

***ESG Disclosure in B3 Companies: Sectoral Evidence from the Reference Form***

**Divulgação ESG nas Empresas da B3: Evidências setoriais a partir do Formulário de Referência**


***Divulgación ESG en las Empresas de la B3: Evidencias Sectoriales a partir del Formulario de Referencia***

**Beatriz Fátima Morgan**

University of Brasília

Faculty of Economics, Administration, Accounting and Public Policy Management

Darcy Ribeiro Campus, Asa Norte, Brasília-DF

 <https://orcid.org/0000-0003-3573-7873>

e-mail: [beatrizmorgan@unb.br](mailto:beatrizmorgan@unb.br)

**Giovanna Ribeiro Araujo de Souza**

University of Brasília

Faculty of Economics, Administration, Accounting and Public Policy Management

Darcy Ribeiro Campus, Asa Norte, Brasília-DF

 <https://orcid.org/0009-0009-1579-8856>

e-mail: [giovannaras@gmail.com](mailto:giovannaras@gmail.com)

**Ludmila de Melo Souza**

University of Brasília (UnB)

Faculty of Economics, Administration, Accounting and Public Policy Management

Darcy Ribeiro Campus, Asa Norte, Brasília-DF

 <https://orcid.org/0000-0003-2340-2929>

email: [ludmilamel@unb.br](mailto:ludmilamel@unb.br)

**Abstract:** *In recent years, discussions on corporate governance, with an emphasis on socio-environmental policies, have intensified in the Brazilian capital market. The Reference Form, which replaced the IAN, has become essential for transparent ESG practices. CVM Resolution No. 59/2021 introduced new Reference Report guidelines and required compliance with the Brazilian Corporate Governance Code, as well as the inclusion of ESG aspects. This study examined the level of ESG adoption among publicly traded companies listed on B3 via the 2023 Reference Form. A survey was conducted with 416 companies regarding environmental, social, and governance recommendations. The findings revealed that, while most companies disclose ESG information, there are shortcomings related to the transparency and quality of the data provided regarding external audits and climate transition recommendations. Of the 65.14% of companies that disclose information, only 40.1% undergo external audits. Furthermore, the utilities, communications, and non-cyclical consumer sectors led in disclosure, ranging from 70% to 75%, while less than 30% of information technology companies disclosed information. The analysis revealed many gaps in information standardization, making it difficult to compare companies. This study provides a necessary comparative analysis and balanced evidence of the ongoing development of ESG reporting. Although there have been regulatory advances in this area, the research noted that there is still a long way to go to achieve satisfactory levels of transparency and consistency in Brazilian corporate reporting.*

**Keywords:** *Reference Form. ESG. Disclosure*

**Resumo:** Nos últimos anos, o mercado de capitais brasileiro aprofundou discussões sobre governança corporativa, com ênfase em políticas socioambientais. O Formulário de Referência, substituído do IAN, tornou-se peça-chave para a transparência das práticas ESG. A Resolução CVM nº 59/2021 trouxe novas diretrizes para o Relatório de Referência e exigiu conformidade ao Código Brasileiro de Governança Corporativa e inclusão de aspectos ESG. Este estudo verificou o nível de adoção do ESG por sociedades anônimas listadas na B3 via Formulário de Referência de 2023. A

pesquisa foi feita com 416 empresas nas recomendações ambientais, sociais e de governança. As conclusões revelaram que a maioria das empresas divulga informações ESG, mas há deficiências relacionadas à transparência e qualidade dos dados fornecidos quanto à auditoria externa e às recomendações de transição climática. Em relação ao primeiro fator, das 65,14% empresas que divulgam informações, apenas 40,1% fazem auditoria externa. Além disso, os setores de utilidade pública, comunicações e consumo não cíclico estão no topo da divulgação, entre 70 e 75%, enquanto empresas de tecnologia da informação divulgaram menos de 30%. O segundo fator demonstra que a análise revelou muitas lacunas de padronização das informações, dificultando a comparação entre empresas. O estudo apresenta uma análise comparativa necessária e evidência equilibrada do desenvolvimento contínuo do relatório ESG. A pesquisa observou que, embora haja avanços regulatórios no tema, ainda existe um longo caminho para alcançar níveis satisfatórios de transparência e consistência nos relatórios corporativos brasileiros.

**Palavras-Chave:** Formulário de Referência. ESG. Divulgação

***Resumen:** En los últimos años, el mercado de capitales brasileño ha profundizado las discusiones sobre gobernanza corporativa, con énfasis en políticas socioambientales. El Formulario de Referencia, que sustituyó al de Información Anual (IAN), se convirtió en una herramienta clave para la transparencia de las prácticas ESG. La Resolución CVM n° 59/2021 introdujo nuevas directrices para el Informe de Referencia y exigió conformidad con el Código Brasileño de Gobernanza Corporativa y la inclusión de aspectos ESG. Este estudio analizó el nivel de adopción del ESG por sociedades anónimas cotizadas en B3 mediante el Formulario de 2023. La investigación abarcó 416 empresas en las recomendaciones ambientales, sociales y de gobernanza. Los resultados revelaron que la mayoría divulga información ESG, pero persisten deficiencias en transparencia y calidad de datos, especialmente en relación con la auditoría externa y la transición climática. En el primer aspecto, del 65,14% de las empresas que informan, solo el 40,1% realiza auditoría externa. Además, los sectores de servicios públicos, comunicaciones y consumo no cíclico lideran la divulgación, con tasas entre 70 y 75%, mientras que las empresas de tecnología de la información no superan el 30%. El segundo aspecto muestra importantes lagunas en la estandarización de la información, lo que dificulta la comparación entre compañías. El estudio ofrece un análisis comparativo necesario y evidencia del desarrollo continuo del reporte ESG. Se observa que, aunque hubo avances regulatorios, aún queda un largo camino para alcanzar niveles satisfactorios de transparencia y consistencia en los informes corporativos brasileños.*

**Palabras Clave:** Formulario de Referencia. ESG. Divulgación.

## Introduction

In recent years, as the Brazilian capital market has matured, issues such as corporate governance and socio-environmental policies have been widely discussed in national and international contexts. As investors increasingly demand accountability for the guidelines adopted to comply with these policies, the Reference Report compiles the necessary information presumed to meet their needs.

