

# UNRAVELING THE ESG REPORTING LANDSCAPE: A COMPREHENSIVE ANALYSIS OF STANDARDS, FRAMEWORKS, AND IMPACT ON FIRMS

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In the constantly changing landscape of corporate sustainability, navigating the complex network of ESG reporting standards and frameworks has become a significant challenge for businesses worldwide. This research seeks to improve understanding of ESG reporting and shed light on the complexities of the ESG disclosure landscape by focusing on three aspects of ESG reporting: regulatory standards, ESG frameworks, and their impact on firms. It provides detailed comparisons of various themes of standards and frameworks, as well as a comprehensive examination of the diverse methodologies used by ESG data providers to determine and quantify ESG scores or rankings. By clarifying the intricacies of these methodologies, our research aims to provide stakeholders with a deeper understanding of the underlying processes that drive the generation and dissemination of ESG data within the financial ecosystem. Ultimately, we highlight key findings from different regions, offering insights into the varying effects of ESG disclosure on firm characteristics.

**Keywords:**  
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## 1 Introduction

In the ever-evolving landscape of corporate sustainability, navigating the intricate web of Environmental, Social, and Governance (ESG) reporting standards and frameworks has become a formidable challenge for businesses worldwide. This research endeavors to enhance the comprehension of ESG reporting and illuminate the intricacies of the ESG disclosure landscape by focusing on three dimensions of ESG reporting: regulatory standards, ESG frameworks, and impact on firms.

Reporting information on sustainability matters became inevitable for firms due to the increasing demand from stakeholders. Providing material information on sustainability matters enables stakeholders to assess the firms' exposure to sustainability-related risks and opportunities. Firms consider sustainability matters in their business activities to take advantage of the benefits of engaging stakeholders, accessing to cheaper funding, retaining supplier relationships, and exploiting the marketing power of sustainability, which can contribute to improving competitiveness. Due to the harmonization of the sustainability reporting regulation and standards, the IFRS Sustainability Disclosure Standards<sup>1</sup> and the European Sustainability Reporting Standards (ESRS)<sup>2</sup> will acquire a significant market share in sustainability reporting in the coming years.

Firms also recognized that aligning with ESG frameworks, especially ESG ratings and rankings, can effectively attract investors and help address broader stakeholder concerns. On the other hand, the diverse scope and methodology of ESG ratings and rankings lead to divergence in firms' ESG performance and require firms to collaborate with more third-party aggregators to disseminate ESG disclosures efficiently.

ESG disclosures provide valuable insight into the governance and the policies, but ongoing debate exists on whether ESG significantly influences the firm characteristics. Most of the firms align financial objectives behind improving ESG performance. Enhancing shareholder value, decreasing the cost of capital, or increasing profitability can strengthen firms' commitment toward ESG concerns. In this research, we summarize the existing literature concerning the impact of ESG on

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<sup>1</sup> IFRS Sustainability Disclosure Standards

<sup>2</sup> European Sustainability Reporting Standards

firm characteristics with a focus on the different geographical locations and show the impacts firms can expect from engaging in the ESG reporting landscape.

## 2 Policy and regulatory drivers of ESG disclosures

After the Paris Agreement and the European Green Deal entered into force, sustainability reporting regulation took a different approach in the United States and the European Union. In the United States, sustainability reporting was voluntary and motivated by the market. At the same time, the European Commission created prudential rules in the form of directives, guidelines, and regulations to incentivize disclosures on sustainability matters. Both legislation relied heavily on sustainability reporting standards like standards of the Global Reporting Initiative (GRI)<sup>3</sup>, the Sustainability Accounting Standards Board (SASB)<sup>4</sup>, and the recommendations of the Task Force on Climate Change Disclosures (TCFD)<sup>5</sup>, and introduced regulations that required the financial market participants to disclose information on the climate-related risks and opportunities related to financial products.

