. markets while studies on European countries and emerging markets are relatively recent. However, due to the divergence in ESG and CSR policies across regions, it is not surprising that there exist differences in the relation between CSR/ESG and firm returns. Beyond country differences, the relation between CSR and firm performance is also likely subject to industrial differences. For instance, Fowlie (2010) shows that reducing greenhouse gas emissions is costly for utilities and thus not an apparent profit-improving decision. Fourth, firms may face a trade-off between different components of ESG. Limbach *et al.* (2022) document that, especially when facing financial constraints, firms appear to substitute spending on one component with another. They document a negative relationship between E and S in their sample over most of their sample period. The final issue is that the market's view on CSR/ESG is changing over time, or the market is learning about CSR/ESG. In other words, environmental and social factors might be gradually incorporated into asset pricing models used by investors, resulting in a time-varying relationship between CSR/ESG and firm returns.

## 5. Other consequences of ESG

Although ESG appears to have become part of mainstream investing philosophy these years, in previous sections, we noted that the increasing prominence of ESG in investing decisions has been accompanied by other consequences such as corporate greenwashing and institutional investor greenwashing. Given this backdrop, a backlash has developed against ESG recently, in what appears to be termed anti-ESG. We note that there is little empirical evidence on these anti-ESG activities.

### 5.1 Corporate greenwashing and institutional investor greenwashing

Critics of ESG argue that there is a gap between companies' aspirations and actual delivery in relation to ESG. This exaggeration in corporate sustainability has been termed corporate greenwashing. Greenwashing occurs not only in companies but also among institutional investors. ESG funds have also been shown to mislead investors regarding their sustainability. For example, there are funds that label themselves as ESG without investing in green stocks. Some funds rename themselves as CSR or ESG funds without changing underlying holdings.

Greenwashing has attracted increasing media and regulatory attention. For instance, as noted earlier, in November 2022, Goldman Sachs was fined \$4 million by the SEC over ESG claims made by some of its funds [29]. In May 2022, BNY Mellon Investment Advisers paid a fine over SEC concerns about similar claims that its investments had all been done under an

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ESG quality review while in fact not always being the case. Regulators are also in the process of setting up rules to govern ESG labeling by mutual funds (Temple-West and Franklin, 2022). For example, the SEC is proposing rules to mandate that ESG funds disclose their strategies in greater detail than they do now.

### 5.2 Backlash against ESG

Given the recent weak stock market performance globally, many investors have recalibrated their portfolios and withdrawn funds from ESG strategies. Specifically, after three years of inflows, investment in do-good ETFs appears to have halted with investors withdrawing money from US equity ETFs with higher ESG standards. ESG equity funds experienced a record month of outflows in May 2022 for the first time in nearly six years (Bloomberg, 2022). ESG funds have also faced a political backlash. For instance, in 2022, the Republican Texas legislature passed a law banning its state pension and investment funds from working with asset managers who “boycott” investing in fossil fuels, which covers most ESG firms. Consequent to the passage of that law, a Texas school district dropped UBS Group AG as its municipal-bond underwriter because state Republicans labeled it unfriendly to the oil industry. Because the school district was forced to redo its bond sale, it then demanded that the bank refund it for the costs it incurred after it had to resell the debt as a result, not the Republican attorney general’s office that is enforcing the law. The attorney general’s office represented the district in its effort to recoup the costs incurred from having to resell the debt (Albright and Moran, 2022). In addition, Utah’s Republican governor and senators requested that S&P Global stop rating states and their bonds in terms of their ESG performance, which they argued was politicization of a fiscal matter. It is not surprising therefore, that, as previously noted, an increasing number of firms are ceasing to publicize their ESG efforts.

## 6. Conclusion

Over the past two decades, the attention paid to ESG and CSR issues has experienced an exponential growth worldwide, reflecting the burgeoning awareness of investors and corporations to environmental, social and governance issues. This paper offers an overview of academic literature on ESG/CSR through the lens of investors, institutions and firms.

In particular, we review the two different views in modern finance: shareholder and stakeholder primacy. We further discuss the definitions of ESG and CSR and their relationship. In the second part of the survey, we describe how ESG is measured. Problems with ESG data including the quality of ESG data and the discrepancies between the different measures. In the third section, we review the research on investors by answering two main questions: what types of investors invest in ESG and the role of institutional investors in ESG. In the fourth section, we review previous research on ESG/CSR from the firm’s perspective. We study why firms themselves conduct ESG. Specifically, we analyze different views regarding the motives behind firms conducting ESG. We also summarize the literature on the impacts of ESG on firms: how ESG affects firms’ financing, disclosure and reporting activities and firm performance. Additionally, we raise several issues and reasons pertaining to the inconsistent empirical results regarding the relationship between firm-level CSR and firm performance. We also describe other consequences that have arisen from the current emphasis on ESG and CSR.

