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Does Sustainability Reporting Impact Financial Performance? Evidence from the Largest Portuguese Companies

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Abstract: This paper aims to assess whether the financial performance of companies that publish sustainability reports (SRs) differs from the financial performance of companies that do not publish SRs, considering a sample of 297 large Portuguese companies identified by *Exame* magazine. We used two methodological procedures. First, we conducted a univariate analysis to test the differences in financial performance according to the disclosure of SRs. Second, we conducted a multivariate analysis using multiple linear regression to explain financial performance in relation to the disclosure of SRs. Our findings indicate that the financial performance of companies that disclose SRs does not significantly differ from the financial performance of companies that do not disclose SRs. The results are robust to both methodological procedures, as well as to the sample split by sectors. The results highlight that few companies disclose SRs, despite existing regulations (e.g., the UN 2030 Agenda, the European Non-Financial Reporting Directive, and the Corporate Sustainability Reporting Directive). This finding has significant practical implications for regulatory bodies, companies, and investors, indicating the need for more effective approaches to sustainability reporting. Policymakers should encourage companies to adopt SRs as part of a long-term strategy, acknowledging that financial benefits may accrue over time.

Keywords: sustainability reporting; financial performance; ROA

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1. Introduction

Since the 2000s, investors have increasingly demanded greater transparency from companies in terms of social and environmental information, as evidenced by the growing demand for sustainability information [1].

Within the European Union (EU), Directive 2014/95/EU, enacted on 22 October 2014, introduced compulsory non-financial reporting requirements for various entities. This applies to public-interest entities and parent companies of large groups that, at the end of their financial year, have an average of more than 500 employees. Non-financial information disclosure must be integrated into the management report or presented separately, such as through a sustainability report (SR). The literature contends that employing separate reports offers greater benefits to companies, enabling them to consolidate a wider range of information and explore topics in greater depth, thus enhancing the quality of non-financial information [2,3].

Despite the growing dissemination of SRs, there are few studies that explore their impact on firms' financial performance, especially in Portugal. Furthermore, the existing studies mainly focus on publicly traded companies [4–7] and present mixed results [8]. In fact, while some studies suggest that such disclosure enhances financial performance [4–7], others argue for a negative [9,10] or neutral impact [11].

This study is motivated by the inconclusive results of previous studies and the lack of empirical evidence in the Portuguese context. We further contribute to the literature by focusing on large corporations that are perceived as more sustainable because of their recognised commitment [12], and on a small country that is one of the most sustainable countries in the world, according to the 2023 United Nations report [13], with an overall score of 80 (Portugal ranked 18th out of 166 countries assessed).

In particular, this study investigates whether the financial performance of companies that publish SRs differs from the financial performance of companies that do not publish SRs, using a sample of 297 large Portuguese corporations, identified by *Exame* magazine.

By focusing on large companies, this study fills gaps in the existing literature, offers a more comprehensive understanding of sustainability reporting across various business structures, and provides practical implications for policymakers, business leaders, and investors beyond publicly traded companies.

We provide evidence using two methodological procedures: first, we conducted a univariate analysis to test differences in financial performance according to the disclosure of SRs. Second, we conducted a multivariate analysis using multiple linear regression to explain financial performance in relation to the disclosure of SRs, as well as control variables such as sector, size, leverage, growth, and liquidity. We also split the sample by sectors (industry and raw material vs. commerce and services) to see if the relationship between sustainability reporting and financial performance is sector-specific.

The remainder of the paper is structured as follows: Section 1 presents the theoretical background and the research hypothesis. The research design, including the sample and methodology, is presented in Section 2. In Section 3, we analyse and discuss the results. Finally, we conclude with the main findings and limitations of the study, as well as some suggestions for future research.

2. Theoretical Background and Research Hypothesis

The Legitimacy and Stakeholder Theories are the dominant theories to explain the voluntary disclosure of SRs by organizations. The Legitimacy Theory emerged from the idea that the support that society gives to companies is crucial for their image, growth, and sustainability [14]. Thus, this theory is based on the notion that there is a social contract between the company and society. If a company fails to meet society's expectations, it may face constraints in its normal course of operations and see a decrease in demand for its products/services. Therefore, a company must demonstrate to its stakeholders that it can meet their needs, align with community values, and simultaneously operate profitably. The organization is seen as a member of society, gaining legitimacy with its stakeholders and reducing the likelihood of its activities being sanctioned [10].

