Data Article

Data on the environmental sustainability index of large Brazilian companies

F.S. Rosa, R.J. Lunkes, M.M.B. Brizzolla

Federal University of Santa Catarina (UFSC), SC, Brazil
Northwestern Regional University of the State of Rio Grande do Sul (UNIJUI), RS, Brazil

A R T I C L E   I N F O

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A B S T R A C T

This data article is related to the research article “Exploring the Relationship between Internal Pressures, Greenhouse Gas Management and Performance of Brazilian Companies” (Rosa et al., 2019). This presents data collected from 63 large Brazilian companies organized as follows: Industrial Goods (2); Construction and Transportation (12); Cyclical Consumption (3); Non-Cyclical Consumption (3); Financial and Other (6); Basic Materials (4); Information Technology (2); Telecommunications (2); and Electricity (29). These data were collected by the questionnaire administered by the São Paulo Stock Exchange (Brazil) about internal factors of Corporate Social Responsibility (CSR) of an Environmental Management System (EMS) and the reduction of emission of greenhouse gases and economic performance. The data were used to show a relationship between the use of EMS and the reduction of greenhouse gas emissions and economic performance. The data also show that risk management and the pursuit of opportunities related to climate change and establishing incentives at different levels linked to reduction targets, together with employee awareness and training, have an impact on managing greenhouse gas emissions and the greenhouse effect.

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1. Data

The primary data were collected in a questionnaire administered by the São Paulo Stock Exchange (BOVESPA) to companies from different economic sectors and business portfolios that are publicly available from 63 Brazilian companies listed on the stock exchange and ISE in 2016.

The Corporate Sustainability Index (ISE) is an investment portfolio that has sustainable criteria for the selection of companies that make up the company. The ISE is a tool for comparative analysis of the performance of companies listed in B3 under the corporate sustainability aspect based on economic efficiency, environmental balance, social justice and corporate governance. There are three categories of ISE participation: Eligible, Training and Simulation. Participation in the Training and Simulation categories is only for the purpose of preparing companies for the future participation of the ISE investment portfolio. The Eligible category is formed by the 200 companies with the most liquid shares during the year.

Companies interested in participating in the process are enrolled electronically and receive access to the system online. This questionnaire is prepared by the B3 team in partnership with FGV (Fundaçao Getúlio Vargas) and is updated every year. To be included in the index, companies must agree to respond. This questionnaire is composed of seven dimensions: General; Nature of the Product; Corporate governance; Economic-financial; Environmental; Social; and Climate changes. Each of the dimensions is composed of criteria, and each criterion has different weights. Weights are defined mainly by the relevance of the theme in the current context of corporate management and the demands of society. In addition, each criterion is composed of indicators that are calculated from a set of questions, according to Table 1.