Due to the amendment of Annex No. 24 of ICVM No. 480/2009, the Reference Form replaces the former Annual Information Form (IAN). According to the Brazilian Securities and Exchange Commission (CVM), the Reference Form is a disclosure template encompassing key information about the issuer and is submitted regularly as stipulated by current regulations.

CVM Resolution No. 59 of 2021 introduces changes to the quality standards for information in the Reference Report. Article 32 establishes that publicly traded companies must prepare a report detailing governance practices implemented in accordance with the Brazilian Corporate Governance Code (CBGC). The CBGC stipulates that criteria beyond the entity's financial performance must be evaluated, taking into account environmental, social, and governance aspects.

Aragão and Cavalcante's (2014) study provides an overview of the quality of data presented in the Reference Report by Brazilian companies listed on the stock exchange (B3). The authors highlight a series of irregularities and incomplete information, pointing out flaws and generic elements that ultimately impact how information is made available to investors.

According to Ribeiro (2010), the non-standardized presentation of information hinders the

assessment of companies' social function, as the lack of quantified information creates an asymmetry of reality, leading to agency conflicts and inconsistency in the information provided to investors.

Currently, studies on environmental, social, and governance (ESG) factors are scarce (da Cruz et al., 2022; Khan, 2022; Li et al., 2021), especially those that systematically analyze ESG disclosure patterns across different business sectors. Several studies have noted that ESG analyses predominantly focus on only one aspect of these factors, with a clear lack of literature addressing environmental (E) and social (S) elements. This gap hinders the full implementation of ESG, which is an integrated concept (Li et al., 2021).

Although organizations and companies are concerned about disclosing such information, research shows that companies tend to prioritize disclosing favorable data while concealing potential flaws and omissions (Silva et al., 2021).

ESG faces significant challenges regarding its classification and assessment in the current literature. Despite advances in the field, major international accounting bodies have not made significant efforts to establish standardized criteria and methodologies for scoring and disclosing ESG information. Furthermore, few studies propose a method for quantifying companies' ESG performance (Santos & Pereira, 2022). This lack of uniformity compromises the possibility of objectively comparing this information across companies.

Due to the growing need for socio-environmental information, it is important to research how Brazilian companies make information available to investors and ensure that their practices align with ESG aspects by complying with the Reference Form requirements, specifically item 1.9 of Annex C, which addresses the disclosure of ESG information.

This research is necessary because there are few studies on ESG disclosure in the Brazilian context, especially sector-specific analyses that evaluate the quality and consistency of the information disclosed in accordance with regulatory requirements. Unlike international studies, which predominantly use commercial databases to evaluate ESG practices, this study distinguishes itself by adopting a methodological approach based on a mandatory regulatory source: the CVM Reference Form.

Based on this, the following research question is posed: How can we infer the level of ESG adoption by publicly traded companies listed on B3 via the Reference Form? The study aims to verify the level of ESG adoption by publicly traded companies listed on B3 via the Reference Form. Using 2023 data, which consolidates 2022 information, the study aims to establish a basis for comparing ESG disclosure aspects in accordance with the information required by the form.

## **Theoretical Framework of the Research**

### **ESG**

The ESG movement has existed since 1970, when it was first represented at the 1st United Nations Conference on the Environment in Stockholm (Soler & Palermo, 2023). Gao et al. (2021) note that the concept of ESG emerged from socially responsible investment (SRI) between the 1960s and 1970s. Then, in 2004, the United Nations (UN) introduced the term through the report "The Global Compact. Who Cares Wins: Connecting Financial Markets to a Changing World," which provided financial institutions with guidelines for better integrating environmental, social, and corporate governance aspects.

In the business context, the three dimensions of sustainability emerged with the introduction of the triple bottom line (TBL) concept. Proposed by Elkington in 1997, the TBL addresses human and environmental needs alongside companies' pursuit of profit. Thus, the TBL aims to balance economic, social, and environmental performance in organizational strategic

decisions. According to Elkington, integrating these three dimensions is fundamental to achieving sustainable development (Soler & Palermo, 2023).

In 2015, the UN enacted an action plan comprising 17 Sustainable Development Goals (SDGs) and 169 related targets to be achieved by 2030. These targets and goals are integrated and indivisible, taking economic, social, and environmental aspects into account to achieve sustainable development (UN, 2015).

As this agenda is addressed repeatedly in multiple contexts, demand for sustainable investments has increased among investors in various regions of the world. Consequently, the demand for ESG ratings in these markets has risen significantly (Berg et al., 2022). A 2013 United Nations Global Compact survey revealed that 93% of CEOs consider ESG issues within their companies (Khan, 2022).

From 2005 to 2010, investments in socially responsible assets increased by 34%, whereas investments in conventional funds only grew by 3% (Orsato et al., 2015). During this period, 3,038 investors holding over \$100 billion in assets committed to considering ESG factors in their investment decisions. However, once companies reach a level deemed "satisfactory" by the rating, there is a lack of subsequent efforts toward continuously improving ESG performance (Berg et al., 2022).

The growing adoption of the ESG concept has sparked considerable interest among policymakers, regulators, stakeholders, managers, and academics worldwide, as evidenced by extensive research, application, and dissemination of ESG in practical settings (Li et al., 2021; Calabrese et al., 2016). Despite recognizing the importance of ESG disclosure and its performance metrics, there is still no standardization of such disclosure. This is due to rating agencies adopting different types of methodologies (Khan, 2022).