The need for companies to behave as expected by society would thus explain the need for them to demonstrate compliance with norms [15] by presenting SRs. Indeed, legitimacy is defined as a widespread perception or acceptance that an entity's actions are appropriate within the context of norms, values, beliefs, and definitions constructed by society [16]. Legitimacy has become important due to the theoretical assumption that companies are embedded in the environment in which they operate and by which their performance is affected [17]. The increasing number of studies focusing on Legitimacy Theory suggests that the disclosure of non-financial information is seen by companies as a way to achieve their objectives [14] and legitimize their actions in society.

Stakeholder Theory considers that information disclosed by entities is not only targeted at investors and shareholders, as advocated by classical theories, but rather at a multiplicity of users of corporate information [18,19]. It is assumed that, in addition to shareholders, there are other groups interested in the actions of companies with whom managers should be concerned to garner support and approval from [20]. So, both Legitimacy and Stakeholder Theories consider that companies are embedded in a social system. However, while the former focuses on society as a whole, the latter distinguishes different groups within society, arguing that some groups in society hold more power than others [6].

The combination of the two theories provides a macro (Legitimacy Theory) and micro (Stakeholder Theory) framework with which to consider the specificities of corporate actions, providing a more comprehensive understanding of the communication, disclosure, and interactions between a company and its environment [21].

Sustainability reports contribute to improving a company's reputation and image and add value to strategic planning, organizational structure, and corporate responsibility [22]. Furthermore, the disclosure of these reports can positively influence financial performance and the legitimacy of companies.

Despite the growing increase in SR disclosure, there are still few studies investigating the impact of this disclosure on corporate financial performance. Existing studies focus mainly on publicly traded companies [5–7,23], or a particular business sector [4].

Furthermore, previous studies provide mixed results. There are studies that find that the disclosure of sustainability information has a positive impact on companies' financial performance [4,5,24–26]. Carvajal and Nadeem [5] found that companies that decide to disclose non-financial information demonstrate better financial performance, supporting Legitimacy Theory and Stakeholder Theory. Thus, companies have a financial incentive to disclose sustainability information. Pulino et al. [4] found that companies that increase their investment in sustainable projects also increase their financial performance, concluding that sustainability reporting has a positive impact on financial performance. Munir et al. [24] also concluded that non-financial reporting has a positive impact on companies' financial performance. Ermenc et al. [25] analyse the disclosure of sustainability information and conclude that companies, by improving their sustainability performance, can improve their financial performance in the following three years. Garg [26] also states that sustainability information disclosure practices positively affect companies' long-term financial performance. Some studies [25,26] suggest that companies adopting sustainability reporting practices may only see their financial performance improved in the long term. Thus, sustainability reporting may not have an immediate effect, requiring companies to wait for several years for this disclosure to bring returns and impact their financial performance. Due to the lack of short-term benefits, many companies choose not to disclose sustainability information [26,27].

On the other hand, other authors argue that the disclosure of sustainability information has a negative impact on financial performance [9,10]. They find that sustainability reporting has a negative relationship with financial performance, as measured by Return on Equity (ROE) and Return on Assets (ROA). According to the authors, corporate earnings are pressured by the costs associated with environmental and social responsibility activities, so this negative relationship can be explained by the costs of activities related to social responsibility. In fact, many companies choose not to disclose sustainability information because they consider that, in the short term, the costs of preparing the report outweigh the benefits [26,27].

Table 1 summarises the most relevant studies on the impact of sustainability reporting on financial performance. As can be seen, financial performance is usually measured by ROA and ROE. Tobin's Q is also used when the sample comprises only publicly traded companies. Regarding sustainability reporting, the majority of studies use a sustainability index constructed on the basis of the disclosure of sustainability information.

Table 1. Previous empirical studies.

