
RELATIONSHIP BETWEEN THE CORPORATE SUSTAINABILITY INDEX AND THE EARNINGS RESPONSE COEFFICIENT

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ABSTRACT

This study analyzes the relationship between the Corporate Sustainability Index (ISE) and the Earnings Response Coefficient (ERC) of non-financial companies listed on B3 S.A. – Brasil, Bolsa, Balcão, from 2011 to 2019. The sample comprises 215 companies, with data obtained from the Economática® database. Using robust multiple ordinary least squares (OLS) regression and quantile regression, the results indicate an association between the ISE and the prospect of unexpected future earnings (ERC). Thus, actions undertaken by companies to meet corporate sustainability requirements are perceived positively by investors. Additionally, in the analyzed context, other determinants of the ERC were identified: company size, earnings persistence, and short-term leverage. However, no moderating effect of the ISE on the ERC was observed when the entity exhibited earnings persistence. This may suggest that socio-environmental practices and earnings persistence are evaluated independently as indicators of future performance, considering that each investor may adopt different criteria and perspectives regarding the value of sustainability practices. Therefore, this research contributes to the accounting literature in emerging markets by demonstrating that data related to corporate sustainability provide relevant information for future earnings expectations, potentially enhancing investors' company valuation processes. Furthermore, it highlights that managers should consider that investments in sustainable practices generate positive expectations of future earnings among investors. Finally, peers can use companies listed on sustainability indices as benchmarks to drive and/or implement sustainable actions.

Keywords: Corporate Sustainability Index (ISE). Earnings Response Coefficient (ERC). Stock Price Informativeness.

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RELAÇÃO DO ÍNDICE DE SUSTENTABILIDADE EMPRESARIAL COM O EARNINGS RESPONSE COEFFICIENT

RESUMO

Este estudo analisa a relação entre o Índice de Sustentabilidade Empresarial (ISE) e o Coeficiente de Resposta aos Lucros (*Earnings Response Coefficient* – ERC) das empresas não financeiras listadas na B3 S.A. – Brasil, Bolsa, Balcão, no período de 2011 a 2019. A amostra abrange 215 companhias, com dados obtidos do banco de dados Economatica®. Por meio de regressão múltipla robusta de mínimos quadrados ordinários (OLS) e regressão quantílica, os resultados indicam haver associação entre o ISE e a perspectiva de lucros futuros inesperados (ERC). Assim, as ações desenvolvidas pelas companhias para atender aos requisitos de sustentabilidade empresarial são percebidas positivamente pelos investidores. Além disso, no contexto analisado, identificaram-se outros determinantes do ERC: tamanho da companhia, persistência dos lucros e alavancagem de curto prazo. No entanto, não se verificou um efeito moderador do ISE sobre o ERC quando a entidade apresenta persistência dos lucros. Isso pode sugerir que as práticas socioambientais e a persistência dos lucros são avaliadas de forma independente como indicadores de desempenho futuro, considerando que cada investidor pode adotar critérios e perspectivas diferentes quanto ao valor das práticas de sustentabilidade. Dessa forma, esta pesquisa contribui para a literatura contábil em mercados emergentes ao demonstrar que dados relacionados à sustentabilidade empresarial fornecem informações relevantes para as expectativas de lucros futuros, o que pode aprimorar o processo de avaliação das empresas pelos investidores. Adicionalmente, ressalta-se que os gestores devem considerar que investimentos em práticas sustentáveis geram expectativas positivas de lucros futuros entre os investidores. Por fim, os pares podem utilizar as empresas listadas em índices de sustentabilidade empresarial como referência para impulsionar e/ou implementar ações sustentáveis.

Palavras-Chave: Índice de Sustentabilidade Empresarial (ISE). Coeficiente de Resposta aos Lucros (ERC). Informatividade do Preço das Ações.

1 INTRODUCTION

The Brazilian stock exchange's Corporate Sustainability Index (ISE) was created in 2005 and is a pioneer in Latin America (Teixeira et al., 2011). It is an indicator of the average performance of the share prices of companies selected for their recognized commitment to corporate sustainability (ISE B3, 2023). The ISE defines corporate sustainability through seven dimensions: general, nature of the product, corporate governance, economic and financial, environmental, social and climate change (Schrippe & Ribeiro, 2019; Souza et al., 2019). Therefore, the ISE represents the company's commitment to acting in an economically, socially and environmentally sustainable manner, recognizing the interests of the various stakeholders (Kansal et al., 2014).

A company that meets the requirements of the ISE index stands out in the market as a reference in promoting sustainable practices and commitment to

environmental, social and governance issues (Teixeira et al., 2011). As it is managed by B3 and summarizes the level of sustainability performance, it seems reasonable to assume that the ISE signals security to investors, eliminating the need to investigate in detail what these actions are. From this perspective, being an ISE company supports shareholders in making investment decisions and induces others to adopt sustainable actions, since environmental, social and corporate governance practices contribute to the sustainability of the business (ISE B3, 2023).

Corporate social responsibility practices are voluntary initiatives (Rezaee et al., 2020), but have received notable attention in accounting and finance; because publicly traded companies, in addition to focusing on earnings maximization, have acted to increase shareholder wealth and protect the interests of other stakeholders, including society and the environment (Rezaee et al., 2016). In essence, companies with sustainable behavior go beyond the mere pursuit of profitability and aim to maximize shareholder value. They demonstrate ethical behavior by allocating resources to sustainable projects in relation to the declared earnings of a given year and seek to provide more transparent and reliable financial information (Kim et al., 2012).

Sustainability ratings are primarily intended to provide stakeholders with data on environmental, social and governance indicators. These indices measure companies' exposure to managing non-financial risks and opportunities (Clementino & Perkins, 2021) and offer one of the few comparable sources of data on policies, practices, and performances related to sustainable commitment (Crane et al., 2019). Consequently, these categorizations take on considerable significance for companies, influencing how key audiences perceive, value and interact with them (Martins, 2005). Among these audiences, investors are the most important, as they increasingly use sustainability data to assess the ethical and sustainable behavior of the companies in which they invest (Amel-Zadeh & Serafeim, 2018).

As the ISE is an annual index, it shows that resources have been allocated to sustainable projects in relation to the earnings made in a given year, and that new actions will be needed to continue and monitor these investments (Kansal et al., 2014). Degenhart et al. (2017) show that sustainability in business operations and the return on companies' shares can be interdependent, as earnings can enable sustainable actions which, in turn, can contribute to companies' future earnings. For example, environmental initiatives relating to reducing pollution levels or saving energy costs may require a large initial capital outlay, but in the long term they tend to reduce environmental liabilities and contingencies (Jain et al., 2016), increasing future earnings.

Disclosures about environmental, economic and social sustainability performance can strengthen sustainability and financial performance, increase companies' capacity for innovation and value creation (Ahmad et al., 2023). It can also create a competitive advantage, either through the possibility of being rewarded by the market or by avoiding risks (Allais et al., 2017).