Despite a number of clear findings on why investors and firms conduct ESG and how ESG affects investor returns and firm performance, many questions related to ESG/CSR have inconclusive answers. Directions for future research include how other stakeholders such as customers and employees act as drivers behind firms conducting ESG/CSR and how ESG/CSR affects firms’ investing and payout policies. Furthermore, it might be interesting to

explore the primary driver of investors, institutions and firms conducting ESG practices in greater depth. While numerous studies report that firms conducting ESG/CSR practices increase firm performance, the stability (and direction) of this relation remains a central debate in this area. New theories and empirical designs that provide causal interpretation are needed for future research.

## Notes

1. PRI is a United Nations-supported international network of investors working together to promote the incorporation of ESG into investment decision-making. PRI signatories and AUM data are retrieved from <https://www.unpri.org/about-us/about-the-pri>.
2. Large corporations' websites typically actively discuss their ESG engagements and regularly communicate their ESG efforts through an annual or sustainability report to the public. For instance, Intel reports its ESG activity at <https://www.intc.com/esg>; General Electric at <https://www.ge.com/sustainability>; and Google at: <https://sustainability.google/>.
3. Hart and Zingales (2022) stress the importance of a new corporate governance paradigm that is different from traditional shareholder value maximization but can adjust the behavior of investors addressing environmental and social issues at the cost of sacrificing pecuniary benefits. They propose the criterion of shareholder welfare maximization and argue that it offers better explanation for the observed behavior.
4. As an example, in 2021, Fox News received a stockholder proposal to transition to a public benefit corporation (PBC). The proposal noted "Misinformation can put democracy at risk, threaten public interest in the environment and undermine public health. These threats could be prioritized at a PBC, even if doing so sacrificed financial return. The vast majority of our diversified shareholders lose when companies harm the economy, because the value of diversified portfolios rises and falls with GDP. While a concentrated holder may profit when the Company inflicts costs on society by emphasizing viewership over accuracy, diversified shareholders internalize those costs." Available at [https://www.sec.gov/Archives/edgar/data/1754301/000119312521276133/d181730ddef14a.htm#rom181730\\_42](https://www.sec.gov/Archives/edgar/data/1754301/000119312521276133/d181730ddef14a.htm#rom181730_42)
5. Among various ESG investing strategies, engagement, ESG integration and negative screening are frequently implemented by socially conscious institutional investors (Gibson *et al.*, 2020).
6. Dahlsrud (2008) summarizes 37 definitions of CSR. In the paper, the author develops five dimensions of CSR through a content analysis: the environmental dimension, the social dimension, the economic dimension, the stakeholder dimension and the voluntariness dimension. Kitzmueller and Shimshack (2012) also provide economic perspectives on corporate social responsibility.
7. Materiality is an accounting concept. Information is material, if omitting or misstating it, could influence decisions investors make based on the financial information. Essentially, materiality refers to the significance of information within a firm's financial statements. Recently, due to the increased demand for sustainability, a business might include information related to its ESG practices. ESG materiality refers to the materiality of an ESG issue to a firm's financial performance.
8. As ESG investing becomes mainstream, more ESG rating providers were acquired by commercial financial data providers. For example, KLD was acquired by RiskMetrics in 2009 and MSCI further bought RiskMetrics in 2010, Morningstar acquired 40% of Sustainalytics in 2017 and acquired the remaining shares of Sustainalytics in 2020, Vigeo-Eiris was bought by Moody's in 2017 and RobecoSAM was bought by S&P Global in 2019.
9. MSCI IVA database was initially created by Innovest, which was acquired by RiskMetrics in 2009 before RiskMetrics was acquired by MSCI.
10. See Tsang *et al.* (2022) for a survey of the ESG disclosure literature in accounting research.
11. Berg *et al.* (2022) report that ESG rating agencies use diversified categories (sets of attributes), which they term scope divergence. Measurement divergence occurs when these raters apply different indicators to measure the same category. Weight divergence results from rating agencies attaching different weights to the different categories when producing the overall ESG rating.