Ref.	Sample	Financial Performance	SR Disclosure	Results
[4]	263 Italian listed companies; 2011–2020	EBIT ROA	ESG score	Sustainability has a positive and significant impact on EBIT
[5]	84 companies listed in New Zealand Stock Exchange; 2017–2019	ROA ROE Tobin's Q	Sustainability disclosure index	Sustainability has a positive and significant impact on ROA
[6]	35 companies listed in IBEX35; 2007–2011	Stock price	CSR disclosure index	CSR has a positive and significant effect on stock prices

Table 1. *Cont.*

Ref.	Sample	Financial Performance	SR Disclosure	Results
[7]	146 companies listed in Toronto Stock Exchange; 2007	Market value	SR disclosure	Investors positively value SR disclosure
[9]	47 non-financial companies included in BIST Sustainability Index; 2008–2018	ROA ROE Tobin's Q	SR disclosure	Sustainability disclosure negatively impacts financial performance (ROA and ROE) and positively impacts market value (Tobin's Q)
[10]	342 financial institutions; 2007–2016	ROA ROE Tobin's Q	ESG score	Sustainability disclosure negatively impacts financial performance (ROA and ROE) and positively impacts market value (Tobin's Q)
[23]	220 companies listed in CSE; 2012–2016	Tobin's Q	CSR disclosures	CSR disclosures positively impact Tobin's Q
[25]	80 non-financial Slovenian companies; 2007–2014	ROA	Sustainability disclosures	Higher sustainability conduct results in a higher financial performance
[26]	20 companies listed in BSE GREENEX; 2008–2012	ROA Tobin's Q	Sustainability index	Sustainability reporting has a positive impact on financial performance in the long run

Source: Own elaboration.

Given the mixed results of previous studies, we define the following research hypothesis: the financial performance of Portuguese companies that publish SRs differs from the financial performance of companies that do not publish SRs.

3. Materials and Methods

3.1. Sample

In this study, we considered the "500 Largest & Best Portuguese companies", according to the special edition of *Exame* magazine of the year 2021. Out of these, 203 companies were excluded because their reports included activities of other companies belonging to the same group that do not operate solely in Portuguese territory, or they disclosed sustainability information through other types of reports (e.g., integrated reports, financial statements, management reports). Thus, the sample consists of 297 companies. Of these, 180 (61%) belong to the commerce and services sectors, whereas 117 (39%) are in the industry and raw materials sectors. Furthermore, among the 297 companies in the sample, only 66 companies (22%) disclosed SRs in 2021, 54 voluntarily and 12 mandatorily, to comply with the obligation imposed by Directive 2014/95/EU, as can be seen in Table 2.

Table 2. Sample by sector and disclosure of SRs.

Sector		SR Disclosure		
Commerce and Services	Industry and Raw Materials	Do Not Disclose	Disclose	
			Voluntary	Mandatory
180 61%	117 39%	231 78%	54 18%	12 4%

Source: Own elaboration.

3.2. Methodology

To test our research hypothesis, we used two methodological procedures.

First, we conducted a univariate analysis to test the differences in financial performance according to the disclosure of SRs. We used an independent sample *t*-test, or the corresponding non-parametric Mann–Whitney U test (if the conditions for using the *t*-test were not met), to evaluate whether the financial performance of the companies that published SRs significantly differed from the financial performance of the companies that did not publish SRs. Financial performance was measured by ROA.

Second, we conducted a multivariate analysis using multiple linear regression. In this regression, the dependent variable was financial performance (ROA) and the independent variable was SR disclosure (a dummy variable that took the value 1 if the company disclosed SRs; 0 otherwise). We also considered the following as control variables: sector, a dummy variable that took the value of 1 if the company was in the industry or raw materials sectors; 0 if the company was in the commerce or services sectors; size, measured by the natural logarithm of assets; leverage, measured by the ratio of debt to assets; growth, measured by the revenue growth rate; and liquidity, measured by the ratio of current assets to current liabilities.

The equation below summarizes the multiple linear regression considered:

$$\mathrm{ROA} = \alpha_0 + \beta_1\mathrm{SRdisclosure} + \beta_2\mathrm{Sector} + \beta_3\mathrm{Size} + \beta_4\mathrm{Leverage} + \beta_5\mathrm{Growth} + \beta_6\mathrm{Liquidity} + \mathrm{e_i}$$

All data are from *Exame* magazine. All the necessary information was compiled in Excel and imported into the Statistical Package for the Social Sciences (SPSS) software, version 28, where statistical analysis was conducted.