Nevertheless, international organizations are developing standards to guide companies in disclosing sustainability information. Examples include the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI), which are widely adopted by numerous companies (Torea et al., 2019; Jørgensen et al., 2021). However, international bodies such as the International Accounting Standards Board (IASB) have not yet harmonized these standards. Even though they are widely adopted, they do not clearly outline specific application guidelines (Calabrese et al., 2016; Torea et al., 2019).

The fact is that core ESG parameters have not yet been established. This results in the absence of a comprehensive materiality matrix, hindering objective comparisons between companies in quantitative performance rankings (Santos & Pereira, 2022). Furthermore, materiality assessments have been conducted subjectively. Managers identify, select, and prioritize sustainability issues based on their influence on the company and its stakeholders. This can result in biased selection of these issues (Calabrese et al., 2016; Jørgensen et al., 2021).

Additionally, the current literature highlights that ESG scores predominantly focus on the economic implications of the ratings obtained by companies, neglecting the ESG impacts inherent to business activities themselves (Santos & Pereira, 2022).

A study by Berg et al. (2022) identified various sources of divergence in ratings. The first is scope divergence, which occurs when different categories of attributes are used in the ratings. The second is measurement divergence, which occurs when rating agencies use different indicators to measure the same attribute. Finally, weight divergence occurs when rating agencies assign different levels of relevance and importance to attributes.

## **ESG Scores in Previous Studies**

As will be discussed below, contemporary studies primarily focus on the statistical aspects of ESG to establish a basis for comparison with other factors, such as financial ones.

Table 1 - ESG Scores in Previous Studies

Article	Objective	Composition of the ESG score
Santos et al., 2023	Analysis of the ESG score calculation adopted by banks for credit analysis	ESG: $\frac{\text{n}^\circ \text{ of companies with a worse score} + \left(\frac{\text{no. of companies with the same score as the one chosen}}{2}\right)}{\text{no. of companies with a score different from zero}}$
Bigelli et al., 2023	Examines the impact of European Union non-financial reporting on the relevance of specific board characteristics in promoting higher ESG scores, analyzing a dataset comprising 835 European listed companies from 2002 to 2020	$(\text{ESG})_{i,t} = \alpha_i + \beta_1(\text{Dpost}) + \beta_1(\text{BoardSize})_{i,t} + \beta_2(\text{GenderDiv})_{i,t} + \beta_3(\text{CulturalDiv})_{i,t} + \beta_4(\text{CeoDuality})_{i,t} + \beta_5(\text{Independence})_{i,t} + \beta_6(\text{CSRCommittee})_{i,t} + \beta_7(\text{LnAssets})_{i,t} + \beta_8(\text{ROA})_{i,t} + \beta_9(\text{DebtAssets})_{i,t} + \epsilon_{i,t}$
Wu et al., 2024	Explores the relationship between ESG scores and corporate resilience of Chinese listed companies between 2016 and 2022	$\text{ESG} = \alpha + \beta_1\text{Stock} + \beta\text{Control} + \sum\text{Ind} + \sum\text{Year} + \epsilon$ $\text{ESG} = \alpha + \beta_1\text{Attention} + \beta\text{Control} + \sum\text{Ind} + \sum\text{Year} + \epsilon$ $\text{ESG} = \alpha + \beta_1\text{Stock} + \beta_2\text{Attention} + \beta\text{Control} + \sum\text{Ind} + \sum\text{Year} + \epsilon$
Kim & Li, 2021	Demonstrates the relationship between ESG factors and corporate financial performance	Environmental = $\sum$ (Environmental strength + Environmental concerns) Social = $\sum$ (Community, human rights, employment, diversity, and product strengths + Community, human rights, employment, diversity, and product concerns) Governance = $\sum$ (Corporate governance strengths + Corporate governance concerns) Total ESG score = Average of the new environmental, social, and governance scores
Ihsani et al., 2023	Examines the effect of ESG performance on a company's financial performance	ENV = $\sum$ (GHG Emissions, GHG Intensity, Energy Usage, Energy Intensity, Energy Mix, Water Usage, Environmental Operations, Climate Oversight / Management, Climate Oversight/Board, Climate Risk Mitigation, Forestry Corporate Social Responsibility (CSR)) SOC = $\sum$ (CEO Pay Ratio, Gender Pay Ratio, Employee Turnover, Temporary Worker Ratio, Non-Discrimination, Injury Rate, Global Health and Safety, Child and Forced Labor, Human Rights, Social Corporate Social Responsibility (CSR)) GOV = $\sum$ (Board Diversity, Board Independence, Incentivized Pay, Collective Bargaining, Supplier Code of Conduct, Ethics & Anti-Corruption Compliance, Data Privacy, ESG Reporting, Disclosure Practices, External Assurance, Tax Transparency) ESG = The average environmental, social, and governance scores
Santos & Pereira, 2022	Proposes a methodology to quantify ESG performance in international ports	ESG: $\frac{\text{n}^\circ \text{ of ports with worse values} + \left(\frac{\text{number of ports with equal values}}{2}\right)}{\text{number of ports that declared values}}$

Source: Prepared by the authors

Measuring ESG criteria poses significant challenges due to the heterogeneity of methodologies and approaches. Studies have shown that ESG scores use varied criteria for measurement, with a predominant tendency to focus on financial aspects of companies. Therefore, the parameters used to score ESG do not directly measure ESG factors; rather, they provide a basis for comparing companies' financial results and how these results are impacted by ESG scores. Most of these studies seek to identify a correlation between companies' ESG levels

and financial performance.

However, there is a significant gap in the literature regarding studies that propose a comprehensive, uniform methodology for quantifying ESG applicable to various business sectors. Most existing research focuses on specific sectors without addressing the diversity of business sectors comprehensively.