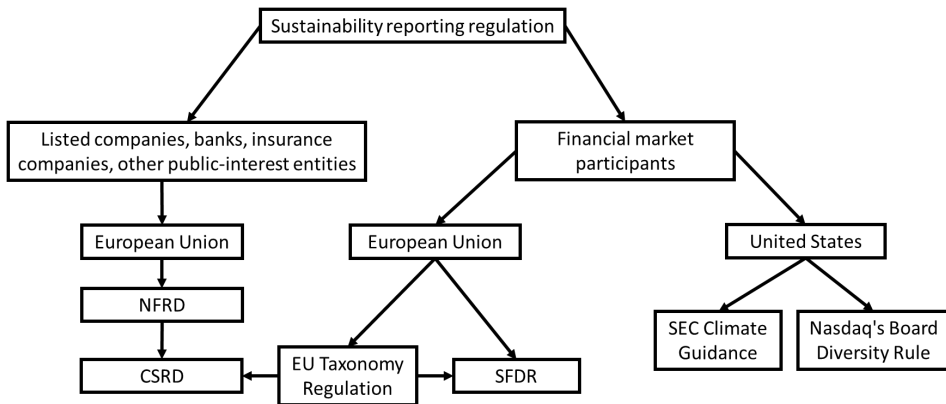


Figure 1: Sustainability reporting regulation

Source: Own

<sup>3</sup> Global Reporting Initiative

<sup>4</sup> Sustainability Accounting Standards Board

<sup>5</sup> Task Force on Climate Change Disclosures

Considering the legislation in the United States, the Security Exchange Commission (SEC) introduced guidance on climate change-related disclosures<sup>6</sup> in 2010 in which they required issuers to disclose material information on climate-related risks and opportunities in the business description, legal proceedings, risk factors, and Management Discussion and Analysis (MD&A). In 2021, the SEC accepted the new rules of the Nasdaq Stock Exchange listings<sup>7</sup>, which required firms to disclose material information on the diversity of the board. In March 2022, the SEC introduced the amendments to the climate guidance<sup>8</sup>, which requires domestic and foreign issuers to disclose climate-related information, including the governance, strategy, management processes, metrics, and targets concerning climate-related risks and opportunities from the financial year 2023.

Considering the legislation in the European Union, listed companies, banks, insurance companies and other large public-interest entities were obliged to publish non-financial statements from the financial year 2017 in accordance with Non-Financial Reporting Directive<sup>9</sup> (NFRD). On 5th of January 2023, the Corporate Sustainability Reporting Directive<sup>10</sup> (CSRD) entered into force, and large, public-interest entities have to apply the European Sustainability Reporting Standards (ESRS) drafted by the European Financial Reporting Advisory Group (EFRAG) starting from January 2024. CSRD incorporated sustainability reports, governance matters, double materiality, and sustainability due diligence in the context of the sustainability reporting policy. Firms have to disclose capital expenditure (CapEx) and operating expenditure (OpEx) associated with taxonomy-aligned activities and targets for 2030 and 2050 in accordance with the European Green Deal. CSRD also requires auditing for the sustainability reports.

In March 2021, the European Union introduced the Sustainable Finance Disclosure Regulation<sup>11</sup> (SFDR), which required financial market participants to disclose information on sustainability matters related to financial products. Financial market participants have to disclose 14 adverse impact indicators and can choose additional ones that can indicate the sustainability of their investments. In June 2020, the EU

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<sup>6</sup> SEC Climate Guidance

<sup>7</sup> Nasdaq's Board Diversity Rule

<sup>8</sup> The Enhancement and Standardization of Climate-Related Disclosures for Investors

<sup>9</sup> NFRD, Directive 2014/95/EU

<sup>10</sup> CSRD, Directive (EU) 2022/2464

<sup>11</sup> SFDR, Regulation (EU) 2019/2088

Taxonomy Regulation<sup>12</sup> amended SFDR by introducing criteria enabling investors to assess the sustainability of economic activities. Due to this regulation, firms can disclose data about their sustainable revenue, capital expenditures, and operating expenditures related to the six environmental objectives, including climate change mitigation, climate change adaptation, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, the protection and restoration of biodiversity and ecosystems, defined in the EU Taxonomy Regulation. Firms subject to CSRD have to report to what extent the EU Taxonomy Regulation covers their activity (taxonomy-eligibility) and to what extent they comply with the delegated acts (taxonomy-alignment), including the activities' screening criteria.