Descriptive statistics, correlation matrixes, and collinearity statistics are presented in Appendix A.

4. Results and Discussion

4.1. Univariate Analysis

Table 3 shows the descriptive statistics of ROA for the companies that disclose and do not disclose SRs.

Table 3. Financial performance by disclosure of SRs.

	SR Disclosure	
ROA	**Do Not Disclose**	**Disclose**
Mean	3.020	2.872
Median	3.246	3.500
Variance	139.475	85.101
Standard Deviation	11.810	9.225
Minimum	−48.224	−45.972
Maximum	67.586	27.741

Source: Own elaboration.

As can be observed, on average, companies that do not disclose SRs have a slightly higher ROA (3.020) than companies that disclose SRs (2.872). There is substantial volatility in ROA around the mean, especially among companies that do not disclose SRs. In fact, for these companies, ROA ranges from −48.224 to 67.586. On the contrary, the median is higher for companies that disclose SRs (3.500) compared to those that do not (3.246).

To test if companies that publish SRs have superior financial performance compared to companies that do not, the non-parametric test was used, as the conditions for applying the *t*-test for independent samples were not met. The results obtained are displayed in Table 4.

The results show that there are no statistically significant differences in the financial performance of companies that disclose SRs and those that do not. Therefore, it is not possible to validate our research hypothesis. Based on this result, we conclude that the decision to publish an SR does not have a significant impact on the financial performance of Portuguese companies, indicating that stakeholders do not value companies that make efforts to disclose non-financial information, at least in a short-term analysis. Regarding this hypothesis, the literature is not consistent. Some studies demonstrate a positive and statistically significant relationship between financial performance and sustainability reporting, while others show the opposite result. However, our results reveal a neutral impact, demonstrating that the financial performance of large Portuguese companies does not vary with the publication of SRs. In fact, several companies choose not to report sustainability information as they do not see short-term benefits reflected [26,27].

Table 4. Non-parametric test results.

N	297
Mann–Whitney U	7783
Standard error	615.312
Standardized test statistic	0.260
Asymptotic significance (two-tailed)	0.795
N	297
Mann–Whitney U	7783
Standard error	615.312

Source: Own elaboration.

4.2. Multivariate Analysis

Table 5 shows the results of the multiple variate analysis. Model 1 considers sector and size as control variables, whereas model 2 adds leverage, growth, and liquidity as control variables.

Table 5. Multiple linear regression results.

	(1)			**(2)**		
	Coef.	**t**	**Sig.**	**Coef.**	**t**	**Sig.**
Constant	45.189	4.722	***	43.426	4.768	***
SR disclosure	1.439	0.901		1.006	0.674	
Sector	3.386	2.553	**	0.726	0.558	
Size	−2.365	−4.514	***	−1.856	−3.742	***
Leverage				−0.114	−5.527	***
Growth				−0.001	−0.811	
Liquidity				0.596	1.179	
N	297			297		
Z	7.975	***		12.699	***	
R-squared	0.076			0.209		
Adj. R-squared	0.066			0.193		

Source: Own elaboration. **, and *** indicate that the coefficient is significant at 5%, and 1%, respectively.

For both models, the results show that the disclosure of sustainability reporting does not significantly impact the financial performance of Portuguese companies. Therefore, our research hypothesis cannot be validated. Therefore, it is not possible to assert that sustainability reporting impacts the financial performance of Portuguese companies.

Regarding the control variables, in model 1, both sector and size are statistically significant. The results suggests that financial performance is higher for companies in the industrial and raw materials sectors (than for companies in the commerce and services sectors) and for companies of a lower size. The latter effect still stands in model 2 (contrary to the former effect that loses its statistical significance once we introduce the remaining control variables). Swarnapali [23] also finds a negative and significant impact of corporate size on financial performance, although other studies find a positive and statistically significant relationship [9,10] or a non-statistically significant relationship [4,5,25] between these two variables.

Of the three variables introduced in model 2, only leverage is statistically significant. The results regarding this variable suggest that financial performance is higher for companies with lower debt in their capital structure, which is in line with the results of previous studies [4,10,23,25,28].