Fatemi et al. (2015) document that, under certain circumstances, spending on business practices aimed at sustainability contributes to a positive evaluation of the company. Dechow et al. (2014) reinforce that although earnings are important to investors, non-financial performance indicators also affect share

prices. Cai et al. (2019) point out that the disclosure of sustainability practices by companies reduces the informational disadvantage of foreign investors and facilitates international investment. In addition, companies focused on sustainable performance are less likely to engage in earnings management practices (Kim et al., 2012), have better financial and market performance and have a lower cost of capital (Dhaliwal et al., 2011; Ghouli et al., 2011; Goss & Roberts, 2011; Ng & Rezaee, 2015).

Kim et al. (2012) point to the need for research that takes a long-term view and evaluates aspects of corporate social and environmental responsibility and financial performance. Fatemi et al. (2015) point out that there are more studies addressing the impact of involvement in sustainable practices on financial performance and few contemplating the perspective of business valuation. Degenhart et al. (2017) observed a positive association between the ISE dummy and the relevance of accounting information in the Brazilian context, from 2011 to 2015, and suggested new studies with a longer time horizon. This recommendation may be due to the relationship between sustainable commitment and the relevance of accounting information being inconclusive, as there are also studies observing a negative association (Hong et al., 2012; Giuli & Kostovetsky, 2014; Gras-Gil et al., 2016; Grougiou et al., 2014).

In general, the information that attracts investors is related to earnings and share valuation (price), as both indicate a company's performance (Lee, 2018). When investors receive forward-looking information with low uncertainty about future cash flows, they immediately incorporate this information into their stock trading activities. This incorporation of the market's forecast of future earnings into the return-earnings relationship, in the financial accounting literature, has been measured by the Earnings Response Coefficient (ERC) (Kothari & Sloan, 1992; Lee, 2018).

Thus, the ERC is used to measure the abnormal market return against unexpected reports of prospective earnings components, whether they are financial or non-financial aspects of companies (Collins et al., 1994; Lundholm & Myers, 2002). The ERC assumes that accounting earnings are related to future dividends and, therefore, possible unexpected future earnings cause investors to revise their current expectations of the company, leading to changes in share prices (Collins & Kothari, 1989). Therefore, current stock returns tend to reflect relevant forward-looking information about future earnings.

Based on Signaling Theory, a company's management adopts sustainability practices to differentiate itself from other companies that do not adopt them, thus suggesting superior performance (Ng & Rezaee, 2015). In addition, companies that invest in sustainability, in the long term, have easier access and lower cost of capital (Dhaliwal et al., 2011; Ghouli et al., 2011; Goss & Roberts, 2011; Ng & Rezaee, 2015), risk reduction (Allais et al., 2017; Silva et al., 2015), increased operational efficiency (Kim et al., 2012), reputation (Du et al., 2010; Kansal et al., 2014) and financial performance (Jain et al., 2016; Khan et al., 2016; Kim et al., 2012; Ng & Rezaee, 2015; Rezaee, 2016). Consequently, sustainability practices reduce corporate costs and improve corporate value and performance (Fatemi et al., 2015; Ng & Rezaee, 2015). These benefits of corporate environmental reputation

attract investors (Ng & Rezaee, 2015) and are useful in predicting future earnings (García-Ayuso & Larrinaga, 2003; Hussainey & Salama, 2010).

In this context, the ISE, a metric that reflects a company's commitment to sustainability practices (ISE B3, 2023; Kansal et al., 2014; Schrippe & Ribeiro, 2019; Souza et al., 2019), may be relevant company information capable of explaining the unexpected behavior of future earnings by shareholders. To this end, this study analyzes the relationship between the Corporate Sustainability Index (ISE) and the Earnings Response Coefficient (ERC) of non-financial companies listed on B3 S.A. - Brasil, Bolsa, Balcão from 2011 to 2019.

The study is relevant because it investigates the behavior of an item that covers corporate performance in several dimensions (economic-financial, social, environmental and climate change) with a market level item (ERC) in an emerging country. Also because it considers both whether the company belongs to the ISE (Degenhart et al., 2017) and the ISE percentage, which reflects the company's performance in seven dimensions, evaluating, among other things, environmental, social and economic-financial elements in an integrated manner (Schrippe & Ribeiro, 2019). This makes it possible to differentiate between companies that have more transparent information in terms of sustainability. This transparency is more sensitive to the asymmetry of information about possible future earnings than the fact of having or not having a sustainable performance index (Aleksnevičienė & Stralkutė, 2023). This advances the results of Degenhart et al. (2017), who verified whether the ISE is relevant to accounting information.

Another unique aspect of this research is the use of quantile regression. Dividing a sample into quantiles is important as it groups together companies of different sizes in terms of resources, capabilities, and performance in relation to the dependent variable. In other words, it will be possible to see whether a higher percentage of ISE membership implies a higher expectation of future earnings (ERC). In addition, the Brazilian market is attractive for research, as the ISE portfolio brings together, on average, 46 shares from 39 listed companies every year. They total R\$1.74 trillion in market value, equivalent to 41.08% of the total value of companies with shares traded on B3 (ISE B3, 2023). Therefore, the fact that a company belongs to the ISE B3 is a market differentiator perceived by investors.

The results of this research can be useful to investors, managers and peer companies when addressing the informativeness of corporate performance policy measured by the Corporate Sustainability Index (ISE) in the earnings response coefficient (ERC). Investors may observe the ISE as an informative item regarding the prospect of future earnings and, based on the reaction of this confidence, managers may decide to maintain, implement or increase investments in sustainable issues. Consequently, peers can use the companies listed on the ISE as benchmarks to drive sustainable actions.

In the theoretical field, the research of: Degenhart et al. (2017), by evaluating a longer time window and another proxy for ISE (percentage of ISE) and another for accounting information relevance (ERC); Dewi (2015), by contemplating accounting variables that can affect ERC and not just corporate sustainability; and Pimentel (2015), by considering the effect of a corporate sustainability index (ISE) on ERC. In addition, in relation to Signaling Theory, non-

financial corporate performance elements are highlighted that can be useful to investors in estimating the predictability of future earnings.

The rest of the article is organized as follows: section 2 examines the literature on corporate social responsibility and future earnings prospects; section 3 describes the research methodology; and section 4 presents and discusses the findings with the literature. Finally, section 5 reports the conclusions, limitations, and suggestions for future research.

2 RELATIONSHIP BETWEEN CORPORATE SOCIAL RESPONSIBILITY AND UNEXPECTED FUTURE EARNINGS

Optimizing profitability is no longer perceived as the only way to sustain a company, given that negative externalities can affect the organization's image and reduce its share price (Dewi, 2015). In this sense, companies have directed their efforts and resources towards sustainable actions as one of their strategies for achieving sustainable corporate performance, which encompasses financial, social and environmental performance measures (Machado et al., 2009; Silva et al., 2015).

Corporate social responsibility is defined by the World Business Council for Sustainable Development (1998) as the commitment of companies to contribute to economic and sustainable development by working with employees, their families, the local community and society in general to improve their quality of life. It demonstrates the company's commitment to acting sustainably in the economic, social and environmental dimensions, meeting stakeholder expectations (Kansal et al., 2014).

Sustainable business practices encompass business management, how companies act, their ethical stance and their social and environmental concerns (Machado et al., 2009). To this end, companies need to plan actions and allocate resources, conjecturing that sustainability practices are associated with financial performance and the quality of earnings, given that they are aspects integrated into the mission, corporate culture, strategic planning and business model (Rezaee, 2016).