### **3 Sustainability reporting standards**

Till the harmonization of the sustainability reporting standards, a wide variety of standards were available for firms. However, firms mostly applied the standards of GRI, SASB, and the recommendations of TCFD. The IFRS Foundation acquired SASB and the Climate Disclosure Standards Board<sup>13</sup> (CDSB) and drafted the IFRS Sustainability Standards, which were published in June 2023. IFRS sustainability standards involve the structure of TCFD recommendations and recommend the application of SASB industry-specific standards and the CDSB frameworks on water and biodiversity.

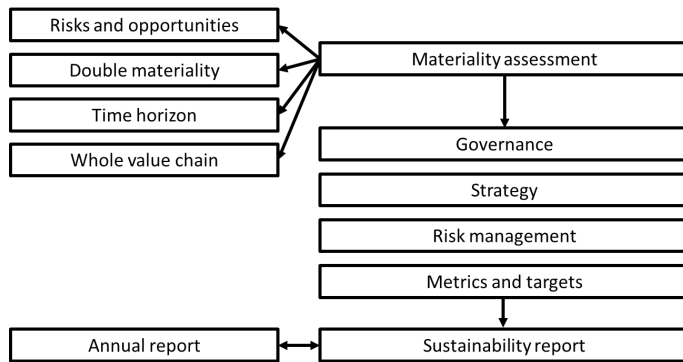
The European Commission mandated EFRAG to draft the European Sustainability Standards (ESRS), which were adopted in July 2023. Due to CSRD, large entities subject to the NFRD have to comply with ESRS starting from January 2024, listed SMEs have to apply ESRS from January 2026, and third-country companies with a European subsidiary have to report in accordance with ESRS starting from January 2028. Thus, ESRS will play a crucial role in sustainability reporting in the coming years.

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<sup>12</sup> EU Taxonomy, Regulation (EU) 2020/852

<sup>13</sup> Climate Disclosure Standards Board

Figure 2. presents the principles of sustainability reporting in accordance with ESRS. ESRS customizes the recommendations of the IFRS standards considering the European policy and incorporates the important topics from the GRI. Applying a double materiality approach, ESRS distinguishes financial and impact materiality. Firms have to report sustainability-related risks and opportunities concerning the whole value chain and have to consider the time horizon of the impact. Firms have to conduct a materiality assessment involving the thematic standards of ESRS according to these principles. The structure of the report has to follow the recommendations of TCFD.



**Figure 2: Principles of sustainability reporting**

Source: Own

Before CSRD entered into force, firms usually reported on the material topics of GRI and SASB standards and the TCFD recommendations. Firms will focus on the ESRS and IFRS standards in the coming years.

#### 4 ESG frameworks: investor expectations and stakeholder engagement

Unlike ESG reporting standards, which are more technical and focus on specific requirements, ESG frameworks are oriented towards principles. Their primary focus revolves around broader inquiries, such as the structuring of information and the collection of relevant data. ESG frameworks can be broadly categorized into three key sections. Firstly, voluntary disclosure frameworks such as the Carbon Disclosure

Project<sup>14</sup> (CDP), the Global Real Estate Sustainability Benchmark<sup>15</sup> (GRESB), and the Dow Jones Sustainability Indices<sup>16</sup> (DJSI) operate on a voluntary basis, emphasizing proactive information disclosure by organizations. Secondly, guidance frameworks, including TCFD, CDSB, and the International Integrated Reporting Council<sup>17</sup> (IIRC), provide structured guidance and principles to assist organizations in integrating ESG considerations into their reporting practices. Lastly, the landscape encompasses third-party aggregators represented by ESG data providers, playing a pivotal role in collecting, analyzing, and disseminating ESG data, thereby contributing to the broader ecosystem of ESG reporting. This classification illuminates the diverse roles of frameworks, whether voluntary, guidance-oriented, or aggregative, within the contemporary framework of corporate reporting.

