



Contents lists available at ScienceDirect

Journal of Cleaner Production

journal homepage: www.elsevier.com/locate/jclepro

Sustainability indexes: why join in? A study of the ‘Corporate Sustainability Index (ISE)’ in Brazil

Renato J. Orsato ^{a,*}, Alexandre Garcia ^b, Wesley Mendes-Da-Silva ^{c,d}, Roberta Simonetti ^e, Mario Monzoni ^a

^a São Paulo School of Management (EAESP), Department of Production and Operations Management (POI) and Centre for Sustainability Studies (GVces), Getulio Vargas Foundation (FGV), São Paulo, Brazil

^b São Paulo School of Management (EAESP), Department of Production and Operations Management (POI), Getulio Vargas Foundation (FGV), São Paulo, Brazil

^c São Paulo School of Management (EAESP), Department of Finance and Accounting, Getulio Vargas Foundation (FGV), São Paulo, Brazil

^d Marriott School of Management of The Brigham Young University, US

^e Centre for Sustainability Studies (GVces), Getulio, Vargas Foundation (FGV), São Paulo, Brazil

ARTICLE INFO

Article history:

Received 14 October 2013

Received in revised form

25 October 2014

Accepted 27 October 2014

Available online xxx

Keywords:

Sustainability indexes

Socially responsible investments

Voluntary social and environmental initiatives

Sustainability strategies

Pays to be green debate

ABSTRACT

In the past decade, indicators have been created to assess the sustainability performance of companies listed in stock exchange markets. Academics and practitioners expect companies to benefit from being listed in such indexes, but evidence of value creation is still scarce. Since virtually all studies about the Corporate Sustainability Index (ISE) of the São Paulo Stock Exchange (Brazil) – the object of the present study – focused on the value of shares, we initially looked for answers in the finance theory. We collected secondary data about the financial and economic performance of companies forming the ISE’s ‘theoretical portfolio’, as these kinds of indexes are also known. In a second stage, we sought additional motivations for companies to make efforts to be listed in the index. We collected additional data and interviewed representatives of key companies listed in the ISE, as well as industry leaders who chose not to participate in the selection process. The results support the main propositions of the institutional theory, as well as the ‘pays to be green’ literature – that the intangible value created by voluntary environmental initiatives, such as access to knowledge, new capabilities and reputational gain, better explain the efforts companies make to be listed in the ISE index.

© 2014 Elsevier Ltd. All rights reserved.

1. Introduction

A growing number of banks, pension funds and institutional investors, which form the financial industry, have adhered to the Principles for Responsible Investment (PRI) of the United Nations (UN). The PRI establishes a set of principles for selecting investments, such as corporate conduct in relation to environmental and social issues, and the quality of relationships with stakeholders. As of March 2014, there were more than 1200 signatories worldwide representing about US\$ 35 trillion in assets under management. This is not an isolated initiative. The so-called socially responsible investment funds (SRI), which include shares of companies allegedly environmentally and socially responsible, have

also been growing. In 2010 it corresponded to 12% of the total USD\$ 25.2 trillion invested in the United States, a raise of 380% from 1995. Between 2005 and 2010, the SRI assets increased 34%, compared to only 3% for the conventional investment funds (Social Investment Forum Foundation, 2010).

With the increase in socially responsible investment funds, indicators have been created to assess their performance, as well as to highlight the companies that are committed to social and environmental responsibility. This trend of creating sustainability indexes began in the 1990s, with the *Domini 400 Social Index* (created by Kinder, Lydenberg, Domini and Co.) being the first, and in 1999, when the New York Stock Exchange presented the *Dow Jones Sustainability Index* (DJSI). Then came the *FTSE4good* in 2001 in London; the *Socially Responsible Index* (SRI) in Johannesburg in 2003; and the Corporate Sustainability Index (ISE) in the São Paulo Stock Exchange (BM&FBovespa – *Bolsa de Mercadorias e Futuros e Valores de São Paulo*, in Portuguese) in 2005. In 2013, the ISE was

* Corresponding author.

E-mail address: renato.orsato@fgv.br (R.J. Orsato).

formed by 37 companies from 18 industries and totaled BRL\$ (Brazilian Reais) 1.07 trillion (around US\$ 500 billion at currency rates in that period) in market value, or 44.8% of the total traded stocks. Overall, the sustainability indexes indicate the degree companies listed in the capital market commit to social and environmental responsibility.