For instance, Santos et al. (2023) analyze the ESG score calculation used by banks for credit analysis, and Bigelli et al. (2023) examine how European Union non-financial reporting affects board characteristics and promotes higher ESG scores. Wu et al. (2024) explore the relationship between ESG scores and the corporate resilience of Chinese firms. Kim and Li (2021) demonstrate the relationship between ESG factors and corporate financial performance. Each study uses a different approach to measure ESG, reflecting the variety of methodologies employed.

Furthermore, Ihsani et al. (2023) examine the effect of ESG performance on firms' financial performance using a methodology that considers various ESG indicators. Santos and Pereira (2022), in turn, propose a method for quantifying the ESG performance of international ports.

These examples illustrate the diversity of approaches and the complexity involved in measuring ESG. The lack of a standardized methodology makes it difficult to compare different studies and sectors and underscores the scarcity of research that comprehensively addresses ESG measurement. The methodological diversity and concentration of studies in specific sectors point to the need for more research to develop and validate consistent, comprehensive ESG measurement methodologies, which would facilitate comparison and analysis of ESG impacts across different business contexts.

## **Methodological Elements of the Research**

This study aims to evaluate the extent to which publicly traded companies listed on B3 have adopted ESG practices, as reported in the Reference Form. The study uses a descriptive, documentary approach with primary data collected from mandatory regulatory sources. The 2023 time frame was chosen because, at the time of data collection in 2024, the Reference Forms for that year were the most recent data available from the CVM. This allowed for a more recent assessment of the ESG disclosure practices of Brazilian publicly traded companies.

The sample was defined based on the registry of active, publicly traded companies listed on B3 and was consulted directly on the website of the stock exchange. Next, this set of companies was cross-referenced with the CVM's open database, specifically the "Public Companies: Reference Form" dataset ([dados.cvm.gov.br](https://dados.cvm.gov.br)). This dataset provides direct download links for each form in a compressed format. A Python script was used to automate the retrieval of the documents by downloading the files from the links contained in the CVM database. A total of 416 Reference Forms were collected and analyzed, corresponding to the active companies identified in the cross-referencing process. The analysis focused exclusively on item 1.9 of Annex C of the form, which addresses the disclosure of ESG governance information as defined by CVM Resolution No. 59/2021.

Item 1.9 is subdivided into subsections ranging from "a" to "i." Items "a" through "h" address various disclosure criteria: (a) whether the issuer discloses ESG information in an annual report or another document specifically intended for this purpose; (b) the methodology or standard followed in preparing the report or document; (c) whether the report or document is audited or reviewed by an independent entity and, if applicable, identifying such entity; (d) the webpage where the report or document can be found; (e) whether the produced report or document includes a materiality matrix and key ESG performance indicators and which

indicators are material to the issuer; (f) whether the report or document considers the SDGs established by the UN, identifying which SDGs are material to the issuer's business; (g) whether the report or document considers the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) or financial disclosure recommendations from other recognized entities related to climate issues; and (h) whether the issuer conducts greenhouse gas emission inventories. If applicable, it indicates the scope of inventoried emissions and the webpage where additional information can be found.

Item "i" is subdivided into six parts that address the justifications provided by companies that did not disclose all or part of the information. These parts consider each of the aforementioned items and are distributed as follows: (i.1) non-disclosure of ESG information; (i.2) non-adoption of a materiality matrix; (i.3) failure to adopt key ESG performance indicators; (i.4) failure to audit or review the disclosed ESG information; (i.5) failure to consider the SDGs or adopt climate-related recommendations issued by the TCFD or other recognized entities in the disclosed ESG information; and (i.6) failure to conduct greenhouse gas emission inventories.

Based on these criteria, a total of 416 companies were analyzed. A spreadsheet was created in which each of the aforementioned points was manually evaluated based exclusively on the company's responses in item 1.9 of the form. Information about ESG in other sections of the Reference Form or external documents was not considered to ensure uniform coding among the analyzed companies. Disclosure of an item received a score of 1, while the absence of disclosure received a score of 0.

Regarding item "i," which focuses on justifying the non-disclosure of items "a" through "h," companies that disclosed information in items "a" through "h" were classified as "not applicable" (N/A) in item "i," since having disclosed the information, there is no reason to justify non-disclosure.

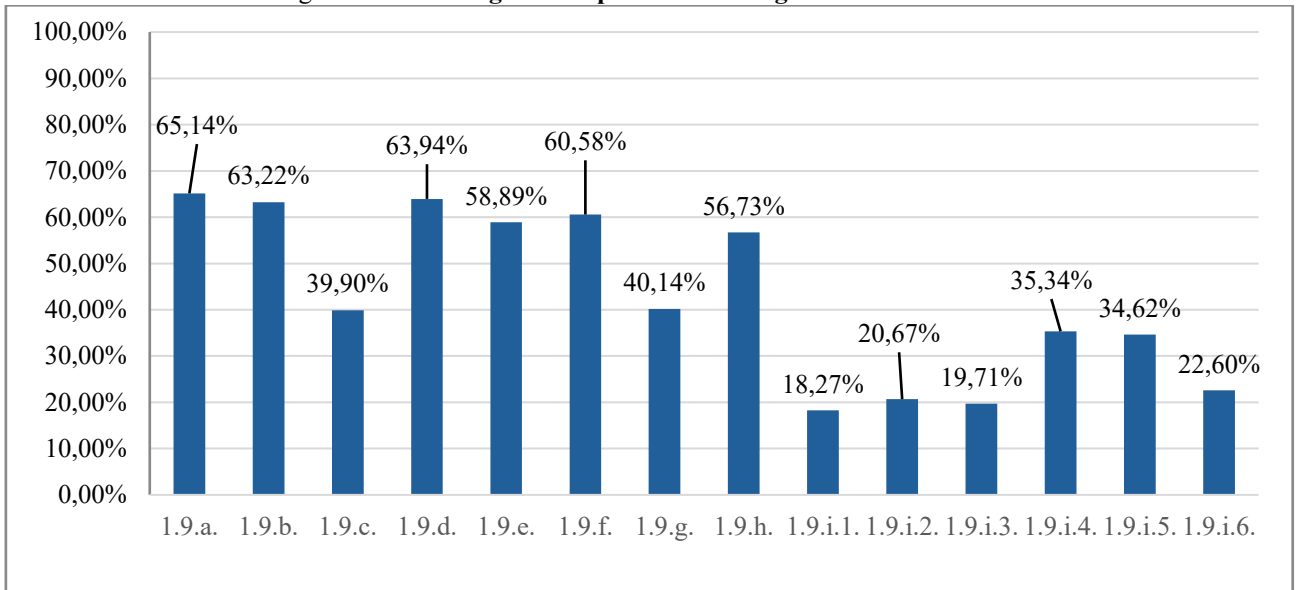
The same methodology was applied to companies that did not disclose any of items "a" through "h" and provided justifications in item "i." Companies that provided justifications for non-disclosure received a score of 1, while those that did not received a score of 0.