In addition to the responses to the questionnaire, the selection process also includes an analysis of the documents submitted by the companies to substantiate the information provided, and for the final deliberation conducted by the ISE Deliberative Council, the CISE. The technical management of this
| Dimension | Criteria | Weight | Indicator/questions |
|-----------|----------|--------|---------------------|
| **General** | Commitments | 15 | 1. Fundamental commitment (7 questions)  
                        2. Voluntary commitments (8 questions) |
|            | Alignment | 33 | 3. Consistency of commitments (8 questions)  
                        4. Engagement with stakeholders (3 questions)  
                        5. Performance and recognition (5 questions) |
|            | Strategic Perspective | 17 | 6. Strategy and positioning (6 questions)  
                        7. Value chain (6 questions) |
|            | Ethics and Transparency | 35 | 8. Defense of competition (2 questions)  
                        9. Prevention and fight against corruption (6 questions)  
                        10. Political action (4 questions)  
                        11. Reports (10 questions) |
| **Nature of Product** | Personal Impacts of Product Use | 30 | 1. Risks to the consumer or third parties (7 questions) |
|            | Diffuse Impacts of Product Use | 60 | 2. Diffuse risks (15 questions)  
                        3. Observance of the precautionary principle (3 questions)  
                        4. Consumer information (2 questions)  
                        5. Judicial or administrative sanctions (4 questions) |
| **Corporate Governance** | Property | 30 | 1. Relationships between partners (13 questions)  
                        2. Transparency (2 questions)  
                        3. Legal compliance (3 questions)  
                        4. Governance of subsidiaries, affiliates and/or subsidiaries (2 questions) |
|            | Administrative Council | 30 | 5. Structure of the board of directors (6 questions)  
                        6. Dynamics of the board of directors (5 questions) |
|            | Management | 10 | 7. Quality of management (5 questions)  
                        8. Accountability (5 questions) |
|            | Audit and inspection | 10 | 9. Conduct and conflict of interest (11 questions) |
| **Economic-financial** | Politics | 20 | 1. Corporate strategy and risk (4 questions)  
                        2. Corporate risks and opportunities (10 questions)  
                        3. Crisis and contingency plan (3 questions)  
                        4. Intangible assets (1 questions)  
                        5. Performance management (1 question) |
|            | Management | 40 | 6. Financial statements (3 questions)  
                        7. Economic profit (2 questions)  
                        8. Balance of growth (1 question) |
| **Environmental** | Legal compliance | 10 | 9. History (3 questions) |
| **Social** | Politics | 24 | 1. Commitment to fundamental principles and rights in labor relations (6 questions)  
                        2. Commitment to the community (6 questions)  
                        3. Respect for privacy, use of information and marketing (3 questions) |
|            | Management | 40 | 4. Implementation of commitments with principles and fundamental rights in labor relations (8 questions)  
                        5. Relationship with the community (11 questions)  
                        6. Relationship with customers and consumers (10 questions) |
|            | Performance | 26 | 7. Diversity and equity (16 questions)  
                        8. Supplier management (4 questions)  
                        9. Resolution of customer and consumer demands (5 questions) |

(continued on next page)
process is conducted by the FGV, with the assurance of KPMG. At the end of the selection process, up to 40 companies are selected to compose the index of the corresponding evaluation year.

2. Experimental design, materials and methods

The questionnaire administered by the São Paulo Stock Exchange is a tool used for a comparative analysis of the performance of companies listed in B3 regarding corporate sustainability. The companies voluntarily participate in this of the portfolio of investments denominated Corporate Sustainability Index (ISE). The questionnaire is developed by the FGV team and is formed of seven dimensions that evaluate different aspects of sustainability: Overall Dimension; Product Nature Dimension; Corporate Governance Dimension; Economic, Financial, Environmental and Social Dimensions; and Climate Change Dimension. All the data can be found on the website of the São Paulo Stock Exchange (http://iseb3.com.br/questionario-ise-b3-2016—versao-final). In this study, only the issues related to greenhouse gases were analysed. It was intended to collect specific data on (a) Environmental Management Systems - Mitigation and Prediction of impacts; (b) Internal Corporate Social Responsibility pressures - CSR-Accountability, CSR-Incentives and CSR-Training; (c) Environmental Performance - Establishment and Reduction of Greenhouse Gas targets; and (d) Economic Performance - ROA and ROE. The descriptive statistics of the analysed variables of the 63 companies is presented in Table 2.

2.1. Variable measurement

To examine how internal pressures from CSR moderate the relationship between EMS and environmental and economic performance, this study uses nine variables. As an independent variable, we use two variables that represent the EMS [2–6], one related to the mitigation of impacts and the other related to the prediction of impacts. We use four variables as dependent variables, two of which represent GGR (Greenhouse Gas Reduction) aspects [7,8] and two of which represent economic performance.