As the efforts of companies to be listed in these indexes grow, a natural (research) question emerges: what does explain such effort? Are there any evidences that the listing creates financial value for companies? We started our research by looking for such financial evidences in the 'young' Brazilian sustainability index. In the first phase of our research, we examined the scientific literature regarding the performance of ISE. However, because the number of published articles about that index was still scarce in the period covered by our study (2006–2011), we extended our search to unpublished academic theses and dissertations, which sought to identify the correlations between financial performance and stock price valuation due to the participation in the ISE. Overall, the data we collected in the first phase represents the entirety of studies about ISE – both published and unpublished.

The results of the exploratory study raised another question: if not for financial returns, why do companies choose to invest resources to become part of the ISE portfolio? After all, if financial evidence were meager, what would explain the willingness of companies to join the sustainability index? As we show in Session 2.4, companies have other reasons to participate in the selection process of a sustainability index. The specialized literature highlights the reputational gain (Moon and De Leon, 2007), the most advantageous financial fundraising (Cheng et al., 2014), the potential competitive advantage as a pioneer or first-mover (Christmann, 2000), as well as access to the knowledge provided by exchanging experiences among the participating companies in the group (King and Lenox, 2000). In order to check whether this was the case for the ISE, in the second phase of our study we collected both primary and secondary data. We interviewed executives responsible for the sustainability area or investor relations of four companies – two members of the ISE and two that chose not to participate in the selection process and, consequently, were not listed in the index. We confronted the results with the literature.

The article is divided into five parts. Section 2 presents the origin and development of socially responsible investment funds, the main sustainability indexes in the world, the theory and methods of corporate finance that attempt to explain the price valuation of a company's stocks and, finally, the non-financial motivations companies have to commit to voluntary environmental initiatives. Section 3 presents the methodology used to answer our research questions and Section 4 discusses the research results, confronting them with previous studies in the same area. Section 5 concludes the article.

2. Sustainability in stock exchange markets

Non-experts commonly confound social investment funds with sustainability indexes. Indeed, funds and indexes have some similarities but, for the purposes of this paper, it is necessary to emphasize the differences. Socially responsible investing funds (known by the abbreviation SRI) are products offered by financial institutions seeking to raise funds from investors. The main feature of SRI is the inclusion of social and environmental criteria in the selection of companies that will make up the fund's portfolio. In other words, SRIs serve as investment options that take into account the financial returns and the social and environmental benefits generated by the companies. The sustainability indexes, on the other hand, aim to provide investors with a 'theoretical portfolio' consisting of stocks from companies that have shown renowned

commitment to social and environmental responsibility. These indexes are associated with the stock exchanges and serve as a benchmark of listed companies, assisting investor's decision-making process. Sections 2.1 and 2.2 below detail the differences between the SRI and the corporate sustainability indexes.

2.1. Socially responsible investments (SRI)

The SRIs are also called sustainable, socially conscious, green or ethical investments. According to Fowler and Hope (2007), the first initiatives in socially responsible investing emerged with religious groups such as the Quaker Brotherhood and the Lutheran Brotherhood who, in 1758, forbade their followers from participating in the slave trade. One of the most outspoken advocates of the SRI was John Wesley (1703–1791), a founder of the Methodist Church who, in his sermons, advised to avoid purchasing products from chemical companies, because such companies damaged the health of their workers.

The first socially responsible investment fund was created in 1971, named PAX Investment Fund, and was created by those who opposed the Vietnam War and wanted to avoid making investments in companies related to military equipment and materials (Fowler and Hope, 2007). According to the *Social Investment Forum*, in the United States of America, the socially investment funds had USD\$ 3.07 trillion in assets in 2010. Also, according to this source, since 2005 the pool of assets engaged in SRI strategies have increased 34% while the conventional assets have only increased 3%. During the international crisis of 2008, the market indexes such Standard & Poor's 500 – a North American market index composed of shares of 500 companies chosen according to size, liquidity and industry – were in decline and the conventional assets increased less than 1%. On the other hand, the assets involved in sustainable and socially responsible investments increased more than 13% (Social Investment Forum Foundation, 2010). In Brazil, data from the Brazilian Association of Financial and Capital Market Entities (ANBIMA) indicate that in June of 2012 the total assets following SRI strategies under professional management was BRL\$ 704 million (nearly USD\$ 335 million), representing 0.04% of the total from investment funds in the Brazilian market, which was BRL\$1.9 trillion in that period.