Beyond regulatory compliance, firms are increasingly recognizing the importance of aligning with ESG frameworks, specifically the third category, to attract investors and address broader stakeholder concerns. These objectives are primarily achieved through the attainment of a favorable ESG score or ranking and through receiving positive evaluations from the prominent "Big Four" accounting firms. Table 1 demonstrates a comparative analysis of the diverse objectives, scopes, and methodologies pursued by prominent ESG data providers and the Big Four. Such an examination allows for an understanding of the overarching goals and strategic orientations inherent to each of these entities within the ESG data landscape. In addition, it offers firms invaluable insights into the specific dimensions around which they can tailor their ESG disclosure practices to convey their commitment and performance in alignment with these metrics.

The scope and the methodology of the ESG data providers can diverge significantly, which leads to diverse measurements of the firm's ESG performance. Metrics can be categorized mainly as materiality-based metrics or risks and opportunity-based metrics. However, some thematic scopes like carbon emission, supply chain sustainability, and hidden costs of unsustainable resource use appear among the scopes of the metrics. Across methodology, comprehensive, fundamental, and thematic metrics can be distinguished. Comprehensive metrics use public domain and privately collected data to construct the ESG metrics. Fundamental metrics use

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<sup>14</sup> Carbon Disclosure Project

<sup>15</sup> Global Real Estate Sustainability Benchmark

<sup>16</sup> Dow Jones Sustainability Indices

<sup>17</sup> International Integrated Reporting Council

only public domain data, while thematic ESG data providers construct metrics for a specific use case.

**Table 1: ESG frameworks: objectives, scope, methodology**

Framework	Objective	Scope	Methodology
MSCI	To measure financially material ESG risks and opportunities	Risks and opportunities	Comprehensive
Sustainalytics	To measure financially material ESG risks	Risks	Comprehensive
S&P Global	To measure companies performance on and management of material ESG risks, opportunities and impacts	Risks, opportunities, and impacts	Comprehensive
ISS ESG	To measure the ability to manage material ESG risks, mitigate negative and generate positive social and environmental impacts	ESG risks, enviromental and social impacts	Comprehensive
FTSE Russel	To measure a company’s exposure to and management of ESG issues in multiple dimensions	Materiality	Comprehensive
LSEG	To measure the ESG performance considering industry-specific materiality	Materiality	Fundamental
Bloomberg	To measure the ESG performance considering industry-specific materiality	Materiality	Fundamental
Ecovadis	To measure the sustainability of procurement programs within global value chains	Sustainability of supply chains	Thematic
Trucost	To assess risks relating to climate change and natural resource constraints	Hidden costs of using unsustainable resources	Thematic
CDP	To measure carbon emissions of companies and cities	Carbon emissions	Thematic
Big Four	To identify common ESG metrics and recommend consitent ESG disclosure	Common ESG metrics	Thematic

Source: MSCI, Sustainalytics, S&P Global, ISS ESG, FTSE Russel, LSEG, Bloomberg, Ecovadis, Trucost, CDP, WEF

Alignment with different data providers can benefit the firms and enable them to disseminate ESG disclosure efficiently. Most investors follow more than one



metrics, which allows them to assess the sustainability of their investments from different angles according to the strengths and weaknesses of the metrics.

## **5 Impact of ESG disclosure on firm characteristics**

ESG holds the potential to bolster companies' competitive positions (Barron et al., 2022). While ESG scores offer valuable insights into a company's policies and governance, an ongoing debate surrounds the question of whether ESG exerts an influence on firm characteristics. The subsections below present prior studies divided by the geographical locations of the samples used in their studies. This classification allows us to explore possible geographical differences in the outcomes of ESG disclosure on firm characteristics.