### Table 1 (continued)

| Dimension       | Criteria                        | Weight | Indicator/questions                                      |
|-----------------|---------------------------------|--------|---------------------------------------------------------|
| Legal compliance| 10                              |        | 10. Internal public (2 questions)                       |
|                 |                                 |        | 11. Customers and consumers (4 questions)               |
|                 |                                 |        | 12. Society (6 questions)                               |
| Climate change  | Politics                        | 17,25  | 1. Commitment, comprehensiveness and dissemination (7 questions) |
|                 | Management                      | 46,75  | 2. Responsibility (4 questions)                         |
|                 |                                  |        | 3. Mitigation management (7 questions)                  |
|                 |                                  |        | 4. Management of adaptation (3 questions)               |
|                 |                                  |        | 5. Management systems (2 questions)                     |
| Performance     | Report                          | 20     | 6. Results (2 questions)                                |
|                 |                                  |        | 7. Disclosure (2 questions)                             |

Adapted from ISE (2018).

### Table 2

Descriptive statistics of the 63 large companies of Brazil.

| Variable                  | Item       | n  | Mean     | Median    | Min    | Max    | STDVE |
|---------------------------|------------|----|----------|-----------|--------|--------|-------|
| Mitigation of impacts     | CLI10      | 63 | 2.10     | 2.00      | 0.00   | 3.00   | 0.79  |
| Adapting to climate change| CLI14      | 63 | 2.79     | 4.00      | 0.00   | 4.00   | 1.51  |
| Emission reduction        | CLI18      | 63 | 2.48     | 3.00      | 0.00   | 6.00   | 1.93  |
| Emission reduction targets| CLI19      | 63 | 1.29     | 2.00      | -1.00  | 2.00   | 0.93  |
| Return on assets          | ROA        | 63 | 423.51   | 217.00    | -474.00| 1526.00| 448.95|   |
| Return on equity          | ROE        | 63 | 1650.37  | 925.00    | -4238.00| 6988.00| 2070.99|   |
| Accountability            | CLI5       | 63 | 2.78     | 3.00      | 0.00   | 4.00   | 1.28  |
| Incentives                | CLI6       | 63 | 1.71     | 2.00      | -1.00  | 4.00   | 2.08  |
| Training                  | CLI7       | 63 | 6.83     | 7.00      | 4.00   | 9.00   | 1.49  |
performance (EP) [7,9–14]. Finally, three moderating variables are used to measure the CRS Internal Pressures [5,12,1]: Accountability, Incentives and Training.

The model variables are thus measured:

(a) Environmental Management System: measured by two aspects: Mitigation Impacts (Scale from 0 (no emissions) to 3 (accomplishes emissions mitigation and uses compensation measures), and Prediction of impacts conducted studies in the last 3 years).

(b) Internal Corporate Social Responsibility pressure: measured by three aspects: CSR-Accountability (Scale from 0 (no accountability) to 4 (all hierarchical levels are accountable for risks and opportunities), CSR-Incentives 5 (all hierarchical levels are included in the incentives plan), and CSR-Training (Scale from 0 (none) to 8 (promotes training to employees and other workers/stakeholders);

(c) Environmental Performance, measured by two aspects: Proof RGHG (Scale from 0 (no inventory) to 6 (has inventory of direct and indirect emissions throughout the production process and value chain) to 2 (attained and/or exceeded);

(d) Economic Performance - ROA and ROE.

2.2. Empirical model

To measure the level of EMA, CSR and EP were used as ordinal scales ranging from 0 to 8, with “0” representing the worst level of response, in which there is an absence of data or inferior performance.

In the present study, it is understood that EMS enables the reduction of GG emissions and the improvement in economic business performance. In the analysis of the data, it is considered that the internal pressures of the CSR influence environmental and economic performance. Thus, it is considered that the aspects related to the responsibility and incentives of managers and the training of stakeholders and employees influence the relationship between EMS and environmental and economic performance. The internal pressures of CSR moderate the relationship between EMS and RGG and between EMS and EP.

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Transparency document

Transparency document associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2019.103819.

Appendix A.Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.dib.2019.103819.

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