The SRI funds experienced substantial increases also in emerging economies in Australasia, reaching 56.5 billion Euros in 2010 in Australia (EUROSIF, 2010). Yet, regarding the Asian market, researchers argue: "the social and environmental screening process neither represents a burden of cost generation for companies, nor an additional burden on their SRI financial performance" (Ortas et al., 2013). During the period of 1982–2009, Capelle-Blancard and Monjon (2012) identified nearly 27,500 newspaper articles (through Dow Jones Factiva software), 673 academic journal articles (through the ScienceDirect – Elsevier, Wiley Interscience, SpringerLink and Jstor databases) and 513,000 web pages that included the phrases "socially responsible investing", "ethical investing", "socially responsible investment" or "ethical investment". They also got 28,200 results in Google Books and 11,000 in Google Scholar. In the 1990s, the annual reports on this topic corresponded to only 0.069% of all publications. In the 2000s, SRI reports represented 0.133%. The same growth phenomenon occurred with academic articles: the period from 1982 to 1989 corresponded to 0.096%, which became 0.284% in the 1990s and 0.549% between 2000 and 2009. In sum, the literature about SRI has had a significant growth in past decade.

The growing interest on the SRI topic, both in academic journals and in the press and electronic media, partly reflects investors' interest in this type of investment. The study conducted in 2002 by McKinsey and the *Global Corporate Governance Forum* found that

investors were willing to pay between 11% and 41% more for stocks in companies that adopted better management practices and transparency. In Brazil, the same study indicated that investors would pay 24% more for stocks of companies with such profile (Cavalcante et al., 2007). One explanation for such growth has been presented by Hoti et al. (2007): despite having average returns similar to those of conventional funds, the sustainability indexes are less volatile and more secure for investors during periods of economic turbulence. Nonetheless, as Capelle-Blancard and Monjon (2012) pointed out, these elements alone do not explain the exponential growth and popularity of SRI in the past decade.

2.2. Corporate sustainability indexes

There are several methodologies for the evaluation of the social and environmental performance of companies. The indexes associated with stock exchanges use methodologies that enable comparing companies and aid stakeholders' decision making. Table 1 below summarizes the most important sustainability indexes.

As presented in Table 1, the *Domini 400 Social Index* was released in 1990 but the first sustainability index was the *Dow Jones Sustainability Index (DJSI)*, launched in 1999 by the New York Stock Exchange. The first sustainability index in an emerging economy was launched in 2004 in Johannesburg, South Africa, with the Corporate Sustainability Index (ISE) in São Paulo, Brazil, being the first index in Latin America.

In order to participate in the ISE, for instance, companies must meet the liquidity requirements – by being an issuer of one of the 200 most liquid stocks on the São Paulo stock exchange. This is a baseline criterion for the funds to be able to replicate the index by trading the stocks of these companies. The index is composed by a maximum of 40 companies. The portfolio is effective from the first to the last business day of each year, and is reviewed annually through a selection process that is based on the responses of a questionnaire composed by an average of 300 questions. The process of answering the questionnaire allows the companies to compare their performance in relation to a benchmark. Another positive result of the companies responding the questionnaire is the improved quality and quantity of information generated to serve the evaluation process. According to O'Rourke (2003), this enables companies to send documents to stakeholders in the form

of profiles and report cards. Environmental managers normally use these profiles to promote the work internally. In some cases, however, the results are publicly disclosed, serving as an incentive for companies to improve their social and environmental performance.

According to Lopez et al. (2007), companies that engage in socially responsible activities disclose more information than those that are less interested in targeting social progress. Efforts include costs for training, pollution prevention, use of clean technology, high quality and safe products. In some cases, the expenses may eventually be greater than the additional revenue that these measures bring, affecting the economic and financial performance of the company in the short term. A natural question emerging from such practices is: in the medium and long term, are such measures – related to the commitment to social and environmental responsibility – valued by the (stock) market? In order to answer the question, we first need to review some methodologies used for the calculation of the value of a company, done next.

2.3. Theories and methods for company valuation

Research involving the financial performance of companies has been based on various theoretical arguments of modern management, in particular in the stakeholder and shareholder theories. There are several finance theories applied in the valuation of companies, such as the Capital Asset Pricing Model (CAPM) by William Sharpe; the Efficient Market Hypothesis or Theory by Eugene Fama; the Option Pricing Theory by Black and Scholes; the Arbitrage Pricing Theory by Stephen Ross; and the Agency Theory, among others.