### **5.1 Africa**

Agyemang and Ansong (2017) analyze 423 SMEs in Ghana for 2013 and show a positive link between CSR scores and firm financial performance. Similarly, Aboud and Diab (2019) find a statistically significantly positive relationship between ESG scores and profitability for their sample composed of 100 most active Egyptian companies in the Egyptian Stock Exchange from 2012 to 2016.

Johnson (2020) analyzes 68 firms from six Johannesburg Stock Exchange sectors over the period 2011–2018 and finds a statistically significantly negative relationship between ESG disclosure scores and weighted average cost of capital (WACC). Yet, a significant positive relationship is obtained between composite ESG disclosure scores and WACC for firms from the industrials sector. Similarly, Maama and Marimuthu (2021) examine 147 listed firms in 10 sub-Saharan African countries and demonstrate that there exists a negative relationship between ESG disclosure and cost of capital. The results of Maama and Marimuthu (2021) further show that social, governance and environmental disclosures all have negative relationships with the cost of capital.

### **5.2 Asia**

Chelawat and Trivedi (2016) demonstrate that there is a statistically significant relationship between ESG scores and profitability for Indian companies in NSE

CNX Nifty 100 from 2008 to 2013. Likewise, Yoon et al. (2018) study 705 South Korean companies from 2010 to 2015 and show a considerable relationship between ESG scores and profitability. Similar results are achieved by Zhao et al. (2018) when considering 20 Chinese power generation companies from 2007 to 2016. Atan et al. (2018), on the other hand, analyze 54 Malaysian companies from 2010 to 2013 and find no statistically significant link between ESG scores and profitability, while Behl et al. (2021) find mixed results for their sample composed of 62 Indian energy companies from 2016 to 2019.

Tanjung (2023) examines all Indonesian companies present in SRI-KEHATI and IDX30 (Indonesia) from 2012 to 2021 and demonstrates that there is a positive relationship between ESG scores and the cost of capital. Tanjung (2023) also affirms that their results indicate that the adoption of green or sustainable finance in Asia is still in its infancy and that the sector requires more time to establish an enabling environment. Nevertheless, Ellili (2020) considers 30 companies listed on the Abu Dhabi Stock Exchange and Dubai Financial Market from 2010 to 2019 and finds a statistically significant negative relationship between ESG disclosure and the cost of capital. Likewise, Chen et al. (2023) analyze Chinese A-share companies from 2010 to 2020 and show a statistically significantly negative relationship between ESG scores and the cost of capital, which is robust even when heteroscedasticity, sequence correlation, and cross-section correlation are controlled, respectively, or simultaneously. Additionally, Chen et al. (2023) demonstrate that ESG can indirectly reduce the cost of equity capital by reducing the market risk of enterprises and increasing their equity diversification. Similarly, Kumawat and Patel (2022) explore listed Indian companies on NSE 500 from 2011 to 2020 and find a negative relationship between ESG disclosure and the cost of capital.

### **5.3 Europe**

Ahmad et al. (2021) analyzed 350 firms from the FTSE350 from 2002 to 2018 and found a positive and significant impact of ESG scores on firms' financial performance. Yet, when considering individual ESG performance scores, the results are ambiguous. Additionally, Ahmad et al. (2021) demonstrate that firm size moderates the relationship between ESG scores and firms' financial performance. Nonetheless, Velte (2019) analyzed German companies on the German Prime Standard (DAX30, TecDAX, and MDAX) from 2011 to 2017 and found a negative

relationship between ESG scores and accruals-based earnings management, but no significant relationship between ESG scores and real earnings management (REM). Similarly, Cerciello et al. (2022) demonstrate a negative relationship for companies of Euro Stoxx 300 between the implementation and disclosure of sustainability in business practices and profitability. On the other hand, La Torre et al. (2020) show that there is no statistically significant relationship between stock returns of the companies in the Eurostoxx50 and ESG scores.

Khanchel and Lassoued (2022) analyze the largest firms in the STOXX Europe 600 index from 2002 to 2018 and find a statistically significant negative relationship between ESG scores and the cost of equity, but a positive relationship between ESG scores and the cost of debt. Gjergji (2020), on the other hand, examine 132 Italian SMEs in 2019 and show that in contrast to large companies, there exists a statistically significant positive relationship between ESG performance and the cost of capital; however, this pattern is capsized when the company is a family SME, as it benefits from environmental disclosure, like large companies do.