To ensure consistency in coding, the resulting spreadsheet was submitted to the advisor responsible for the research project for review. The advisor verified the appropriateness of the assigned scores. Companies were classified by sector according to the economic sector taxonomy adopted by B3, which was consulted individually for each company on the website of the stock exchange, resulting in the following sectors: Industrial Goods; Communications; Cyclical Consumer Goods; Non-Cyclical Consumer Goods; Financial; Basic Materials; Oil, Gas, and Fuel; Healthcare; Information Technology; Utilities; and Others.

## **Results and Discussion**

First, the percentage of companies that responded to each item in the Reference Form was analyzed. This analysis aimed to identify the degree to which companies were transparent and compliant with information disclosure requirements. Figure 1 illustrates the resulting disclosure percentages, providing a detailed overview of how companies responded to the items in the form.

Figure 1 - Percentage of companies disclosing ESG information



Source: Survey data

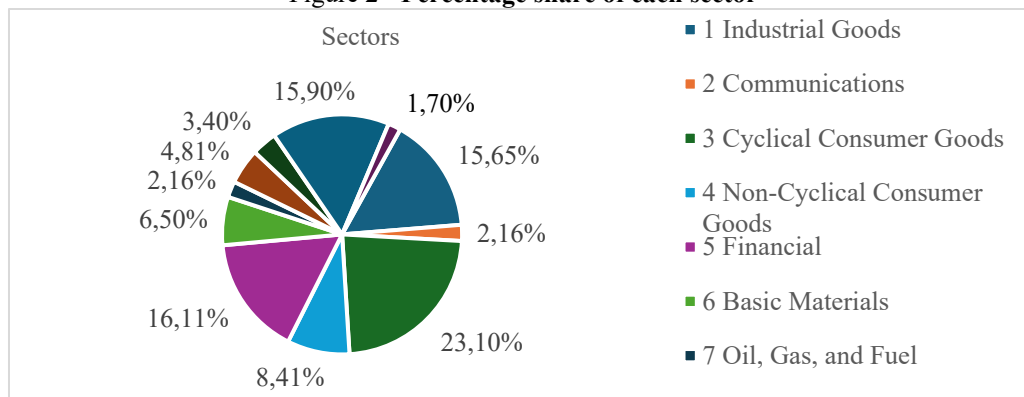
Note: Values are represented as percentages

It was observed that 65.14% of companies disclose ESG information in specific reports or other documents. However, 34.86% do not disclose this information, and only 18.54% provided justification for non-disclosure. One of the least disclosed items relates to the conducting of external audits, as specified in item 1.9.c. While over 65% of companies disclose ESG information, over half of these companies do not audit the disclosed information. Among those that did not disclose audited information, as specified in item 1.9.i.6, only 35.34% provided justifications for not auditing these reports.

Other relevant aspects pertain to the disclosure of information regarding the adoption of recommendations made by the TCFD or entities recognized as authorities on climate-related matters. Among the companies that did not disclose information related to item 1.9.g, however, only 35.85% provided justifications for non-disclosure. Similar disclosure patterns were observed for the remaining items, with rates exceeding 56%.

The next point analyzed refers to the number of companies and their share of the total. Figure 2 shows the percentage representation of companies in each sector of the total analyzed.

Figure 2 - Percentage share of each sector



Source: Survey data

Note: Values represented as percentages

The most relevant sectors were cyclical consumption (23.10%), financial (16.11%), utilities (15.90%), and industrial goods (15.65%). Combined, these sectors represent 70.76% of the total companies analyzed. The remaining sectors account for 29.24% of the total, with communications, oil, gas, and fuels, and other unspecified sectors having the smallest share.

Next, we will examine the disclosure of each item specified in the Reference Form by sector. Table 2 shows the percentage distribution of disclosures made by each sector, as described below.

**Table 2 - Heat map of disclosure percentages by sector**

Sectors	1.9.a	1.9.b	1.9.c	1.9.d	1.9.e	1.9.f	1.9.g	1.9.h	1.9.i.1	1.9.i.2	1.9.i.3	1.9.i.4	1.9.i.5	1.9.i.6
Utilities	89.4	89.4	74.2	89.4	89.4	87.9	68.2	87.9	71.4	71.4	71.4	80.0	68.2	75.0
Health	75.0	75.0	45.0	75.0	70.0	70.0	45.0	60.0	80.0	66.7	66.7	81.8	72.7	87.5
Communications	77.8	77.8	44.4	77.8	77.8	77.8	44.4	55.6	50.0	50.0	66.7	60.0	80.0	75.0
Basic Materials	63.0	63.0	51.9	63.0	59.3	63.0	51.9	59.3	70.0	72.7	63.6	69.2	76.9	72.7
Oil, Gas, and Fuel	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	33.3	33.3	33.3	33.3	33.3
Non-cyclical consumption	68.6	68.6	48.6	65.7	62.9	65.7	45.7	62.9	36.4	30.8	25.0	50.0	50.0	33.3
Financial	64.2	62.7	32.8	64.2	50.7	55.2	35.8	46.3	36.0	44.1	42.9	57.8	52.3	48.6
Industrial Goods	63.6	62.1	33.3	59.1	56.1	54.5	30.3	54.5	37.5	41.4	41.4	50.0	50.0	41.4
Information Technology	35.7	28.6	14.3	35.7	28.6	28.6	0.0	28.6	90.0	72.7	70.0	83.3	78.6	72.7
Cyclical Consumption	54.2	50.0	22.9	53.1	47.9	51.0	30.2	46.9	52.3	49.0	46.0	57.5	56.1	48.0
Others	28.6	14.3	0.0	28.6	14.3	28.6	0.0	14.3	60.0	50.0	50.0	57.1	57.1	66.7

