Non-financial Disclosure of Large Portuguese Companies and Its Determinant Factors

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Abstract: This paper aims to analyze the degree of disclosure of non-financial information (mandatory vs. voluntary) provided by large Portuguese companies and to identify its determinant factors. A content analysis was conducted on a total of 41 corporate reports published in 2020 by listed and unlisted companies with more than 500 employees. A multiple linear regression model was developed, with a non-financial disclosure index as the dependent variable and visible characteristics of the companies and report-related characteristics as independent variables.

The results indicate that there are statistically significant differences in the level of non-financial information disclosure between listed and unlisted companies. Multiple linear regression model results showed that the variables of profitability and the use of the Global Reporting Initiative framework are statistically significant at a significance level of 5%, while the variable of the extent of the report is statistically significant at a significance level of 10%.

1. INTRODUCTION

Non-financial information provides information about the environment and social aspects, to cover all the needs of stakeholders (Malek-Yonan et al., 2016; Ştefănescu et al., 2020). There is no consensus in the literature on whether non-financial reporting should be mandatory or voluntary (Ribeiro & Monteiro, 2015). Nevertheless, non-financial reporting has moved from a voluntary basis to a standardized and mandatory practice (Osmanagić Bedenik & Barišić, 2019).

In recent years, countries such as India, Brazil, China, Denmark, South Africa, and Malaysia have disclosed non-financial information on Corporate Social Responsibility (CSR) (Hoffmann et al., 2018). The same scenario is currently experienced within the European Union (EU), by Directive 2014/95/EU, of the European Parliament and of the Council, of October 22, 2014, which establishes the obligation of non-financial reporting for some types of entities.

In Portugal, this was transposed into the Portuguese legal system by Decree-Law (DL) No. 89/2017, of 28 July. This law began to take effect in 2018 for the accounts for the year 2017, producing changes in Article 66B of the Commercial Companies Code (CSC). The disclosure of non-financial information must be made through a non-financial statement or through a report separate from the management report, which must be published together with the management report or made available to the public on the company’s website.

DL 89/2017 applies to large companies considered entities of public interest and entities of public interest that are parent companies of a large group and that exceed the average number of 500

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employees. The information contained in the companies’ reports must refer to environmental issues, social aspects, measures relating to workers, respect for human rights and the fight against corruption and bribery attempts, and must include, in particular, the description of the business model adopted by the entity or group, the description of the policies followed by the entity, as well as their results, the main risks associated with these issues and the most relevant key performance indicators for the company’s activity. The obligation of this information arises from the need to increase the comparability, transparency and coherence of non-financial information.

Over the years, several studies have focused on analyzing the information that is mandatorily required by the European Directive (or by the Decree-laws that transposed it into the different legal systems of the Member States). However, few studies have analyzed the disclosure of non-financial information in companies that are not obliged to apply the Directive, but that, voluntarily, choose to do so. In this sense, this work seeks to fill this gap, by analyzing the degree of disclosure of non-financial information (mandatory vs voluntary) carried out by listed companies and large Portuguese companies and identifying their explanatory factors.

Given the above, this paper is structured in six sections. In section 2 are defined the research hypotheses, in section 3 the research design is presented, followed by the presentation and discussion of results in section 4. Finally, future research suggestions are presented in section 5, and the conclusion is in section 6.

2. RESEARCH HYPOTHESES

To fulfill the objective of this paper, based on the literature, we have identified 8 variables as potential determinant factors for non-financial information disclosure. These variables have led to the formulation of research hypotheses, which will be presented below.

2.1. Company Size (SIZE_ Log of Total Assets)

Company size is considered one of the central variables in studies that aim to analyze and explain the extent of disclosure. Kiliç and Kusey (2017) found that larger companies are more likely to publish sustainability reports than smaller companies. For Baumann-Pauly et al. (2013), small and medium-sized companies tend not to disclose as much non-financial information compared to large companies, as they consider it too expensive to invest their resources in this type of action.

Larger companies tend to disclose more information than smaller companies since they are more vulnerable to pressure from stakeholders and the general public (Kansal et al., 2014). For Pereira et al. (2020), this can be explained by the constant concern of large companies to improve their image and reputation in society, as stipulated by the Theory of Legitimacy.

Given the above, there are several studies (Buitendag et al., 2017; Duran & Rodrigo, 2018; Dyduch & Krasodomska, 2017; Pereira et al., 2020; Szadziewska et al., 2018; Venturelli et al., 2017, 2019) that found that the degree of disclosure of non-financial information by companies is positively related to company size. In view of the above, we formulate the following research hypothesis:

4 In Portugal, entities of public interest are those qualified by article 3 of the Legal Regime for Audit Supervision, approved under the terms of article 2 of Law no. 148/2015, of 9 September. Large companies are those that exceed at least two of the three limits defined in paragraph 3 of article 9, established in accordance with article 9-A, both of DL nº 158/2009, of July 13, as amended by DL nº 98/2015, of June 2nd.
**H1**: Firm size has a positive relationship with the degree of disclosure of non-financial information.