The stock price is an indicator, made by the market's evaluation of the asset, which reflects the information available about the market at any given time. According to Brealey and Myers (1992), in the efficient markets model, participants form expectations about the prices based on all available information regarding the events that may influence the prices of the assets traded. Event Study is the methodology for finances that seeks to measure the impact of public information, disclosed at any given time, about the behavior of companies' stock prices. This is a major reason for its widespread use, especially in less developed and efficient financial markets, such as the Brazilian BOVESPA. For Castro and Famá (2002), "this simplification of reality allows the investor to easily and intuitively

Table 1
Selected sustainability indexes.

| Index | Year and founder | Characteristics |
|---|--|---|
| Domini 400 Social Index | 1990 Kinder, Lydenberg, Domini and Co. | Composed of a selection of 400 North American companies from which 250 belong to the S&P500 index. |
| Dow Jones Sustainability Indexes (DJSI) | 1999 Dow Jones Indexes, STOXX Limited and SAM-The Sustainable Asset Management Group. | Calculated and analyzed in a manner similar to the Dow Jones Global Indexes and sub-categorized into two indexes: the DJSI World and DJSI STOXX, the latter being a mixed index of European companies. |
| FTSE4Good | 2001 British corporate group. | Derived from the FTSE global index, specifically from the FTSE-All Share Index (UK) and the FTSE All-World Developed Index (Global). |
| Ethibel Sustainability Indices (ESI) | 2002 Standard & Poor's (S&P). | Composed of 4 regional indexes: ESI Global, ESI Americas, ESI Europe and ESI Asia Pacific. |
| Socially Responsible Index (SRI) | 2004 Johannesburg stock exchange, South Africa. | Considered the first sustainability index from an emerging country. |
| Calvert Social Index | 2004 Calvert Corporation. | Composed of 680 companies selected from 1000 of the largest publicly traded companies in the US. |
| Corporate Sustainability Index (ISE) | 2005 Brazilian stock exchange (BM&FBOVESPA). | Originally funded by the International Finance Corporation (IFC), the private sector arm of the World Bank. Developed by the Center for Sustainability Studies of the Getúlio Vargas Foundation (GVces). Also developed the Corporate Social Ratings Monitor, which is a database for social research purposes, comprising over 4000 companies in the US. |
| KLD Indices | 2007 KLD Research and Analytics. | |

make investment decisions, enabling, for example, the use of an indifference curve that facilitates visualization of the asset most suited to a particular investor, given its degree of predisposition to risk”.

The price of a company's stocks and its variation overtime is one of the main variables of academic studies about the value of companies. The founders of the Modern Theory of Finance, Franco Modigliani and Merton Miller, proposed in 1958 that a company's value is determined by its ability to generate expected cash benefits. The most used methods for calculating a company's value are: (i) discounted cash flow (DCF); (ii) Economic Value Added (EVA); (iii) multiples method, used to calculate the fair price of stocks and; (iv) accounting/equity method, which uses accounting indicators for evaluating performance. During the 1990s, financial strategy formulas were developed for the evaluation of value creation for companies, such as the Economic Value Added (EVA). In Brazil, a study conducted in 2001 by the Association of Investment Analysts and Capital Market (APIMEC), revealed that 88% of specialists used the discounted cash flow method.

Capital market investors and analysts use these methodologies when comparing the performance of companies listed in sustainability indexes. McGuire et al. (1988) claim that the high degree of social and environmental responsibility facilitates companies' access to sources of capital mainly because, besides financial performance, banks and investors consider social and environmental issues when making investment decisions. Indeed, as we explain in more detail in the Session 4, such methodologies were used in the studies analyzing the performance of ISE.

2.4. Non-financial motivations to participate in voluntary environmental initiatives

Besides financial incentives, a multitude of studies identified other motivations for firms to participate in a voluntary environmental initiative (VEI) such as the ISE (see, for instance, Orsato et al., 2014). Among them, discussed next, are: resources and capabilities, institutionalization, access to knowledge, innovation and competitive advantage, and reputational gain.