**Source:** Survey data

**Note:** Values are expressed as percentages

Among the sectors analyzed, it was evident that public utility companies disclosed the most ESG information, followed by companies in the communications sector and companies that sell non-cyclical consumer products and services. On the other hand, basic materials companies, as well as those in the information technology and other unspecified sectors, disclosed the least ESG information. The other sectors showed similar disclosure patterns.

Upon analyzing the data by sector, it was observed once again that items related to the conducting of external audits of ESG information and the adoption of climate recommendations had the lowest disclosure rates.

Regarding items 1.9.i.4, 1.9.i.5, and 1.9.i.6, companies in the information technology and other unspecified sectors explained that, due to the operational nature of their activities, they do not have significant impacts that would necessitate disclosing information subject to an external audit or recommendations for disclosure in accordance with the TCFD or other globally recognized standards. They also explained that they do not conduct greenhouse gas inventories.

Despite their low representation in the overall composition, several companies demonstrate a high degree of disclosure. Notable examples include companies in the communications and healthcare sectors. Although these sectors have a small representation, the companies present demonstrate a high level of disclosure.

Finally, the extent to which each sector disclosed or responded to the items in the Reference Form was analyzed based on its weight in the total representation, as shown in the following percentages:

Table 3 - Heat map of disclosure percentages according to each sector's weight in total representation

Sectors	1.9.i .1	1.9.i .2	1.9.i .3	1.9.i .4	1.9.i .5	1.9.i .6	1.9.i .1	1.9. h	1.9.i .1	1.9.i .2	1.9.i .3	1.9.i .4	1.9.i .5	1.9.i .6
Industrial Goods	5.9	6.6	6.6	7.9	7.9	6.6	5.9	8.7	5.9	6.6	6.6	7.9	7.9	6.6
Communications	1.1	1.1	1.4	1.3	1.7	1.6	1.1	1.2	1.1	1.1	1.4	1.3	1.7	1.6
Cyclical Consumption	12.1	11.3	10.6	13.3	12.9	11.1	12.1	10.8	12.1	11.3	10.6	13.3	12.9	11.1
Non-cyclical consumption	3.1	2.6	2.1	4.2	4.2	2.8	3.1	5.3	3.1	2.6	2.1	4.2	4.2	2.8
Financial	5.8	7.1	6.9	9.3	8.4	7.8	5.8	7.5	5.8	7.1	6.9	9.3	8.4	7.8
Basic Materials	4.5	4.7	4.1	4.5	5.0	4.7	4.5	3.8	4.5	4.7	4.1	4.5	5.0	4.7
Oil, Gas, and Fuel	1.4	0.7	0.7	0.7	0.7	0.7	1.4	1.4	1.4	0.7	0.7	0.7	0.7	0.7
Health	3.8	3.2	3.2	3.9	3.5	4.2	3.8	2.9	3.8	3.2	3.2	3.9	3.5	4.2
Information Technology	3.0	2.4	2.4	2.8	2.6	2.4	3.0	1.0	3.0	2.4	2.4	2.8	2.6	2.4
Utilities	11.3	11.3	11.3	12.7	10.8	11.9	11.3	13.9	11.3	11.3	11.3	12.7	10.8	11.9
Others	1.0	0.8	0.8	1.0	1.0	1.1	1.0	0.2	1.0	0.8	0.8	1.0	1.0	1.1

Source: Survey data

Note: Values are expressed as percentages

Although the cyclical consumer goods sector accounted for 23.10% of the total, it had the largest share among the companies analyzed. Its weighted disclosure of items "a" through "h" amounted to 50%. In contrast, this sector provided the most justifications under item "i" of the form. Public utility companies, which account for 15.9% of the companies analyzed, stood out for having the highest disclosure rates. They were also required to provide fewer justifications for non-disclosure of information under item "i."

Companies in the industrial and financial sectors exhibited similar disclosure rates with minimal percentage variations among the disclosed items. Companies in the non-cyclical consumer goods sector presented results slightly lower than those in the financial and industrial sectors. Due to the smaller number of companies, the remaining sectors showed reduced disclosure rates.

These results highlight significant disparities in the quality and consistency of ESG disclosure across Brazilian sectors. This finding is consistent with international evidence that points to the need for sector-specific approaches to evaluating these practices. Regarding the public utilities sector, the findings align with those of Nicolo et al. (2023), who identified a growing trend in ESG disclosure in the utilities sector across different countries over the past decade. Kanoo et al. (2024) observed a similar pattern in the Indian market, where the financial sector exhibited disclosure characteristics similar to those found in this study, particularly regarding governance aspects. This finding is also highlighted by Mandas et al. (2023).

Mandas et al. (2023) also note that disclosure practices vary by sector. While the energy, public services, and materials sectors focus more on environmental disclosure, the results of this study indicate that items "g" and "h" (related to TCFD climate recommendations and greenhouse gas inventories) showed higher levels of reporting for these companies.