### 2.2. Activity Sector (SECT: Industry vs Not Industry)

For some authors (Buitendag et al., 2017; Dyduch & Krasodomska, 2017; Sierra-Garcia et al., 2018), the sector in which the company operates is a significant factor in terms of regulatory compliance, influencing the disclosure of non-financial information. Companies whose activity has a negative impact on the environment tend to disclose more and higher quality information compared to other companies (Dyduch & Krasodomska, 2017; Szadziewska et al., 2018). According to Garcia-Benau et al. (2022), companies operating in the oil and energy sector, consumer services, financial services and real estate are sectors more likely to publish non-financial information in a sustainability report. In turn, in the opinion of Gamerschlag et al. (2011), the companies belonging to the energy consumption and supply sector disclose more information of a non-financial nature.

In their study, Sierra-Garcia et al. (2018) found a positive and significant relationship between the activity sector where the company operates and the disclosure of non-financial information. On the contrary, research by Caputo et al. (2019) and Pereira et al. (2020) found a negative relationship. However, Venturelli et al. (2019), and Fuster and Ortiz (2019) found that the sector of activity has no influence on the level of disclosure of non-financial information. Also, Venturelli et al. (2019) did not find any relationship between the sector of activity and the quality of the non-financial report.

Nevertheless, with these contradictory results, it is expected that the largest companies that carry out industrial activities, tend to disclose non-financial information following legal requirements, as a tool to legitimize their activities. In this sense, we formulated the following research hypothesis:

**H2**: Companies belonging to industrial activity sectors present a higher degree of disclosure of non-financial information.

### 2.3. Internationalization (INT)

Over the years, several studies analyzed the effect of the level of internationalization of companies on the disclosure of non-financial information (Fuster & Ortiz, 2019; Pereira et al., 2020). In the research by Duran and Rodrigo (2018), no significant relationship was found between these variables. However, Fuster and Ortiz (2019) verified the existence of a positive relationship. Based on these results, the following research hypothesis was elaborated:

**H3**: There is a relationship between the degree of internationalization of a company and the disclosure of non-financial information

### 2.4. Profitability (PROF)

For Tagesson et al. (2013), managers with greater knowledge are better equipped to handle a company’s resources effectively. In turn, understand what social responsibility entails and the importance of social and environmental disclosures. For these authors, companies with higher levels of profitability tend to disclose more non-financial information. Duran and Rodrigo (2018) found that
there is a negative and significant relationship between profitability and the disclosure of non-financial information. On the contrary, according to Buitendag et al. (2017) and Garcia-Benau et al. (2022), there is a positive and significant relationship between profitability and disclosure of non-financial information. In turn, some studies did not find any significant relationship between profitability and the disclosure of non-financial information (Dyduch & Krasodomska, 2017; Szadziewska et al., 2018) and the quality of sustainability reports (Mion & Loza Adaui, 2019). In view of the diversity of results, we elaborated the following investigation hypothesis:

**H4:** There is a relationship between profitability and the degree of disclosure of non-financial information.

### 2.5. Report Type (RepType)

According to Hoffmann et al. (2018), the disclosure of non-financial information is best disclosed in separate reports or sustainability reports. For the authors, companies will include more complete non-financial information in these independent reports, instead of attaching some of this information in non-financial statements. In the study by Fuster and Ortiz (2019) and Venturelli et al. (2019), there was a positive relationship between the type of report and the level/quality of non-financial information. Also, Balluchi et al. (2021), found a positive relationship between the disclosure of social and environmental information through the separate sustainability report and the credibility of the information. Considering these results, the following hypothesis was formulated:

**H5:** There is a positive relationship between the use of separate non-financial reporting and the degree of disclosure of non-financial information.

### 2.6. Framework (FRAM)

The use of different frameworks in the dissemination of non-financial information has been investigated in the literature (Fuster & Ortiz, 2019; Michelon et al., 2015; Schröder, 2022). For Schröder (2022), the framework is considered a necessary tool to identify gaps in the disclosure of non-financial information, consequently improving the quality of reports. Several authors (Fuster & Ortiz, 2019; Michelon et al., 2015; Venturelli et al., 2019) found a positive relationship between the level of disclosure of non-financial information and the framework used. In this sense, the following research hypothesis was formulated:

**H6:** There is a positive relationship between the use of the GRI framework and the degree of disclosure of non-financial information.