2.4.1. Resources and capabilities

The availability of resources and capabilities has long been used to justify proactive behaviors of companies (Lee, 2011). The so-called resource-based view of the firm (RBV) has been used to explain good environmental performance of some firms, and distinguish proactive companies from those focusing only on compliance (Russo and Fouts, 1997). For the RBV, generating competitive advantage requires implementing a strategy that adds value and delivers benefits for the company. This can be achieved through internal resources or sets of resources of the firm (Barney, 1991) such as firm size and resource availability (Lee and Rhee, 2007; Bansal, 2005; Walls et al., 2008), international operations (Bansal, 2005), involvement of top management (Lee and Rhee, 2007; Walls et al., 2008), the historical involvement with environmental issues/path dependence (Walls et al., 2008; López-Gamero et al., 2008), and, finally, whether they operate in capital markets (Fisher-Vanden and Thorburn, 2011).

2.4.2. Institutionalization

Firms operating in the same organizational field tend to adopt similar norms and practices over time (DiMaggio and Powell, 1983). This phenomenon is due to pressures of actors with whom the organization has direct and indirect relationships. For instance, firms can adopt similar strategies and practices because the lack of certainty about a specific issue, copying the most successful companies in their industry (DiMaggio and Powell, 1983). This is called

mimetic isomorphism. Firms may also be susceptible to institutionalized values and expectations, which may induce them to adopt specific practices (Moon and De Leon, 2007). Such practices can be of compulsory nature (i.e., legally mandated), or voluntary standards imposed by buyers, expectations by the civil society and NGOs (Bansal and Roth, 2000; Delmas and Toffel, 2008) or peer-pressure from a professional network or industry associations. This *coercive isomorphism* may happen because there is a gap between the environmental performance of the firm in relation to the average in the sector (Barnett and King, 2008). Therefore, institutional pressures may explain the predisposition of firms to display (apparently) pro-active environmental behaviors.

2.4.3. Competitive advantage

As Porter and Van der Linde (1995) have asserted almost two decades ago, triggering the 'pays to be green debate' (see Berchicci and King, 2007), regulation can foster innovation, offsetting the costs of compliance and leading to lower costs or increased value for the company. Companies that go beyond legal obligations may benefit in the long run, for they may occupy an advantaged position in a scenario in which activities will be more strictly regulated (Madariaga and Cremades, 2010). By using a strategic approach that goes beyond the core business, companies can acquire insights about activities, processes and development of new products (Hart and Dowell, 2011). Firms can benefit from the development of innovative solutions for the environment as well as for other areas of the business (Russo and Fouts, 1997). Such firms have shown innovativeness when dealing with environmental policy, normally switching from 'command and control' mentality to become leaders of voluntary environmental initiatives (Orsato, 2009). Overall, pioneering firms in environmental issues are also more likely to attract public and media attention (Moon and De Leon, 2007) and greater ability to differentiate themselves from competitors.

2.4.4. Access to knowledge

In order to respond to increasingly demanding requirements of better social and environmental performance, companies have been spending resource to learn about sustainability management (Christopher and Busch, 2011). Often, they join alliances and initiatives with other organizations not only to learn but also to develop technologies, processes or products (Kolk and Pinkse, 2004; Jeswani et al., 2008). Many firms work with business partners to identify new approaches that benefit business while dealing with an environmental issue. Green clubs are particularly appropriate (Orsato et al., 2013) for they tend to focus on knowledge sharing among members for the development of effective practices, norms and environmental management systems (King and Lenox, 2000). By participating in seminars, workshops and meetings, companies benefit from the exchange of experiences among the club members (López-Gamero et al., 2011).

2.4.5. Reputational value

The reputation can be enhanced or impaired as a result of the decision of whether or not to engage in environmental activities and to disclose environment-related information (Fombrun et al., 2000; Branco and Rodrigues, 2006; McWilliams et al., 2006; Husted and Allen, 2001). Some studies, such as Zyglidopoulos (2001) found positive correlation between reputation and financial performance. However, voluntary initiatives by firms normally face skepticism from the general public, clients and regulatory bodies. Thus, the possibility for firms to acquire reputational value from joining these initiatives depends on the circumstances (Orsato, 2009; Koehler, 2007). Some climate clubs, for instance, face skepticism of the general public for not being ambitious enough in

reducing emission to curb climate change (Hoffman, 2005). Neither benefits of VEIs are so easy to identify. Gaining reputation is difficult to quantify and often the reputation of the sector has greater notoriety than the reputation of a single company (Hoffman, 2005). Companies with poor environmental performance may also try to use green clubs to gain legitimacy (Dawkins and Fraas, 2011). In order to avoid this free-riding problem, clubs need to develop mechanisms to ensure the participants' commitment, and protect the reputation of the VEI. In this sense, adopting reduction targets and having an independent civil society organization leading the efforts or establishing minimum standards may prove essential (Orsato, 2009).