Researchers report that sustainability activities and related performance are associated with financial performance, earnings quality, cost of capital and, therefore, company value (Dhaliwal et al., 2011; Ghoul et al., 2011; Goss & Roberts, 2011; Jain et al., 2016; Khan et al., 2016; Kim et al., 2012; Ng & Rezaee, 2015). As a result, companies with a focus on sustainable performance are less likely to engage in earnings management (Kim et al., 2012).

Ng and Rezaee (2015) point out those companies with good sustainable performance tend to attract more investors in the long term and have a lower cost of capital. Fatemi et al. (2015) document that, under certain circumstances, investments in corporate sustainability contribute to company valuation, suggesting that engaging in such activities creates value for a wide range of stakeholders, including shareholders. Dechow et al. (2014) point out that investors react to earnings information, but that non-financial performance indicators are also relevant to them.

Thus, companies' involvement in sustainable business practices elicits favorable attitudes from stakeholders, resulting in support (e.g., buying, seeking employment, investing in the company), and, in the long term, builds a positive image and strengthens business relationships (Du et al., 2010). Fatemi et al. (2015) elucidate that although spending on corporate social commitment may initially drain a company's resources and reduce its immediate cash flows, the medium- and long-term benefits often outweigh the costs. Therefore, such investments have a positive influence on the value of the company, improving its probability of survival, extending the longevity of its cash flow and reducing its cost of capital.

Becchetti et al. (2012) reinforce that corporate sustainability has a positive effect on the market value of companies, as it is a management concept that integrates the search for earnings and increased value with the fulfillment of social and environmental interests (Akmese et al., 2016; Kadlubek, 2015). Therefore, information on corporate social and environmental responsibility is important for users who wish to assess companies' commitment to environmental and social issues (Clarkson et al., 2008).

Crisóstomo et al. (2011) argue that the application of budget in corporate social and environmental responsibility activities is only valid for shareholders and creditors if there is a prospect of return. Empirical results provide evidence that corporate environmental reputation information influences stock prices and is useful for investors in predicting future earnings (García-Ayuso & Larrinaga, 2003; Hussainey & Salama, 2010). In this sense, companies with higher environmental reputation scores may exhibit greater future earnings credibility than those with lower scores.

In Brazil, the Corporate Sustainability Index (ISE), created in 2005 (Teixeira et al., 2011), refers to a portfolio made up of shares in companies with a genuine commitment to social responsibility and corporate sustainability and which are active as promoters of good practices in the Brazilian business environment (ISE B3, 2023). The ISE aims to ascertain the extent to which a company is aligned with the "sustainability proposal", which is an essential component of corporate social responsibility (Duda et al., 2022). In other words, the ISE measures a company's sustainable culture.

The ISE is a tool for comparative analysis of company performance from the perspective of corporate sustainability, based on economic efficiency, environmental balance, social justice and corporate governance (ISE B3, 2023). This understanding indicates the quality of the entities and their level of commitment to sustainable development (Souza et al., 2019). This distinction is expanded with criteria related to fairness, transparency, accountability, the nature of the product and organizational performance under the economic-financial, social, environmental and climate change approaches (ISE B3, 2023; Schrippe & Ribeiro, 2019).

Research covering the ISE indicates that it is a more suitable benchmark for investors than for managers (Barbosa, 2007) and that it shows average returns similar to other stock index (Machado et al., 2009; Rezende et al., 2007). However, it differs in aspects such as lower volatility and lower exposure to risk, providing greater security for investors in periods of economic turbulence (Silva et al., 2015). Freitas et al. (2019) found that companies participating in the ISE have a greater

capacity to honor their commitments, with or without dependence on their stock, greater control of short-term debts and greater profitability, signaling viability for shareholders to invest in these entities. In this way, the publication of companies on the ISE B3 supports shareholders in making investment decisions (ISE B3, 2023).

A company's share price is directly linked to the present value of expected future cash flows, calculated by discounting these cash flows at a rate that reflects the risk and cost of capital (Damodaran, 2012). Therefore, changes in expectations of future cash flows, perceived risk or the discount rate can have a significant impact on share prices. In this context, social and environmental activities create value for shareholders by increasing expectations of higher future earnings, considering that a commitment to sustainability can improve financial performance, reduce costs and risks and increase revenues (Becchetti et al., 2012).

Investors tend to react to future earnings prospects derived from the way companies act, their ethical stance and social and environmental concern (Amel-Zadeh & Serafeim, 2018). Sustainable actions avoid contingent liabilities (Jain et al., 2016), helping to predict more stable future cash flows and increase the perception of future earnings distribution. This incorporation of the expectation of future earnings into financial accounting has been measured using the earnings response coefficient (ERC) (Kothari & Sloan, 1992). The ERC measures the abnormal market return in response to unexpected reports of prospective earnings components, i.e., it relates to financial or non-financial aspects of companies (Collins et al., 1994; Lundholm & Myers, 2002). The ERC assumes that accounting earnings are related to future dividends and, therefore, unexpected future earnings lead investors to revise their expectations about the company, causing changes in share prices (Collins & Kothari, 1989).

The central idea is that higher ISE indexes influence greater shareholder response to future earnings prospects, as they distinguish companies that have more transparent information on social and environmental responsibility, going beyond just adopting sustainable issues in their business models (Aleknevičienė & Stralkutė, 2023). In addition, Kansal et al. (2014) point out that companies tend to carry out more sustainable actions to maintain their image of being ethical businesses, demonstrating continuous involvement with socially desirable ends and reinforcing high standards set in the past. They use corporate social commitment awards and certifications as proxies for corporate reputation.

García-Ayuso & Larrinaga (2003) and Hussainey and Salama (2010) highlight that companies with higher environmental reputation scores exhibit higher stock price forecasts compared to those with lower scores. Furthermore, the integration of sustainability issues into business processes suggests the achievement of financial stability and long-term success (Fatemi et al., 2015), stemming from growth opportunities for companies (market to book). Thus, given that the ISE is an index that demands more certifications (Souza et al., 2019) and the long-term benefits that sustainable practices provide to companies, it is possible that it signals prospective information (abnormal returns) of future earnings to investors.

On the other hand, research indicates a negative relationship between corporate sustainability and the relevance of accounting information. Hong et al. (2012) highlight that "costly goodness" and "a complement to earnings" does not

always imply stock market returns. Giuli and Kostovetsky (2014), Gras-Gil et al. (2016), and Grougiou et al. (2014) reveal that an increase in corporate social commitment is associated with negative stock returns. In other words, they suggest that any benefits of corporate socio-environmental responsibility for stakeholders come at the expense of the company's value, as future results indicate a decline in return on assets. In this study, following the majority of the literature, a positive directional relationship between the ISE and the ERC is established (H_1):

H_1 : The Corporate Sustainability Index (ISE) positively affects the ERC.

The company's fundamentals, which determine the uncertainty regarding the realization of future cash flows, may account for a significant portion of the association between current returns and future earnings, even before managers exercise their decision-making power over financial reporting and voluntary disclosures (Lee, 2018). The assumption is that companies with strong performance (Hong et al., 2012) and survival prospects (persistent earnings) (Fatemi et al., 2015) invest in socially responsible practices.