Both models are statistically significant and model 2 is able to explain around 20% of the variability in financial performance.

4.3. Robustness: Multivariate Analysis by Sector

According to Demirgüneş [29], companies in the retail sector have different financial characteristics to manufacturing companies. The former tend to have shorter operating cycles, lower returns on sales, and higher liquidity and turnover ratios, compared to the latter [29]. They have also different asset structures, since they tend to have more current assets and less fixed assets [29]. Furthermore, manufacturing firms are seen as having a more negative impact on the environment, attracting increased attention from stakeholders [6]. This may give them more incentive to disclose sustainability information compared to those outside such sectors [30,31].

In light of the above and considering that the sector variable was statistically significant in model 1, as presented in the previous section, we conducted a robustness analysis to check the impact of sustainability reporting on financial performance in each sector (industrial and raw materials sectors vs. commerce and services sectors). The results are presented in Table 6.

Table 6. Multiple linear regression results by sector.

	Industrial and Raw Materials			**Commerce and Services**		
	Coef.	**t**	**Sig.**	**Coef.**	**t**	**Sig.**
Constant	37.590	2.976	***	34.318	2.608	**
SR disclosure	−0.721	−0.473		2.447	1.051	
Size	−1.416	−2.071	**	−1.518	−2.211	**
Leverage	−0.121	−2.767	***	−0.105	−4.091	***
Growth	0.075	3.319	***	−0.005	−1.696	*
Liquidity	0.240	0.476		2.081	1.817	*
N	117			180		
Z	8.266	***		9.487	***	
R-squared	0.273			0.215		
Adj. R-squared	0.240			0.193		

Source: Own elaboration. *, **, and *** indicate that the coefficient is significant at 10%, 5%, and 1%, respectively

The results show that SR disclosure does not significantly impact the financial performance of corporations in the industrial and raw materials sectors or corporations in the commerce and services sectors, corroborating the results obtained in the previous section. According to the literature, the impact of sustainability reporting on business performance varies across sectors—with a significant impact particularly in banking and financial services [32–34]—which provides a benchmark for companies considering the adoption of sustainability reporting [27].

Large companies are seen as more sustainable due to their recognized commitment, which attracts more investors. Consequently, these companies also have easier access to external financing compared to those that are not considered sustainable [12]. However, in our study, the negative and significant impacts of corporate size and leverage on financial performance were also maintained when we divided the sample by sectors. Swarnapali [23] also finds negative and significant impacts of corporate size and leverage on financial performance. Other studies [4,10,23,25,28] also support the negative and significant effect of leverage on financial performance. As stated by Ermenc et al. [23] (p. 190), "Companies with lower debt are perceived as less risky and will on average achieve better financial performance".

When we divide the sample by sectors, the importance of the other two control variables stands out. For companies in the industrial and raw materials sectors, revenue growth rate is an important determinant of financial performance. In particular, the higher the revenue growth rate, the higher the financial performance (which is in line with what is documented by other studies [9,23]). For companies in the commerce and services sectors, revenue growth rate and liquidity also affect financial performance, although these variables are only statistically significant at the significance level of 10%. For these companies, the higher the liquidity, the higher the financial performance. This is in line with the results of Demirgüneş [29] for the retail sector. According to the author, liquidity refers to the ability of a firm to meet its short-term obligations; the relationship between liquidity and profitability is especially important for retail firms, since "purchasing goods on cash basis or on credit basis for a relatively short period and selling to consumers quickly compared to manufacturing industry, requires higher current ratio" [29] (pp. 67–68).

The results are relevant for current decision-making by regulators, companies, and investors, as they reveal that, despite regulations (e.g., the UN 2030 Agenda, the European Non-Financial Reporting Directive, and the Corporate Sustainability Reporting Directive), the proportion of companies disclosing SR is still low, and that the decision to disclose sustainability information is not yet rewarded with a higher return, at least in the short term.

This has practical implications and highlights the need for more effective approaches to SRs. Managers can use these results to explore the reasons why a high level of sustainability disclosure does not improve firm performance. This exploration can provide insight into whether sustainability dimensions as a whole, or each dimension separately (economic, social, and environmental), should be prioritised.