3. Methodology

In order to answer the research questions presented in this study, we conducted an exploratory research because, "it focuses less on the test that is already known and more on the discovery of the new" (Flick, 2004:21): The study was developed in two phases, described below.

3.1. Phase 1: does ISE create financial value for member companies?

In Phase 1 of our study, we mapped and reviewed all studies we could find about the Brazilian sustainability index. Since the Corporate Sustainability Index (ISE) was released in 2005 and peer reviewed publications about the index in national and international journals were still scarce during the period of our study (between 2005 and 2011), our analysis also included unpublished masters and doctoral dissertations of Brazilian graduate programs in management, economics and accounting, as well as the proceedings of scientific conferences in the field – all written in Portuguese. We searched for titles that contained the name "sustainability index" or "corporate sustainability index". Besides three academic articles (Machado et al., 2009; Beato et al., 2009; Souza Cunha and Samanez, 2013), we analyzed four unpublished theses and dissertations defended in top business schools in Brazil (based on the ranking from Brazilian Federal Agency for the Support and Evaluation of Graduate Education – CAPES), and nine studies presented in conferences in the areas of management and finance ENANPAD (National Meetings of Graduate Studies and Research in Management), ANPCONT (Brazilian Association of Graduate Programs in Accounting Sciences) and ANPEC (Brazilian Association of Graduate Programs in Economics). These sixteen studies are listed in Tables 2 and 3 in Session 4.

3.2. Phase 2: what are the non-financial motivations to participate in the ISE selection process?

Identifying the reasons for companies to participate (or not) in the ISE required the collection of both primary and secondary data of four companies: two that had participated in the selection process (pharmacy and cosmetics, chemicals and petrochemicals) and two that opted out. The two member organizations have been chosen for being the top performers in the 2013 *Exame Sustainability Guide* – a yearly Brazilian ranking of 150 companies,¹ and their GRI reports were classified as "A+". The choice of the two organizations that opted out of the ISE is based on the size and importance in their sectors: they are both the largest companies and largest polluters of the respective sectors (pulp and paper and steel).

We collected data via interviews, supported by extensive analysis of secondary data about the focal organizations. For each organization, we conducted interviews of approximately 1.5h with executives responsible for the areas of investor relations and sustainability. Due to confidentiality, we omitted the names of the executives and respective companies. We developed an interview script using the main questions that emerged from the literature presented in Section 4.2. According to Silverman (2006), interview seeks to record respondent details and behaviors in positivist terms; although the way "dialogue" is interpreted varies between positivist, emotional, postmodern, and constructionist types of interview. Another way to conduct interviews, referred to as focal interviews, consists of following a script of questions developed by the researcher. For this study, the interviews consisted of a combination of the two models, namely, spontaneous and focal. Initially, specific questions were asked (focal interview) according to the questionnaire presented in Appendix 1, in order to obtain information that would enable a comparative study. Then, in order to capture other important points on the subject, we adopted the spontaneous interview model. Although we did not have a precise way of establishing the interpretation criteria of this analysis, we expected to find patterns that would allow comparisons. According to Eisenhardt (1989), selected categories or dimensions are grouped together to then analyze similarities between groups.

In addition to the interviews, which were our main source of information, we also conducted a detailed analysis of the documents collected in the company's website, such as sustainability reports (from 2011 to 2012), the 2012 'Reference Form' submitted to the Brazilian Securities Commission, as well as and other relevant documents available on the websites.

4. Results

In this session we present the results of our study. Overall, we tried to identify whether companies had financial (Phase 1) and/or non-financial (Phase 2) motivations to dedicate time and resources to participate in the selection process of the Brazilian Corporate Sustainability Index (ISE).

4.1. Phase 1: no evidence of financial value creation

Together, the tables below present the sixteen studies about the ISE, which compared its performance with financial market indexes (Table 2), as well as the relationship between ISE and the value of companies in the stock exchange (Table 3). As can be observed in the tables, all studies converge to measuring the relationship between the market value (financial) and sustainability (economic, social or environmental) performance.