12. The Global Sustainable Investment Alliance (GSIA) defines sustainable investment as a term that includes investment approaches that considers ESG factors in portfolio selection and management. Sustainable investment may be used interchangeably with responsible investment and SRI.
13. For example, BlackRock has launched six ESG index funds under its iShares brand to meet the increasing demand from UK investors for climate-related products. Vanguard launched its first actively managed ESG fund, Global ESG Select Stock Fund (VEIGX) in 2019 and offers a range of sustainability funds as well. State Street launched their Gender Diversity Index ETF (Ticker: SHE) on March 8, 2016.
14. In 2021, investors poured around \$70 billion (net inflows) into 534 existing open-end and exchange-traded funds (ETFs) that claim sustainable investing mandate. These sustainable funds have \$357 billion in assets till the end of 2021. Over the year, 121 sustainable funds were launched with 26 existing funds adopting some type of sustainable mandates. In addition, there are five times as many sustainable funds in the U.S. in the 2020s than a decade ago and three times more than five years ago.
15. [Białkowski and Starks \(2016\)](#) show that investor demand for SRI mutual funds differs from that of conventional funds in that flows to SRI funds exhibit greater growth and more persistence than flows to conventional funds.
16. For DWS, see Walker, O. and Miller, J. (2022), German Police Raid DWS and Deutsche Bank Over Greenwashing Allegations. *The Financial Times*, 31 May 2022. Available at: <https://www.ft.com/content/ff27167d-5339-47b8-a261-6f25e1534942>. For BNY Mellon, see “SEC Charges BNY Mellon Investment Adviser for Misstatements and Omissions Concerning ESG Considerations” Available at <https://www.sec.gov/news/press-release/2022-86>. For Goldman Sachs, see “SEC Charges Goldman Sachs Asset Management for Failing to Follow its Policies and Procedures Involving ESG Investments.” Available at <https://www.sec.gov/news/press-release/2022-209>.
17. Social capital is measured based on two measures of norms and two measures of networks: the census mail response rate, the votes cast in presidential elections and the number of associations and non-profit organizations each per 10,000 people.
18. Empirical evidence shows that CEOs and directors are critical factors in shaping their firm’s corporate social responsibility (e.g. [Davidson et al., 2019](#); [Iliev and Roth, 2021](#))
19. Lee, S. T. T. and Stapczynski, S. (2022) report that, to reduce its official carbon footprint, Sembcorp Industries Ltd. sold two coal-fired power plants to an Omani group. According to the article “The company told shareholders that the sale would lower its greenhouse gas emissions intensity by 38%, more than enough to dodge the penalties attached to the company’s sustainability-linked bonds. But the firm financed the sale of the assets with a 15-year loan and retains “substantial” liabilities and “operational influence,” over the business . . . That effectively makes Sembcorp a shadow bank for the coal industry.” See Lee, S. T. T. and Stapczynski, S. (2022) “Top-Performing Singapore Firm Accused of Greenwashing in India Coal Sale”. Available at <https://www.bloomberg.com/news/articles/2022-11-09/top-performing-singapore-stock-with-temasek-backing-is-accused-of-greenwashing>.
20. Greenhouse Gas (GHG) emissions are classified into Scope 1, 2 and 3. Scope 1 covers direct GHG emissions produced from owned or controlled facilities by the firm. Scope 2 covers indirect emissions from the firm’s consumption of purchased electricity, steam, heating and cooling, while Scope 3 accounts for all other indirect emissions that happen in the firm’s value chain.
21. Nevertheless, there exist mandatory ESG disclosure requirements around the world. For example, [Krueger et al. \(2021\)](#) show that there are 29 countries with mandates for firms to disclose nonfinancial information. They also provide evidence that mandatory ESG disclosure increases the quantity and quality of ESG reporting and brings about beneficial informational and real effects.
22. [Moravcikova et al. \(2015\)](#) also list the four main aspects of a qualified CSR report: credibility, completeness, significance and appropriate form.
23. The communication of CSR information can also be helpful for investors to estimate future cash flows of firms and better assess a firm’s risks (for example, [Amel-Zadeh and Serafeim, 2018](#); [Dhaliwal et al., 2011, 2012](#); [Grewal et al., 2021](#)).



24. Giannarakis *et al.* (2014) detail the critical determinants of CSR disclosure in a US context.
25. Krüger (2015) studies the shareholder wealth implications of positive and negative CSR events based on a unique dataset. One key finding is that investors react strongly negatively to negative CSR events and weakly negatively to positive CSR events.
26. Similarly, Brandon *et al.* (2021a, b) also find that investors' preferences for sustainable investing grow over time.
27. Embedded with endogeneity issues and without a perfect instrument or natural experiment, the authors apply several dimensions to measure the effect of ESG on firm performance and valuation – to understand how ESG performance translates into wealth for shareholders.
28. Krueger *et al.* (2021) investigate the value consequences of CSR by following smart money. They find that there exists an asymmetry between firm policies that mitigate environmental risk and those that promote environmental friendliness. Especially, corporate policies that mitigate environmental risks create shareholder value while this is not the case for those that enhance environmental friendliness.
29. The SEC press release (available at <https://www.sec.gov/news/press-release/2022-209>) notes that “From April 2017 until February 2020, GSAM had several policies and procedures failures involving the ESG research its investment teams used to select and monitor securities. From April 2017 until June 2018, the company failed to have any written policies and procedures for ESG research in one product and once policies and procedures were established, it failed to follow them consistently prior to February 2020. For example, the order finds that GSAM’s policies and procedures required its personnel to complete a questionnaire for every company it planned to include in each product’s investment portfolio prior to the selection; however, personnel completed many of the ESG questionnaires after securities were already selected for inclusion and relied on previous ESG research, which was often conducted in a different manner than what was required in its policies and procedures. GSAM shared information about its policies and procedures, which it failed to follow consistently, with third parties, including intermediaries and the funds’ board of trustees.”

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