The analysis reveals that the lack of standardization in ESG reporting leads to varying levels of indicator availability across sectors, as Guerrero and Viteri (2025) identified – a pattern confirmed by the data. The public utilities sector reports significantly higher disclosure rates (89.4%) than the financial sector (64.2%) and the information technology sector (35.7%). However, the IT sector in Brazil had the lowest disclosure rate, contrasting with international findings in which Kanoo et al. (2024) identified the Indian IT sector as ranking third overall and leading in governance. This discrepancy may reflect the different stages of regulatory maturity in the Brazilian and Indian markets.

The low rate of external auditing (only 40.1% of companies disclose ESG information)

corroborates the findings of Dimson et al. (2020). They observed that companies without audited data exhibit greater inconsistency in the quality of disclosed information, which significantly compromises comparability across sectors.

Clearly, ESG disclosure does not occur uniformly across sectors, highlighting the importance of sector-specific, contextual, and local factors (Malik & Kashiramka, 2024; Li et al., 2025). In this context, Yu and Luu (2021) demonstrate that firm characteristics explain most of the variation in ESG disclosure, while country factors, such as corruption and political rights, exert less influence.

The findings reveal distinct sectoral patterns. Regulated sectors, such as utilities and healthcare, exhibit greater maturity in disclosure, while the information technology sector demonstrates significant deficiencies compared to international standards. The absence of external auditing underscores the need for a robust mechanism to ensure the credibility of disclosed ESG information.

## Final Considerations

The objective of this study was to evaluate the extent to which corporations listed on B3 have adopted ESG practices, as reported in the Reference Form. The analysis focused on item 1.9 of Annex C, which addresses how companies disclose ESG-related practices and information.

A comparative framework was established to evaluate how companies quantify and disclose their ESG information. The study also sought to identify patterns and gaps in disclosure to provide insights into companies' compliance with established guidelines and highlight areas requiring improvement.

While many companies disclose ESG information, the study reveals significant shortcomings in transparency and reporting quality, particularly regarding external auditing and climate-related recommendations. Identifying sectors with higher or lower levels of compliance provides valuable information for investors and regulators, encouraging the adoption of best practices and raising ESG reporting standards.

However, the study has some limitations. Variability in the quality and depth of disclosed information may have impacted comparisons between companies and sectors. Many companies did not address each point requested in the structure of the report, instead presenting the information as continuous text. The lack of uniformity in disclosure and the scarcity of justifications for not disclosing certain items were also challenges encountered. Furthermore, the analysis was limited to the data available in the Reference Forms and did not consider possible updates or subsequent changes in disclosure practices.

One of the key contributions of the study is its ability to provide a detailed view of how Brazilian companies are implementing and disclosing their ESG practices.

In summary, the study advances our understanding of ESG disclosure in the Brazilian context and contributes to the development of more robust assessment methodologies. It emphasizes the importance of standardizing and continuously improving disclosure practices to promote greater transparency and consistency in the ESG reports of companies listed on B3.

## References

Aragão, L., & Cavalcante, D. (2014). Qualidade das informações do formulário de referência nas empresas brasileiras listadas no novo mercado da BM&FBOVESPA. *RACE - Revista de Administração, Contabilidade e Economia*, 13(3), 1089–1118. Disponível em: <https://periodicos.unoesc.edu.br/race/article/view/3514>

- Berg, F., Koelbel, J. F., & Rigobon, R. (2022). Aggregate confusion: The divergence of ESG ratings. *Review of Finance*, 26(6), 1315-1344. Disponível em: <https://doi.org/10.1093/rof/rfac033>.
- Bigelli, M., Mengoli, S., Sandri, S. (2023) ESG score, board structure and the impact of the non-financial reporting directive on European firms. *Journal of Economics and Business*. 12, 106133. Disponível em: <https://doi.org/10.1016/j.jeconbus.2023.106133>.
- Calabrese, A., Costa, R., Levialdi, N., Menichini, T. (2016). A fuzzy analytic hierarchy process method to support materiality assessment in sustainability reporting. *Journal of Cleaner Production*, 121 (10), 248-264. Disponível em: <https://doi.org/10.1016/j.jclepro.2015.12.005>.
- Comissão de Valores Mobiliários. (2023). Cias Abertas: Documentos: Formulário de Referência (FRE). Disponível em: [https://dados.cvm.gov.br/dataset/cia\\_aberta-doc-fre](https://dados.cvm.gov.br/dataset/cia_aberta-doc-fre).
- da Cruz, M. M., Martins, R. A., dos Santos Assis, F. M., Cruz, R. G., dos Santos Póvoas, M., & Caiado, R. G. G. (2022). Indicadores no contexto ESG (Environmental, Social and Governance): um estudo bibliométrico. *Research, Society and Development*, 11(17). Disponível em: <http://dx.doi.org/10.33448/rsd-v11i17.38870>.
- Dimson, E., Marsh, P., & Staunton, M. (2020). Divergent ESG ratings. *The Journal of Portfolio Management*, 47(1), 75–87. Institutional Investor Systems. <https://doi.org/10.17863/CAM.55949>
- Gao S., Meng F., Gu Zhouyang, Liu Z., and Farrukh M. (2021). Mapping and Clustering Analysis on Environmental, Social and Governance Field a Bibliometric Analysis Using Scopus. *Sustainability* 2021, 13, 7304. Disponível em: <https://doi.org/10.3390/su13137304>.
- Guerrero, S., & Viteri, J. P. (2025). What are environmental, social, and governance scores measuring? The role of outcome and impact indicators in ESG scores. *Finance Research Letters*, 72, 106529. <https://doi.org/10.1016/j.frl.2024.106529>
- Ihsani, A. N., Nidar, S. R., & Kurniawan, M. (2023). Does ESG Performance Affect Financial Performance? Evidence from Indonesia. *Wiga: Jurnal Penelitian Ilmu Ekonomi*, 13(1), 46–61. Disponível em: <https://doi.org/10.30741/wiga.v13i1.968>.
- Instituto Brasileiro de Governança Corporativa. (2016). Código Brasileiro de Governança Corporativa: Companhias Abertas. São Paulo, SP: IBGC.
- Jørgensen, S., Mjøs, A., Pedersen, L. J. T. (2021). Sustainability reporting and approaches to materiality: tensions and potential resolutions. *Accounting, Management and Policy Journal*, 13 (2), 341-361. Disponível em: <https://www.emerald.com/insight/2040-8021>.
- Kanoo, R., Debi, H., Bhuyan, A. K., Paul, B., Saha, A., Chakravarty, E., & Debnath, P. (2024). Does the ESG Performance Differ Across Sectors? An Insight into the Indian Corporate Landscape. *International Journal of Economics and Financial Issues*, 15(1), 246–255. Disponível em: <https://doi.org/10.32479/ijefi.17333>