In the short term, sustainability practices may have no impact on financial performance, or may even have a negative impact due to increased costs. However, they likely yield economic returns in the long run. To mitigate short-term costs, public intervention is necessary. Policymakers should encourage SR adoption as a long-term strategy, incentivize sustainable goals, and consider implementing sustainability-related taxes like carbon taxes [35].

5. Conclusions

The existing literature offers conflicting views on the relationship between sustainability reporting and financial performance. Furthermore, previous studies mainly focus on listed companies. This study aimed to address these inconsistencies by examining how sustainability reporting affects financial performance, particularly in large Portuguese companies, as their commitment to sustainable development is well recognised.

The results show that there are no statistically significant differences in the financial performance of companies that disclose SRs and do not disclose SRs. Thus, our findings do not support the existence of a significant relationship between the disclosure of SRs and financial performance. In this regard, the literature is not consensual, with some authors arguing for a positive relationship between non-financial reporting and financial performance [4,5,24,34] and others indicating a negative relationship [9,10,32,33]. Our research shows that sustainability disclosures have a neutral effect on the performance of Portuguese companies. Nevertheless, our results are robust to both methodological procedures considered, as well as to the consideration of different sectors.

Despite finding a neutral relationship, this study contributes to the literature by adding to the limited empirical evidence based on samples of large firms.

Our study has some limitations. First, the group of companies that do not publish SRs is much larger than the group of companies that do publish SRs. It should be noted that several Portuguese companies disclose sustainability information in their financial statements and/or integrated reports. Thus, other formats for reporting sustainability information could be explored in future studies in order to increase the number of companies that do disclose sustainability information and make the groups more balanced.

Second, the research focuses only on 2021 SRs, a year during which the effects of the COVID-19 pandemic were still being felt. The restrictions and economic uncertainties caused by the pandemic may have affected not only the disclosure of SRs, but also financial performance. Furthermore, a one-year analysis may not capture long-term trends or dynamics that may emerge over several years. As already mentioned, sustainability reporting may not have an immediate effect, requiring companies to wait for several years for this disclosure to bring returns and impact their financial performance. As such, we propose the conduction of a longitudinal study to assess whether financial benefits gradually materialize as sustainability reporting practices become institutionalized in Portuguese companies, particularly following the approval of the new sustainability reporting directive (Directive 2022/2464/EU, dated 16 December 2022, which came into effect in January 2024) that replaces the Non-Financial Reporting Directive. Mandatory regulation is crucial for encouraging large firms to provide more sustainability-related information, thereby reducing information asymmetries and agency problems [36]. The use of panel data models over several years would provide a reliable picture of the relationship between mandatory sustainability disclosures and the profitability of individual companies.

Future research should also include additional control variables like firm age, profitability, and market conditions to enhance the analysis and provide deeper insights into the impact of sustainability reporting on financial performance.

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Appendix A

Table A1. Descritive statistics.

Descriptive Statistics					
	N	**Min**	**Max**	**Mean**	**Std. Dev.**
ROA	297	−48.224	67.586	2.987	11.272
Size	297	14.467	23.809	18.535	1.298
Leverage	297	1.094	433.764	65.598	33.976
Growth	297	−81.320	8206.905	28.203	480.378
Liquidity	297	0.048	21.304	1.650	1.764

Table A2. Correlation matrix.

Correlation Matrix					
	ROA	**Size**	**Leverage**	**Growth**	**Liquidity**
ROA	1	−0.225 ***	−0.407 ***	0.021	0.213 ***
Size	−0.225 ***	1	0.082	0.105 *	0.019
Leverage	−0.407 ***	0.082	1	−0.113 *	−0.446 ***
Growth	0.021	0.105 *	−0.113 *	1	0.645 ***
Liquidity	0.213 ***	0.019	−0.446 ***	0.645 ***	1

* and *** indicate that the coefficient is significant at 10% and 1%, respectively.

Table A3. Collinearity statistics.

	Collinearity Statistics	
	Tolerance	**VIF**
SR disclosure	0.905	1.105
Sector	0.865	1.155
Size	0.865	1.156
Leverage	0.708	1.412
Growth	0.529	1.889
Liquidity	0.439	2.278

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