Earnings persistence implies the expectation that an entity can generate sustainable earnings, where current earnings are understood as high-quality and indicative of future earnings (Dichev et al., 2013). Firms with greater earnings persistence are associated with lower risk (Pimentel, 2015). Thus, companies aim to maintain consistency in their results to reduce the risk associated with forecasting outcomes and attract investors (Arruda et al., 2015)

ISE companies are perceived as more transparent and committed to ethical practices, enhancing investor trust (ISE B3, 2023; Kansal et al., 2014). This implies that when these entities report earnings, the market is more inclined to believe they are sustainable earnings rather than the result of earnings management. Additionally, companies with corporate responsibility experience a lower capital cost, which translates into reduced earnings volatility (Dhaliwal et al., 2011; Goss & Roberts, 2011). The sustainable practices adopted by ISE companies mitigate operational and legal risks (Silva et al., 2015), contributing to a more stable and predictable earnings base. These practices often lead to greater operational efficiency and innovation, resulting in solid and sustainable financial performance (Kim et al., 2012).

In summary, investors may have a more favorable outlook on the future profitability of companies that sustain earnings and invest in sustainable practices, which aim to enhance long-term corporate performance. Being part of the Corporate Sustainability Index (ISE) and maintaining persistent earnings can signal to the market that these earnings are likely sustainable and of high quality, leading to a positive association with abnormal stock returns (ERC). This discussion leads to the research hypothesis exploring the connection between the ISE and ERC, taking earnings persistence into account (H_2):

H_2 : companies with ISE and earnings persistence have a positive association with ERC.

3 METHODOLOGICAL PROCEDURES

The sample consists of 215 non-financial Brazilian companies listed on B3 S.A. – Brasil, Bolsa, Balcão during the period from 2011 to 2019, with data available for at least four years in the Economatica® database to calculate the dependent variable (ERC). Only four companies meet the minimum observation requirement, while the others have data spanning five or more years, with 89.39% having information for seven or more years. This period follows the adoption of IFRS and does not account for the effects of the Covid-19 pandemic (crisis), which may have yielded specific and significantly different results from those in the sample period analyzed in this research, given the volatile environment (critical liquidity levels) across various business sectors (Nicola et al., 2020). Furthermore, to ensure a comparable sample, companies from the financial sector were excluded due to their unique capital structure (sector-specific assets and liabilities), regulatory framework, and business model (Degenhart et al., 2017).

Regarding the research design, a descriptive, quantitative, and documentary study was conducted. Annual data are analyzed using descriptive statistics, a correlation matrix, and multiple linear regression via ordinary least squares (OLS), as in Pimentel (2015). Quantile regression, aims to understand whether companies with extreme ISE percentages (higher or lower quantiles) exhibit a greater or lesser earnings response coefficient (ERC). Additionally, a graph illustrates the behavior of companies included in the ISE index from 2011 to 2019.

To test Hypothesis 1, that the Corporate Sustainability Index (ISE) positively affects the ERC, and Hypothesis 2, that companies with ISE and earnings persistence have a positive association with the ERC, Equation 1 was applied. The variables are defined in Table 1, which contains their description, acronym, metric, expected sign, and theoretical support.

$$ERC_{it} = \alpha_0 + \alpha_1 ISE_{it} + \alpha_2 TAM_{it} + \alpha_3 R\beta T_{it} + \alpha_4 MBT_{it} + \alpha_5 ALA_{it} + \alpha_6 PER + \alpha_7 PER * ISE \varepsilon \quad (1)$$

Table 1
Research variables

Research Variables				
Description	Acronym	Metric	Expected Sign	Theoretical support
DEPENDENT VARIABLE				
Earnings Response Coefficient	ERC	Estimated as per Table 2		Collins et al. (1994); Kallapur et al. (1994)
INDEPENDENT VARIABLE OF INTEREST				
Corporate Sustainability Index	ISE	Participation percentage in the index ISE B3 – ISEP	+	Aleknevičienė & Stralkutė (2023)
		Dummy variable, taking the value of 1 for companies listed in the ISE B3 index and 0 otherwise – ISED		Degenhart et al. (2017)
CONTROL INDEPENDENT VARIABLES				
Company size	TAM	Natural logarithm of total assets	+	Collins & Kothari (1989)

Beta risk	R β T	Value obtained directly from the Economática® database, CAPM model for the last 5 years	–	Collins & Kothari (1989)
Market to book (growth opportunity)	MBT	Market value of shares divided by equity	+	Collins & Kothari (1989)
Capital structure (leverage)	ALA	Sum of current liabilities and non-current liabilities divided by equity	–	Dhaliwal et al. (2011)
Earnings persistence	PER	Earnings persistence, according to the model by Dechow et al. (2010)	+	Collins & Kothari (1989)

Source: Prepared by the authors.

Table 2 illustrates the steps for calculating the Earnings Response Coefficient (ERC).

Table 2

Investigation of the ERC

Steps

Step 1: identify the independent variable – abnormal earnings (LA_{it}):

$$LA_{it} = \frac{(L_{it} - L_{it-1})}{P_{it-1}}$$

LA_{it} = unexpected earnings per share of company i during the period t;

L_{it} = earnings per share of company i during the period t;

L_{it-1} = earnings per share of company i during the period t-1;

P_{it-1} = stock price of company i in the previous period (t-1).

Step 2: find the dependent variable – abnormal return (R_{it}):

$$R_{it} = \frac{(P_{it+1} - P_{it})}{P_{it}}$$

R_{it} = return of the stocks from April of year t to March of the year t + 1;

P_{it} = stock price of company i in april of the year t;

P_{it+1} = stock price of company i in march of the year t+1.

Step 3: measure the ERC (β_1) through regression:

R_{it} = $\alpha_0 + \beta_1 LA_{it} + \varepsilon_{it}$, where:

R_{it} = abnormal return of company i in the period t;

LA_{it} = unexpected earnings (abnormal earnings);

β_1 = ERC;

ε_{it} = error component in the business model of company i in the period t.

Source: steps for determining the ERC, according to Collins et al. (1994); Kallapur et al. (1994).

According to Table 2, the dependent variable of the study, ERC, is derived from the relationship between unexpected earnings and abnormal stock return. The unexpected earnings, the first step, correspond to the variation in earnings relative to the stock's market value at the beginning of the period (Collins & Kothari, 1989), a widely used and documented measure in the international literature (Pimentel, 2015). In other words, it represents the magnitude of the earnings surprise — it is the portion of earnings that was not anticipated by the market. The abnormal stock return, the second step, is calculated as the cumulative annual return from April of year "t" to March of year "t + 1", in order to capture any return reaction associated with the earnings announcement for year "t" (Pimentel, 2015). The coefficient β (3rd step), a measure of the unexpected return of the stock by the investor, results from the regression between abnormal earnings (independent variable – 1st step) and abnormal return (dependent variable – 2nd step) (Collins et al., 1994; Kallapur et al., 1994).