- Khan, M. A. (2022). ESG disclosure and Firm performance: A bibliometric and meta analysis. *Research in International Business and Finance*, 61, 101668. Disponível em: <https://doi.org/10.1016/j.ribaf.2022.101668>.
- Kim, S., Li, Z. F., (2021). "Understanding the Impact of ESG Practices in Corporate Finance" *Sustainability*. 13, 3746. Disponível em: <https://doi.org/10.3390/su13073746>.
- Li, J., Wu, T., Hu, B., Pan, D., & Zhou, Y. (2025). Artificial intelligence and corporate ESG performance. *International Review of Financial Analysis*, 102, 104036. Disponível em: <https://doi.org/10.1016/j.irfa.2025.104036>
- Li T.-T., Wang K., Sueyoshi, T., Wang, D.D. (2021) ESG: Research Progress and Future Prospects. *Sustainability*, 13, 11663. Disponível em: <https://doi.org/10.3390/su132111663>.
- Macedo, P. de S., Rocha, P. S., Rocha, E. T., Tavares, G. F., & Jucá, M. N. (2022). O Impacto do ESG no Valor e Custo de Capital das Empresas. *Contabilidade Gestão E Governança*, 25(2), 159–175. Disponível em: <https://doi.org/10.51341/cgg.v25i2.2802>.
- Malik, N., & Kashiramka, S. (2024). Impact of ESG disclosure on firm performance and cost of debt: Empirical evidence from India. *Journal of Cleaner Production*, 448, 141582. Disponível em: <https://doi.org/10.1016/j.jclepro.2024.141582>
- Mandas, M., Lahmar, O., Piras, L., & De Lisa, R. (2023). ESG in the financial industry: What matters for rating analysts? *Research in International Business and Finance*, 66, 102045. Disponível em: <https://doi.org/10.1016/j.ribaf.2023.102045>
- Nicolo, G., Zampone, G., Sannino, G., & Tiron-Tudor, A. (2023). Worldwide evidence of corporate governance influence on ESG disclosure in the utilities sector. *Utilities Policy*, 82, 101549. Disponível em: <https://doi.org/10.1016/j.jup.2023.101549>
- Organização das Nações Unidas (ONU). (2015). *Objetivos de Desenvolvimento Sustentável*. Disponível em: <https://brasil.un.org/pt-br/sdgs>.
- Orsato, R. J., Garcia, A., Silva, W. M. D., Simonetti, R., Monzoni, M. (2015). Sustainability indexes: why join in? A study of the ‘Corporate Sustainability Index (ISE)’ in Brazil. *Journal of Cleaner Production*, 96, 161-170. Disponível em: <https://doi.org/10.1016/j.jclepro.2014.10.071>.
- Resolução CVM nº 59/2021 Republicada com as alterações decorrentes da edição da Resolução CVM nº 87 e da Resolução CVM nº 168/22. Disponível em: <https://conteudo.cvm.gov.br/legislacao/resolucoes/resol059.html>.
- Ribeiro, M. de S. (2010). *Contabilidade ambiental*. São Paulo, SP: Editora Saraiva.
- Santos, F. A., Souza, I. P., Bueno, A., Angelo, E. L., (2023). Análise do Cálculo do Score ESG Adotada Por Bancos e Financeiras Para a Concessão de Crédito. *RISUS – Journal on Innovation and Sustainability*.14(1). Disponível em: <https://doi.org/10.23925/2179-3565.2023v14i1p129-139>.

Santos, M. C., Pereira, F. H. (2022). ESG performance scoring method in port operations. *Case Studies on Transport Policy*. 10 (1), 664-673. Disponível em: <https://doi.org/10.1016/j.cstp.2022.01.027>.

Silva, B. S., Queiroz, J. N., Francisco, J. R. S., Silva, R. C. (2021). Ações adotadas pelas empresas da B3 com os objetivos de desenvolvimento sustentável (ODS): Uma análise dos relatórios de sustentabilidade. *Revista Mineira de Contabilidade*. 22 (2). Disponível em: <https://doi.org/10.51320/rmc.v22i2.1217>.

Soler, F., & Palermo, C. (2023). ESG (ambiental, social e governança): da teoria a prática. Editora Expressa.

Torea, N. G, Feijoo, B. F., Cuesta, M. De La. (2019). CRS reporting communication: Defective reporting models or misapplication? *Corporate Social Responsibility and Environmental Management*. 27 (2), 952-968. Disponível em: <https://doi-org.ez54.periodicos.capes.gov.br/10.1002/csr.1858>

Wu, H., Zhang, K., Li, R. (2024). ESG score, analyst coverage and corporate resilience. *Finance Research Letters*. 62, 105248. Disponível em: <https://doi.org/10.1016/j.frl.2024.105248>.

Yu, E. P.-y., & Luu, B. V. (2021). International variations in ESG disclosure: Do firms listed on other exchanges care more? *International Review of Financial Analysis*, 75, 101731. Disponível em: <https://doi.org/10.1016/j.irfa.2021.101731>