Among the articles, thesis and dissertations dealing with the behavior of ISE, seven used the method known as *event window study*. Such method is used in finance research to measure the impact public information has on the behavior of the stock prices of companies when disclosed at a specific time. We found that all seven works that used the event study method, demonstrated that in the days before the release of the ISE portfolio – the news that a company will be part of the ISE, as well as in the days following this disclosure – the change in the stock value of the companies were not significant.

From the studies presented in Table 2, Beato et al. (2009) was the only one to find the ISE performing better than the São Paulo Stock Exchange Index (IBOVESPA). This is possibly because the study was developed during a short timespan of two years only (2006–2008). In that period, the IBOVESPA grew 12.24% against 13.95% of the ISE. From the list, the study of Souza Cunha and Samanez (2013) was the only one published in an international journal (Business Ethics),

¹ <http://exame.abril.com.br/revista-exame/guia-de-sustentabilidade/inscricoes/2013/>.

Table 2
Studies comparing the performance of ISE with financial market indexes.

| Research problem | Methods | Results | Reference |
|--|--|--------------------------------------|--------------------------------|
| - Is there a difference between the performance of the stocks that make up the ISE and the performance of the portfolios that form the BOVESPA Index (Ibovespa) and the Brazil Index (IBrX)? | Percentage of cumulative returns from indicators | No correlation | Cavalcante et al. (2007) |
| - Is the return of the ISE similar to that of other stock indexes (Ibovespa, IBrX and IGC)? | Descriptive statistics | No correlation | Rezende et al. (2007) |
| - Is the average profitability of the ISE equal to the profitability of the other BOVESPA indexes? | Descriptive statistics | No correlation | Machado et al. (2009) |
| - Is the profitability of the ISE greater than the profitability of the general BOVESPA index? | Percentage of cumulative returns from indicators | (*) ISE performs better than BOVESPA | Beato et al. (2009) |
| - Are Sustainable Investments actually attractive applications in the Brazilian stock market? | Level of liquidity, return and risk indicators | (*) ISE performs worse than BOVESPA | Souza Cunha and Samanez (2013) |

covering a longer period of time (2005–2010) and performing a higher number of measurements (Sharpe, Treynor, Sortino and Omega). According to the authors: “the ISE had a very similar performance to that of IBOVESPA, although the ISE demonstrated a worse recovery during and after the 2008 financial crisis” (Souza Cunha and Samanez, 2013:34).

From the eleven studies presented in Table 3, nine found no correlation between market value and corporate sustainability. The two studies that did find correlations are marked with a (*). Dias and Barros (2008) compared the abnormal returns to shareholders between companies in the ISE portfolio with a control group (peer companies in the same industry or sector) and found statistically significant positive cumulative abnormal returns only around the date of announcement of the new ISE portfolio. Nunes et al. (2009) evaluated the influence of five variables in the decision of 124 companies to join the ISE index and concluded that only the size of firms and the business sector influenced the adhesion of companies. Overall, the studies analyzed in the first phase of the research did not show statistically significant differences between a company's participation in the Corporate Sustainability Index (ISE) and the impact on the value of their shares. During the observation period (2005–2011), there was no significant difference between the ISE's performance compared to other financial market indexes, such as the IBOVESPA.

4.2. Phase 2: non-financial motivations to participate in the index

The studies analyzing the average returns of the ISE in the period 2005–2011 neither found major differences between the ISE and other capital market indexes, nor statistically significant increases in the financial and economic value of the companies that participated in the index. Such results triggered a natural question: why, then, do companies dedicate resources to be included in the index? What does motivate companies to participate in the selection process? In order to answer this question, in the second phase of the research we conducted a qualitative analysis based on interviews.

Although the main focus of the second phase was on non-financial motivations, in order to confirm the results of the first phase, we included two finance-related questions in our interviews (see questions 17 and 18 in Appendix 1). We checked whether the easiness of fundraising could motivate companies to make efforts to be listed in the ISE. We did so mainly because Teixeira et al. (2011) indicated that a company's commitment to sustainable practices and transparency in the market minimizes uncertainty about its operations, and may influence the risk reduction and the capital cost. The authors found that the socially responsible companies could further reduce long-term debts. However, for the case of ISE, our research did not support such findings. According to the interviewees, being listed in the ISE does not make access to capital

Table 3
Studies about the relationship between the ISE and companies' value.