Given that the focus of this study is to understand how ISE affects shareholder wealth (abnormal earnings), it is necessary to examine the individual stock return. Following Kallapur (1994), the regression in step 3 (Table 2) is estimated for each company's time series separately. The same operational estimation procedure by company was applied to assess persistence, considering pre-tax earnings measured by Dechow et al. (2010) model. Earnings persistence was calculated based on company-specific time series, requiring at least five annual observations. This implies one observation of persistence per company and that the main tests are cross-sectional in nature, assuming that persistence behavior, as well as its incentives, remains relatively stable during the assessed period. Subsequently, following Silva et al. (2018), the absence (zero) or presence (one) of persistence was considered.

Two proxies for ISE were tested: i) whether the company belongs to the ISE index or not (Degenhart et al., 2017); and ii) the percentage of the ISE index (Aleksnevičienė & Stralkutė, 2023). The second proxy indicates that the higher the company's ISE index score, the higher the level of commitment to corporate sustainability. This can be an important consideration for investors when deciding between two companies with similar financial performance and within the same industry. This occurs because the disclosure percentage is more sensitive to information asymmetry than simply whether a company has a sustainable practice index (Aleksnevičienė & Stralkutė, 2023). Therefore, if the ISE percentage differentiates companies that disclose and have more transparency regarding sustainable practices, it may imply a distinct association with ERC. If ISE affects ERC, it is expected that the positive (negative) effect increases (decreases) ERC, i.e., the company's social commitment ($\alpha_1 > 0$) or ($\alpha_1 < 0$) is associated with the perception of higher (lower) unexpected future earnings by investors.

To reduce the problem of endogeneity, a set of control variables was used, selected from previous literature, which control for endogenous and exogenous characteristics of companies. The independent control variables are company-specific factors that control for sources of value related to the perspective of abnormal earnings return by investors. Thus, it is expected a positive effect of company size, growth opportunities, and earnings persistence, as these factors signal higher probabilities of returning money to shareholders and, consequently, suggest expectations of future earnings (Collins & Kothari, 1989). On the other hand, companies with higher risk and capital structure dependent on third-party funding may lead shareholders to understand that less value will be returned to them, promoting expectations of lower future earnings (Pimentel, 2015).

For robustness of the results, leverage was segmented into short-term (PC) and long-term (PNC), both weighted by equity. In line with the idea that sustainability indices contain information about the future growth of the organization (Dewi, 2015), we sought to understand the investors' reaction to unexpected earnings in relation to short- and long-term commitments. Financial constraints may limit investments in sustainable issues, especially short-term loans, which are considered more influential on investors (Freitas et al., 2019).

To validate the model used (Equation 1) and consequently the results, tests such as Jarque-Bera for normality, RESET for correct model specification, Durbin-Watson for issues related to serial correlation of residuals, VIF for multicollinearity,

and White and Breusch-Pagan for heteroscedasticity were performed. The results of these tests can be seen in Table 3.

Table 3

Tests related to potential econometric issues

Test	Jarque-Bera	RESET	VIF	White	Breusch-Pagan	Durbin-Watson
Result	JB: 7007 Chi(2): 0,000	F(3, 1571) = 15,51 Prob > F = 0,000	1,8 4	chi2 (233) = 715,92 Prob > chi2 = 0,000	chi2 (1) = 1617,17 Prob > chi2 = 0,0000	0,1766

Source: Prepared by the authors.

According to Table 3, the data do not exhibit normality, show no multicollinearity, and demonstrate the presence of heteroscedasticity and autocorrelation. The results of the RESET test suggest rejecting the null hypothesis (the functional form is correct, and the model does not suffer from omitted variables). Therefore, to better specify the models in light of the reported issues, multiple linear regression (Ordinary Least Squares – OLS) with robust standard errors and fixed effects for sector and year was implemented. The OLS method allows for the estimation of robust standard errors to address heteroscedasticity and autocorrelation, and also controls for the implications of sector, which is invariant over time (Petersen, 2009).

4 ANALYSIS OF RESULTS

Table 4 shows the descriptive statistics of the variables, with the continuous ones winsorized at their 1% and 99% percentiles to reduce the impact of outliers.

Table 4

Descriptive statistics of the data

Variable	Mean	Stad. Dev.	Mín	p25	p50	p75	Máx
ERC	1.842	4.854	-6.688	-0.019	0.280	1.796	25.016
TAM	14.592	2.074	6.732	13.462	14.788	15.969	19.015
RβT	0.987	1.386	-2.900	0.167	0.920	1.731	5.462
MBT	1.631	2.308	-3.787	0.345	1.046	2.129	12.419
ALA	1.844	5.618	-14.901	0.426	1.205	2.368	36.281
PER	0.764	0.425	0.000	1.000	1.000	1.000	1.000
ISEP	0.256	0.940	0.000	0.000	0.000	0.000	5.662
ISED 11.03% (200 out of 1.814 observations)							

Source: Prepared by the authors.

It can be observed in Table 4 that the average ERC is 1.842, with a standard deviation of 4.854, a negative minimum of -6.688, and a positive maximum of 25.016. The company size ranges from 6.732 to 19.015, with a standard deviation of 2.074, indicating low variability in the sample. The beta risk also showed symmetrical behavior, while market to book ratio, leverage, and earnings persistence have standard deviations greater than their respective means,

indicating high data dispersion around the mean. The variable of interest, the Corporate Sustainability Index, is present in 11.03% of the observations, with percentage indicators ranging from 0.256 to 5.662. Figure 1 highlights the behavior of companies belonging to the ISE index from 2011 to 2019.

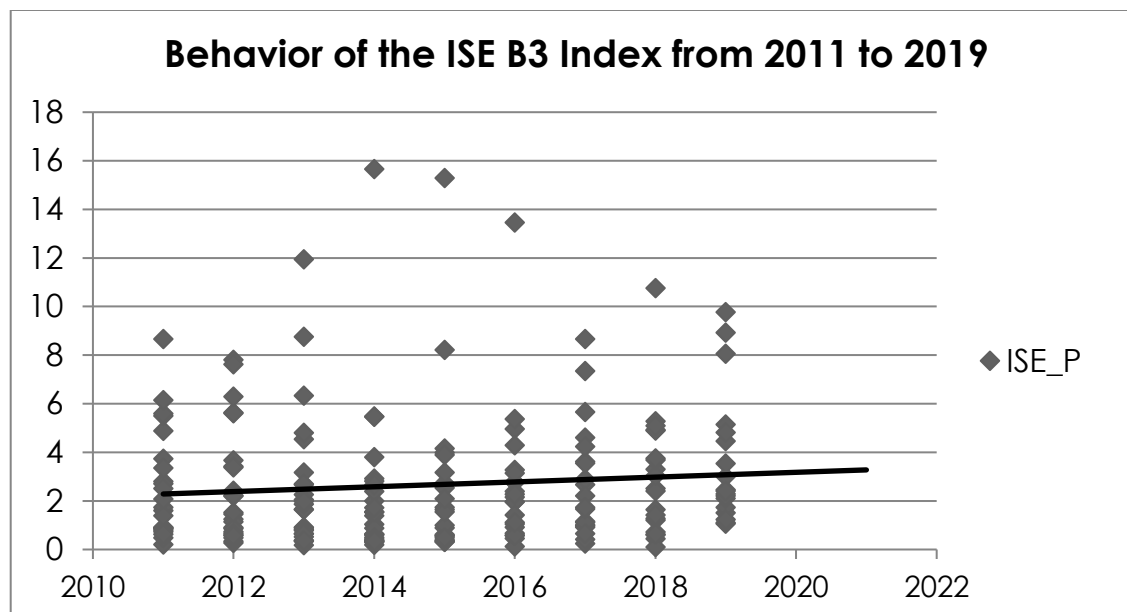


Figure 1 – Behavior of the ISE B3 index from 2011 to 2019

Source: Prepared by the authors.