La Rosa and Bernini (2022) examine 2,599 time observations of European companies and show that there exists a negative relationship between the ESG controversy score and the cost of equity, albeit this impact is mitigated when associated with company efforts to improve environmental performance.

#### **5.4 Latin America**

Bahadori (2019) demonstrates a statistically significant positive relationship between ESG scores and profitability of 58 Brazilian listed companies from 2014 to 2018. Similarly, Järvinen (2022) shows a positive relationship between stock returns and ESG scores using a sample composed of the 50 largest Brazilian listed companies from 2015 to 2020.

Ramirez et al. (2022) examine 202 Latin American companies from 2017 to 2019 and show that there is a statistically significantly negative relationship between ESG scores and the cost of capital. Ramirez et al. (2022) also find no significant relationship between the cost of capital and Social and Environmental scores. This indicates that the increase in transparency about internal processes and governance entities can be an essential driver of value creation for firms and higher financing

confidence in Latin American firms. Similarly, Balassiano et al. (2023) consider 96 Brazilian non-financial companies from 2016 to 2020 and find a negative relationship between ESG scores and the cost of capital.

## **5.5 North America**

Brogi and Lagasio (2018) analyse 3,476 companies from the USA and show a positive association between ESG and ROA and that banks engaged in ESG matters achieve a higher ROA. On the other hand, Ersoy et al. (2022) analyse 151 US commercial banks and show an inverted U-shaped relationship between market value and ESG scores and a U-shaped relationship between market value and the Environmental Pillar Score (EPS).

Alfalih (2022) analyses S&P500 non-financial companies from 2010 to 2019 and shows a significantly positive relationship between ESG information disclosure and corporate financial performance (proxied by ROA and Tobin's Q). Likewise, Ademi and Klungseth (2022), Borghesi et al. (2014), Gao and Zhang (2015) and Fatemi et al. (2018) also show a statistically considerably positive relationship between ESG performance and financial performance (proxied by Return-on-capital-employed (ROCE)). However, it is worth mentioning that some studies also show a statistically significantly negative relationship between ESG and financial performance (Buchanan et al., 2018; Di Giuli and Kostovetsky, 2014; Masulis and Reza, 2014). As a further consideration, Csapi and Balogh (2020) show that financial performance can proxy firm-level competitiveness in the case of small and medium-sized enterprises in the United States.

Khanchel and Lassoued (2022) examine a sample of 430 S&P 500 US firms from 2011 to 2019 and show different dynamic relationships between cost of capital and ESG scores. While Governance disclosure has a negative relationship in the first years and in later years it becomes positive, while Social disclosure has a positive relationship. Environmental disclosure, on the other hand, shows a negative relationship with cost of capital in the first years and no significant relationship in later years. Similarly, Piechocka-Kaluźna (2021) considers 6,393 US companies from 2016 to 2020 and finds a statistically significantly negative relationship between ESG scores and WACC. Additionally, Piechocka-Kaluźna (2021) shows an insignificant relationship between ESG scores and cost of debt.

Piechocka-Kaluźna et al. (2021) examines 1,263 US healthcare companies from 2016 to 2020 and also show a statistically significantly negative relationship between ESG scores and WACC.

## **5.6 Oceania**

Siew et al. (2013) analyse 44 construction companies from ASX and find no statistically significant relationship between ESG disclosure and profitability. Similar results are found by Limkriangkrai et al. (2016) who analyse 329 Australia-based companies from 2009-2014.

Gholami et al. (2022) examine an extensive sample composed of Australian companies from 2007 to 2017 found on the Bloomberg database and find a statistically significantly negative relationship between ESG performance and both cost of equity and debt. Their findings also support the mitigating impact of corporate ESG performance disclosure score on the company's idiosyncratic risk as a strong complement for access to a cheaper source of funds.

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