### 2.7. Length of the Report (No. of pages)

According to Wu and Pupovac (2019), to respond to coercive pressures, companies can use long reports to influence stakeholders’ impressions of their social responsibility and performance. Pereira et al. (2020) observed that the average number of pages in reports based on the GRI framework is higher compared to reports in which there is no reference to the GRI. Furthermore, Pizzi et al. (2021) concluded that reporting length can positively influence the reporting of information on sustainable development. Given the above, it is expected that extensive reporting will lead to higher levels of disclosure of non-financial information:
H7: There is a positive relationship between the length of the report and the degree of disclosure of non-financial information.

2.8. Auditor Type (Big 4)

For Cunha et al. (2014) the audit reduces the asymmetry of information between stakeholders and managers, as it validates the disclosed information. Companies often use external assurance to validate the information disclosed in their non-financial reports, as a way of giving a sign of transparency and commitment to sustainability. According to Angonese et al. (2014), the larger the size of the audit firm, the greater the influence that the auditor has on the company being audited and, consequently, the greater the voluntary disclosure of information made by companies. In light of this thought, the following research hypothesis has been formulated:

H8: There is a positive relationship between the type of external auditor (Big 4) and the degree of disclosure of non-financial information

3. RESEARCH DESIGN

3.1. Sample selection

For sample selection, we have considered the following criteria: (a) Companies covered by DL 89/2017: companies listed on Euronext Lisbon as of December 31, 2021, which are classified as public interest companies and have more than 500 employees; (b) Companies not covered by DL 89/2017: we used the special edition of Exame magazine for the year 2021, which listed the “500 Largest & Best Portuguese Companies.” From this list, companies with more than 500 employees have been selected. Applying these criteria resulted in a sample of 41 reports containing non-financial information, of which 18 (43.9%) belong to listed companies, and 23 reports (56.1%) belong to unlisted companies. Table 1 presents the results regarding the division of the sample into the 2 groups under analysis.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1: Listed Companies</td>
<td>18</td>
<td>43.9</td>
</tr>
<tr>
<td>– Mandatory non-financial reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 2: Unlisted Companies</td>
<td>23</td>
<td>56.1</td>
</tr>
<tr>
<td>– Voluntary non-financial reporting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Own processing

3.2. Methodology adopted in data collection and processing

A qualitative methodology was adopted through content analysis of non-financial reports for the year 2020, from a sample of 41 reports. For this purpose, a disclosure index (DI) was built based on eight items corresponding to the information requirements of DL 89/2017, which allowed measuring the degree of disclosure of non-financial information. Each item of information present in the disclosure index was classified using a dichotomous scale, with a value of 0 being assigned whenever a given item was not disclosed and a value of 1 whenever an item was disclosed. In this sense, the value of the index results from the quotient between the total items disclosed by each company and the sum of the total items that make up the disclosure index.
In order to analyze the influence of independent variables on the degree of disclosure of non-financial information, a multivariate analysis will be carried out using a multiple linear regression model, which is calculated using the following formula (see Table 2):

Table 2. Multiple Linear Regression Model

\[ DI = \alpha_0 + \beta_1 \text{Size} + \beta_2 \text{Sector} + \beta_3 \text{Inter.} + \beta_4 \text{Prof.} + \beta_5 \text{RepType} + \beta_6 \text{Fram} + \beta_7 \text{No. Pages} + \beta_8 \text{Big4} + \theta_i \]

Source: Own processing

4. PRESENTATION AND DISCUSSION OF THE RESULTS

4.1. Descriptive analysis of results

As previously mentioned, a disclosure index was created, to measure the degree of non-financial disclosure. This index ranges from 0 to 1, with a value of 0 when no item is disclosed in the non-financial report and a value of 1 when the report contains disclosure on all items considered in the index. Table 3 presents the descriptive statistics obtained.

Table 3. Non-financial information disclosure index: descriptive statistics

<table>
<thead>
<tr>
<th>Group 1: Listed Companies –Mandatory non-financial reporting</th>
<th>Average</th>
<th>Dev. error</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.93056</td>
<td>0.115222</td>
<td>0.625</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Group 2: Unlisted Companies – Voluntary non-financial reporting</td>
<td>0.80457</td>
<td>0.222491</td>
<td>0.250</td>
<td>1</td>
</tr>
<tr>
<td>Total sample</td>
<td>0.85988</td>
<td>0.192030</td>
<td>0.250</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Own processing

The disclosure index has a minimum value of 0.250 and a maximum of 1 and, an average value of 0.86. Unlisted companies have an average of 0.80. In turn, for listed companies, the minimum value of the index is 0.625 and the maximum value is 1, with an average of 0.93. In this sense, we observe that the degree of disclosure of non-financial information is higher in the group where reporting is mandatory. However, the companies that make up the voluntary non-financial reporting group also show a high degree of disclosure. The disclosure of non-financial information is an accountability instrument, allowing large companies to legitimize their performance and manage the perception of their stakeholders and, thus, preserve their image and legitimate status in society.