Figure 1 illustrates that, in general, from 2011 to 2019, companies maintained their commitment to corporate social responsibility, with some even increasing it, presenting indicators with extreme behaviors. This indicates that the companies in the sample exhibit a homogeneous average behavior during the analyzed period, with few showing different values regarding investments in social, internal, external, and environmental benefits. This consistency in investment in socio-environmental responsibility issues can be beneficial for companies, as the integration of sustainable practices into business processes suggests the achievement of financial stability and long-term success (Fatemi et al., 2015).

Table 5 illustrates the association (correlation) between the study variables.

Table 5

Correlation matrix of the data

	ERC	ISEP	PER	TAM	RBT	MBT	ALA
ERC	1						
ISEP	0.0528**	1					
PER	0.0695***	0.009	1				
TAM	0.0233	0.3173***	0.0923***	1			
RBT	0.0557**	-0.0631**	0.0599**	0.1467***	1		
MBT	0.2155***	0.2430***	-0.0223	0.1698***	0.016	1	
ALA	0.0314	0.0392*	-0.1075***	0.1278***	-0.0102	0.5186***	1

Note: coefficients significant at 10%, 5%, and 1% are indicated by *, **, and ***, respectively.

Source: Prepared by the authors.

The analysis of the association between the variables (Table 5) shows that there are no strong coefficients, implying the absence of correlations that would indicate multicollinearity problems among the independent variables. Positive relationships are identified between company size, market to book ratio, leverage, earnings persistence, beta risk, and the corporate sustainability index with the earnings response coefficient (ERC).

Table 6 presents the regression results (Equation 1) considering the percentage ISE, fixed effects by year (2011 to 2019), and by sector, as listed on the B3 (industrial goods; communications; cyclical consumption; non-cyclical consumption; basic materials; others; oil, gas, and biofuels; healthcare; information technology; and public utilities).

Table 6

Determinants of the earnings response coefficient – percentile ISE

ERC	SE	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]	
ISEP	+	0.747	0.255	2.930	0.003	0.247	1.247
PER	+	1.094	0.233	4.700	0.000	0.637	1.550
ISEP_PER	+	-1.137	0.275	-4.140	0.000	-1.676	-0.598
TAM	+	0.264	0.053	5.010	0.000	0.161	0.368
RβT	-	0.071	0.078	0.910	0.363	-0.082	0.223
MBT	+	0.499	0.085	5.890	0.000	0.333	0.665
ALA	-	-0.128	0.021	-6.160	0.000	-0.168	-0.087
Number of observations		1,599					
F ²		10.91					
Adjusted R ²		22.06					

Note: SE – expected signal.

Source: Prepared by the authors.

According to Table 6, company size shows statistical significance to ERC, as well as the persistence of earnings, corporate sustainability index, and market to book ratio, all with a positive effect. On the other hand, leverage signals a negative association. Beta risk, however, did not show statistical significance in relation to ERC. The interaction between the ISE and earnings persistence reveals a negative statistical significance to ERC. In this regard, the intensities of the earnings response coefficient suggest that, on average, shareholders consider ISE elements important for their investment decisions.

In Table 6, the ISE was assessed by its absolute value (percentage) as an index. To confirm the relevance of ISE for investors, in Table 7, it was measured through a dummy variable, that is, whether the company belongs to the ISE.

Based on the data from Table 7, it is also possible to verify the significance and positive relationship between the ISE and expectations of future earnings. Therefore, it is clear that investors react positively to the fact that a Brazilian company is part of the ISE. Silva et al. (2015) explain that the main objective of the ISE is to provide an analysis of the business environment in order to help investors make decisions related to corporate governance and business sustainability aspects (economic efficiency, environmental balance, and social justice). Therefore, the information that a company is listed in the ISE is relevant, making shareholders perceive it as less risky to invest in. Thus, based on the results from

Tables 6 and 7, it is not possible to reject H_1 – the Corporate Sustainability Index (ISE) positively affects ERC.

Table 7

Determinants of the earnings response coefficient – *dummy* ISE

ERC	SE	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]	
ISED	+	1.406	0.643	2.190	0.029	0.145	2.667
PER	+	0.945	0.241	3.930	0.000	0.473	1.418
ISED_PER	+	-1.289	0.704	-1.830	0.067	-2.671	0.092
TAM	+	0.219	0.051	4.270	0.000	0.119	0.320
R β T	-	0.087	0.077	1.130	0.259	-0.064	0.239
MBT	+	0.486	0.084	5.780	0.000	0.321	0.651
ALA	-	-0.123	0.020	-6.040	0.000	-0.163	-0.083
Number of observations		1,599					
F ²		8.78					
Adjusted R ²		21.25					

Note: SE – expected signal.

Source: Prepared by the authors.

Additionally, statistical relevance to ERC was found for factors related to size, market to book ratio, leverage, and earnings persistence, as well as the interaction between persistence and ISE. However, the beta risk showed no statistical association. These findings may result from the literature highlighting that profitability aspects impact future results perspectives (Freitas et al., 2019).

Given empirical evidence suggesting a greater influence of short-term debt on investors (Freitas et al., 2019), we chose to segment leverage into short-term (ALAPC) and long-term (ALAPNC), both weighted by equity. The results of this disaggregated evaluation are presented in Table 8.

Table 8

Determinants of the earnings response coefficient with the segregated leverage variable

ERC	SE	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]	
ISEP	+	0.756	0.254	2.980	0.003	0.258	1.254
PER	+	1.085	0.236	4.600	0.000	0.622	1.547
ISEP_PER	+	-1.144	0.274	-4.170	0.000	-1.682	-0.606
TAM	+	0.266	0.054	4.920	0.000	0.160	0.372
R β T	-	0.068	0.078	0.880	0.380	-0.084	0.221
MBT	+	0.499	0.085	5.860	0.000	0.332	0.665
ALAPC	-	-0.085	0.052	-1.640	0.101	-0.187	0.017
ALAPNC	-	-0.158	0.057	-2.780	0.006	-0.269	-0.046
Number of observations		1,599					
F ²		10.51					
Adjusted R ²		22.02					

Note: SE – expected signal.

Source: Prepared by the authors.

According to Table 8, the company's informational environment (size) is a relevant factor in predicting future earnings, as well as its long-term payment capacity, earnings persistence, and its membership in the ISE. In other words, larger companies with more consistent earnings, sustainable practices, and the ability to

honor their long-term commitments are more likely to generate returns through future earnings, according to investors' perceptions.

Considering the asymmetric behavior of the study's variables, which have above-average standard deviations, Figure 2 reinforces the diagnosis found in Table 1.

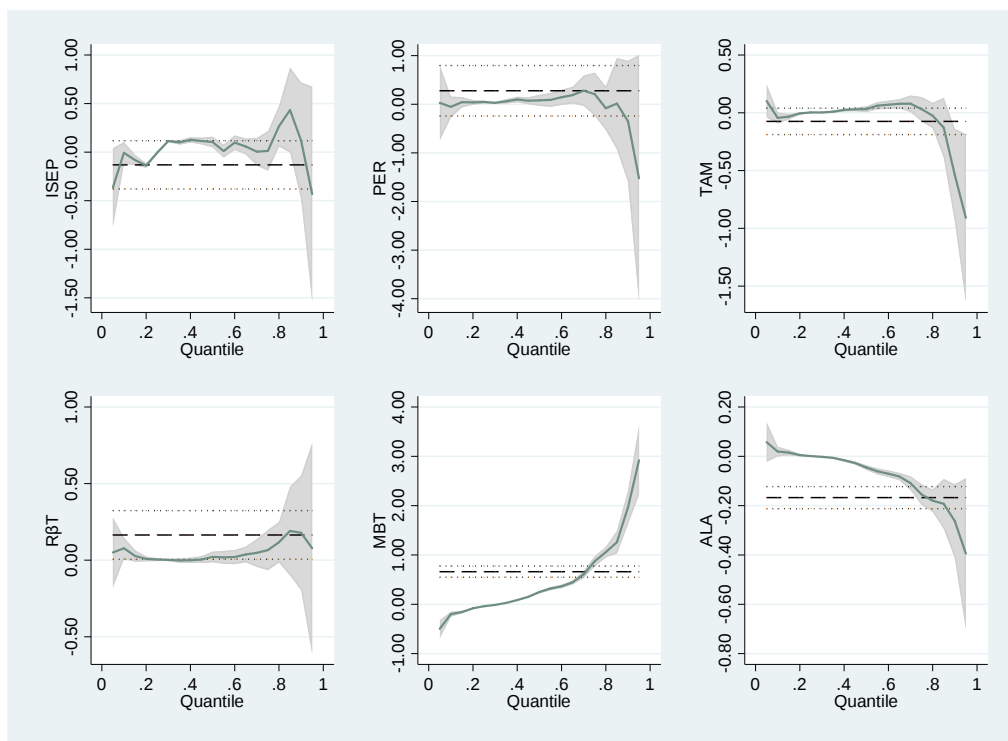


Figure 2 – Graph of the behavior of the study variables

Source: Prepared by the authors.

Figure 2 suggests that there are extreme values in the independent variables, which may have a distinct influence on the dependent variable. To understand the effect of these extreme values in the independent variables on the dependent variable, a quantile regression was performed, and the results are presented in Table 9. This allows for an examination, particularly, of whether the extreme percent values of the ISE (both higher and lower) have a significant impact on the extremes of the ERC.

The findings of the quantile regression (Table 9) indicate that larger companies, with higher market to book ratios, leverage, and ISE, are perceived by shareholders as having higher expectations for future earnings. This may be associated with the security that the ISE offers to shareholders, along with lower volatility and reduced exposure to risk (Silva et al., 2015).

However, when evaluating the ISE in relation to the persistence of results, a negative relationship is observed, which is contrary to expectations. In this context, Hypothesis 2 – that companies with ISE and earnings persistence are positively associated with ERC – is rejected. The fact that a company belongs to an ISE index and has persistent results does not necessarily guarantee a positive response from

investors. This could be due to the content (qualitative aspect) of the corporate social information disclosed, an aspect not investigated in this study.

Table 9

Determinants of the earnings response coefficient – quantile regression

VARIABLE	Quantile (0,05)	Quantile (0,10)	Quantile (0,25)	Quantile (0,50)	Quantile (0,75)	Quantile (0,90)	Quantile (0,95)
ISEP	-0.9989**	0.5902***	0.3822***	1.3565***	0.9976***	0.199	-0.2095
	-0.457	-0.214	-0.052	-0.113	-0.282	-1.158	-1.44
PER	0.0415	-0.0415	0.0678	0.1379	0.4656	-0.109	-1.4295
	-0.485	-0.227	-0.055	-0.12	-0.299	-1.229	-1.527
ISEP_PER	0.6754	-0.6113***	-0.4033***	-1.3186***	-1.0695***	-0.4663	-0.2221
	-0.502	-0.235	-0.057	-0.125	-0.31	-1.273	-1.582
TAM	0.1174	-0.0327	0.0023	0.0207	0.0121	-0.5049*	-0.9153***
	-0.103	-0.048	-0.012	-0.026	-0.064	-0.262	-0.325
RβT	0.0478	0.0779	0.0037	0.0302	0.1145	0.1586	0.0851
	-0.144	-0.067	-0.016	-0.036	-0.089	-0.365	-0.453
MBT	-0.5215***	-0.2083***	-0.0492***	0.2524***	0.7837***	1.9556***	2.9041***
	-0.103	-0.048	-0.012	-0.026	-0.064	-0.261	-0.325
ALA	0.0595	0.0213	0.0015	-0.0464***	-0.1346***	-0.2608**	-0.3939***
	-0.04	-0.019	-0.005	-0.01	-0.025	-0.102	-0.127
Constant	-2.7524*	-0.0002	-0.0973	-0.2499	0.4457	10.5751***	20.0506***
	-1.491	-0.698	-0.169	-0.37	-0.92	-3.779	-4.698
Observations	1.599	1.599	1.599	1.599	1.599	1.599	1.599

Note: standard errors in parentheses. *** p<0,01. ** p<0,05. * p<0,10.

Source: Prepared by the authors.

Moreover, the company's real commitment to operating at an economic level may not be adequately captured by the ISE index. This indicator could be a tool used by managers to divert attention from questionable accounting practices or to signal unobserved qualities that help build a superior profile compared to other companies (Grougiou et al., 2014). As a result, social and environmental practices may not impact future earnings expectations, as they may be used by managers to mask opportunistic behavior, constituting a form of "costly goodness" (Gras-Gil et al., 2016). Therefore, high spending on corporate sustainability will not always be reflected in the stock market, even when the company has persistent earnings. Additionally, each investor may have different criteria and perspectives on the value of sustainability practices, leading to an individual evaluation of social-environmental practices and earnings persistence as signals of future performance.

Regarding leverage, only long-term leverage was statistically relevant in the perspective of future earnings (Table 8). Thus, in the presence of social-environmental practices and persistent earnings, investors tend to expect long-term responses. Giuli and Kostovetsky (2014) emphasize that high initial investments in social-environmental issues are associated with negative immediate returns, such as a decline in return on assets. They also claim that sustainability practices may initially be financially profitable due to their brand/reputation effects with customers, employees, investors, etc., but they disagree that corporate social commitment's benefits outweigh its financial costs. This idea is reinforced by the fact that corporate social responsibility is linked to ethical and moral issues,

prompting engagement in socially responsible activities to improve stakeholder satisfaction and corporate reputation, with such outcomes possibly only materializing in the long term (Gras-Gil et al., 2016).