4.2. Multivariate analysis

Table 4 summarizes the results obtained in the regression model, associating the dependent variable (disclosure index) and the independent variables defined in the research hypothesis.

It is possible to conclude that the independent variables explain about 51.20% ($R^2$) of the value of the dependent variable (disclosure index). However, we can see that only 3 independent variables were statistically significant. The variables Profitability and Framework proved to be statistically significant at a significance level of 5%, while the variable Length of report (No. Pages) proved to be statistically significant at a significance level of 10%.

According to Duran and Rodrigo (2018), the higher the financial margin of companies, the more resources are made available for the practice of non-financial disclosure. In view of the above, the results show that the greater the profitability of a company, the more non-financial
information it tends to disclose. In this sense, H4 is validated. These results are in line with the results obtained by Buitendag et al. (2017) and Garcia-Benau et al. (2022). Additionally, the Framework variable was also positive and statistically significant, which means that companies that adopt GRI standards are more likely to disclose non-financial information. Thus, H6 is also validated. These results coincide with the results of Michelon et al. (2015), Venturelli et al. (2019), Fuster and Ortiz (2019), and Schröder (2022).

Table 4. Results of the multiple linear regression model

<table>
<thead>
<tr>
<th>Non-standard coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.600</td>
</tr>
<tr>
<td>Size</td>
<td>0.005</td>
</tr>
<tr>
<td>Prof.</td>
<td>0.002</td>
</tr>
<tr>
<td>Big 4</td>
<td>-0.036</td>
</tr>
<tr>
<td>Inter</td>
<td>-0.040</td>
</tr>
<tr>
<td>Sector</td>
<td>0.165</td>
</tr>
<tr>
<td>RepType</td>
<td>-0.056</td>
</tr>
<tr>
<td>Fram</td>
<td>0.189</td>
</tr>
<tr>
<td>No. Pages</td>
<td>0.001</td>
</tr>
</tbody>
</table>

R²              | R² Adjusted |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.716</td>
<td>0.512</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Index
b. Predictors: (Constant), TipSetor, Rentab, NªPág, TipAuditor, Inter, LogAtivo, fram, Trelat

Source: Own processing

The variable Length of the report (No. Pages) proved to be statistically significant for a significance level of 10%, so H7 is validated. The number of pages in the report has a positive influence on the level of disclosure of non-financial information. This result is in line with that of Pizzi et al. (2021). Contrary to what was expected, the results for the remaining variables under study proved not to be statistically significant.

5. FUTURE RESEARCH DIRECTIONS

In future studies, we suggest expanding the sample (including medium-sized companies, as provided for the new European directive) as well as extending the time horizon. A broader longitudinal study will allow the collection of a greater number of observations and analyze the evolution of non-financial reporting practices. It would also be interesting to compare the non-financial information disclosure in the Iberian region and the broader EU context.

6. CONCLUSION

The main focus of this research was to analyze the degree of disclosure of non-financial information (mandatory vs voluntary) carried out by listed companies and large Portuguese companies and identify the determining factors of the degree of disclosure. The results allowed us to conclude that listed companies, where reporting is mandatory, have higher mean values of disclosure of non-financial information (mean index = 0.93) compared to unlisted companies, where non-financial reporting is voluntary (mean index = 0.80). The results obtained are consistent with the results of Hoffmann et al. (2018) and Tarquinio et al. (2020), who found a higher level of disclosure of non-financial information in companies from the moment they were
obliged to disclose this type of information. Coercive isomorphism comes from formal pressures that are exerted on organizations, resulting from DL 89/2017, and from the expectations created by stakeholders who expect a high degree of compliance with the law.

The results of the multiple linear regression showed that the profitability and framework variables are statistically significant at a significance level of 5%, and the report length variable (number of pages) was only statistically significant at a significance level of 10%. These results allowed us to validate hypothesis H6, as there was a positive association between the framework adopted by companies and the degree of disclosure of non-financial information, corroborating the results of Michelon et al. (2015), Venturelli et al. (2019), Fuster and Ortiz (2019) and Schröder (2022). In addition, it was also possible to validate hypothesis H4, since there is a positive and significant relationship between a company’s profitability and the disclosure of non-financial information. Hypothesis H7 was also validated, proving the existence of a positive and significant relationship between the number of pages in the report and the degree of disclosure of non-financial information. For the remaining variables, we were unable to find any statistically significant relationship.

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