Another possible explanation for shareholders responding more to long-term commitments could be that there are significant initial costs associated with sustainable actions (Jain et al., 2016), but also because companies participating in the ISE have greater capacity to honor their commitments, regardless of their stock, and higher profitability (Freitas et al., 2019). Furthermore, data on social responsibility are viewed as generating returns in the medium and long term (Dewi, 2015).

Therefore, even when companies have high leverage, investors are aware that corporate sustainability practices may mitigate the consequences, even during economic turbulence (Silva et al., 2015). Jain et al. (2016) state that investors consider sustainability issues to mitigate potential investment risks. Thus, companies with lower ISE scores or that are not part of it may face higher risks related to business models, financial risks, compliance, reputation, operational, and survival risks.

It is important to note that operating in an economically, socially, and environmentally sustainable manner aims to serve multiple audiences (Kansal et al., 2014), including investors. However, the budget allocated to sustainability issues is only valuable to shareholders and creditors when there is a prospect of return (Crisóstomo et al., 2011). Additionally, social-environmental practices are a management concept where companies execute their activities aiming for earnings, value increase, and meeting social and environmental interests (Akmese et al., 2016; Kadlubek, 2015). Finally, if investments in social-environmental activities were always financially profitable, all companies, regardless of stakeholder preferences, would likely allocate resources (Giuli & Kostovetsky, 2014).

It is also understandable that larger companies disclose more about social-environmental practices because they tend to receive more public attention and are therefore under greater pressure to exhibit more social responsibility (Kansal et al., 2014). This implies that spending on sustainable practices contributes to the company's evaluation (Rezaee et al., 2020) and corroborates Dechow et al. (2014), who state that non-financial performance indicators, in addition to earnings, affect stock prices.

The fact that persistence is significant for potential future earnings suggests that companies with greater participation and focus on the ISE may have incentives to avoid earnings management and ensure earnings quality (Kim et al., 2012). Therefore, efforts in corporate social-environmental responsibility benefit not only a broader group of stakeholders but also the company itself in terms of both financial and non-financial benefits, as they result in reputation and the possibility of compensating for costs incurred in these initiatives (Kansal et al., 2014).

From the perspective of Signaling Theory, the understanding is reinforced that shareholders value the disclosure of ISE information from companies (Rezaee et al., 2020). The results show that investors have additional information in their investment decision-making, also appreciating non-financial aspects. This suggests that companies may benefit from investing in sustainable actions, as such

practices signal good management to shareholders. Thus, even with initial costs, these investments show expectations of long-term earnings. Therefore, the results of this study provide insights to managers, indicating that shareholders distinguish between companies that participate in and disclose social-environmental actions and those that do not, which may encourage the adoption of sustainable practices to achieve or have a higher ISE.

Furthermore, the temporal analysis contributes to the evidence from Du et al. (2010) that by participating in long-term corporate social responsibility activities, a company is building a corporate image. This is evidenced by the results of the investors' reaction to the ISE (Tables 6 to 9) and by the observation of a symmetric and constant behavior in maintaining ISE scores (Figure 1).

The positive relationship between ISE and the relevance of the company's information regarding future earnings expectations (ERC) demonstrates that the company's commitment and social performance in sustainable actions support the view of maximizing value for stakeholders (García-Ayuso & Larrinaga, 2003; Hussainey & Salama, 2010; Rezaee et al., 2016). Companies with a stronger social commitment tend to show greater relevance of accounting information (Collins et al., 1994; Degenhart et al., 2017; Lundholm & Myers, 2002) and lower earnings management (Kim et al., 2012).

Thus, as found in this study, investments in ISE indicate a likelihood of positive returns for investors and help them make decisions (ISE B3, 2023). Therefore, managers have incentives to invest in social-environmental issues, as companies that have engaged in actions in this area show significance to the earnings response coefficient indicator, in addition to demonstrating shareholders' credibility regarding sustainability and reported financial results (Degenhart et al., 2017).

5 FINAL CONSIDERATIONS

This study analyzed the relationship between the Corporate Sustainability Index (ISE) and the Earnings Response Coefficient (ERC) of non-financial companies listed on B3 S.A. – Brasil, Bolsa, Balcão from 2011 to 2019. It is argued that companies engage in social and environmental actions to enhance their market reputation and demonstrate future earnings prospects. The sample includes 215 companies, with annual data obtained from the Economatica® database and processed through robust multiple ordinary least squares (OLS) regression and quantile regression.

The results show that shareholders consider the fact that a company belongs to the ISE and its percentage of the ISE when making decisions. Along with the company's membership in the ISE, it was observed that the company size, the persistence of its results, and its long-term payment capacity are also factors contributing to investors' analysis. Overall, it was found that, for investors, larger companies, more consistent earnings, sustainable practices, and the ability to meet long-term obligations are those with the greatest future earnings prospects. Therefore, it can be inferred that the size and profitability (earnings) of ISE companies have an effect on generating expectations of future earnings (Earnings Response Coefficient – ERC). However, earnings persistence and being

an ISE company do not have a combined effect on future earnings expectations. Each of these factors was individually related to the ERC.

In summary, it can be inferred that public news about companies' social and environmental practices, such as the ISE, is valued by investors. For company management, this finding is relevant, as investors consider sustainability issues important, and in the long term, shareholder wealth maximization goals cannot be achieved if environmental, social, and governance risks are ignored. Additionally, the results highlight that a company is considered promising by investors when it can balance and align its interests with those of its stakeholders.

Furthermore, the results of this study are useful to investors, managers, and peer companies by addressing the informativeness of the socio-environmental performance policy measured by the Corporate Sustainability Index (ISE) in relation to future earnings. For investors, it indicates that the ISE is an informative item about future earnings prospects. Consequently, investors can enhance their financial analysis and evaluation process of the companies they invest in or plan to invest in. This could serve as a warning to managers to maintain consistency or increase investments in corporate sustainability, and as benchmarks for peers to leverage or implement sustainable actions.

Empirically, this article contributes to the accounting literature in emerging markets by reporting that the ISE is an informative item to shareholders regarding unexpected future earnings (ERC). Thus, it advances studies that consider sustainability issues in value creation (Fatemi et al., 2015), Degenhart et al. (2017) by assessing a larger time window and another proxy for ISE and the relevance of accounting information (ERC). It expands Dewi's (2015) study by considering more variables that may affect the ERC, not just social and environmental aspects, and Pimentel's (2015) study by testing the effect of corporate sustainability (ISE) on the ERC. Additionally, it broadens the debate on the usefulness of corporate social commitment to investors in forecasting future earnings (García-Ayuso & Larrinaga, 2003; Hussainey & Salama, 2010). Theoretically, it contributes to Signaling Theory, demonstrating that non-financial elements of business performance are also useful to investors and the predictability of future earnings.

A limitation of this research is that many factors can influence management's decision to focus on and perhaps increase its performance on the ISE — public image, maintaining a good reputation, ensuring sustainability, government requirements — but these are not addressed in this study. Future research could analyze the company's age as a control variable in the relationship between ISE and ERC, and better understand, through qualitative research, the incentives that lead companies to have an ISE and, consequently, a higher ERC. Another replication of this study could compare the COVID-19 and post-COVID-19 periods, as during the crisis and after the COVID-19 pandemic, the results may differ from the pre-COVID-19 period.

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