| Research problem | Methods | Results | Reference |
|---|----------------------------|---|----------------------------|
| - Does the entry of a company into the ISE portfolio generate shareholder value? | Event window study | No correlation | Dias (2007) |
| - Does adhering to the ISE create value for the company (increase in the stock prices)? | Event window study | No correlation | Bogéa et al. (2008) |
| - Is there a change in the price of a company's stocks after joining the ISE? | Event window study | No correlation | Machado and Machado (2008) |
| - Do the Brazilian and North American capital markets positively price the stocks of companies listed in the ISE? | Event window study | No correlation | Luz et al. (2008) |
| - If a company joins the ISE portfolio, does it generate shareholder value? | Event window study | (*) Positive correlation. | Dias and Barros (2008) |
| - Which variables influence a company to join the ISE? | Multiple linear regression | (*) Correlation for company size and sector | Nunes et al. (2009) |
| - How do we measure the relationship between market value and corporate sustainability? | Multiple linear regression | No correlation | Vellani et al. (2009) |
| - Does the ISE membership influence the value of a company in the long run? | Performance indicators | No correlation | Guimarães (2010) |
| - Are significant differences between sustainable (according to the ISE index) and non-sustainable companies? | Performance indicators | No correlation | Nunes (2010) |
| - Is there a correlation between ISE membership and corporate revenue? | Performance indicators | No correlation | Gonçalves (2010) |
| - Does the corporate social responsibility increase the company's value and shareholder return in the Brazilian market? | Event window study | No correlation | Tavares (2011) |

any easier because the main lender of capital in Brazil – BNDES (National Bank for Economic and Social Development) – does not require companies to be members of the index. The following answers – for the question of whether the listing would make easier to access capital – support this argument:

“No, the BNDES, for example, analyzes the project and not the fact of being in the ISE”. (Respondent – R1)

“No, none. There are no benefits from participating in the ISE” (R4)

“From what I know, the BNDES does not require it, but we report that we are in the ISE (R3)

“No, it doesn't impact anything. Not even the BNDES supports being in the ISE (R2).

The interviewees were also unanimous in declaring that the voluntary participation in the ISE has little influence on the company's share value (Question 10), corroborating the findings of the first phase of the research. The following statements support this view:

“The fact that the company has a robust corporate governance and worries about sustainability can have some influence on firm value. But the ISE alone does not have any influence.” (R1)

“There is little influence on firm value – much less than it should. The truth is that investors and market analysts do not give due weight to environmental information.”(R3)

Therefore, the interviews confirmed the findings of Phase 1 of the research: that the motivations for companies to become members of the ISE were non-financial. We investigated such motivations, and the results are presented in the next sessions.

4.2.1. Resources and capabilities

The four companies that were the object of the second phase of our research can be considered very large by any standards: they have annual revenues between US\$ 2 and 10 billion; between 4900 and 21,000 employees, and they are market leaders in their respective industries. They certainly have enough resources to invest in sustainability departments, which are led by vice presidents and directors. More specifically, as examples of actions aiming at building internal capabilities, the process of preparing the companies to develop a report based on GRI standards provided them with the capabilities to apply for the ISE membership. In this respect, it was no coincidence the fact that out of the two companies that opted out of the ISE selection process, one did not have a GRI-based report and the other only a GRI “B” report. As suggested by the answers below, having internal capabilities was key to participate or not, respectively, in the ISE process:

“We decided to join ISE not only to be part of the club but also to evaluate the efficiency of our practices and improve our competences.” (R3)

“The supply of internal training is constant. For the GRI, for instance, the process is conducted by an external consultant” (R2)

4.2.2. Institutionalization

In the interviewing process we also found evidences of *mimetic isomorphism*. When asked “why companies in your industry participate or not in the ISE selection process?” (Question 12), Respondent 2 stated:

“I believe that two of our competitors were better prepared when applying to the ISE membership. They certainly had organizational structures to comply with ISE requirements and formalized procedures required by ISE. These companies have started investing in sustainability long time ago. They were faster in formalizing the documentation required by ISE. We're still getting ready to submit our application.” (R2)

We also found some *coercive isomorphism* in the ISE membership. Institutional investors (mainly European) in SRI funds and financial institutions that have SRI fund portfolios have been requiring companies to present good social and environmental information. Curiously, once companies become members, coercion comes from a “lock in” situation, since the eventual exit would suggest a worsening of the sustainability performance. As one of the respondents expressed:

“Once you're in the ISE and then leaves the index, how do you explain it? This is a kind of initiative that once you're in, it is really difficult to leave since people can question why the company left or what it has not complied with”. (R1)

4.2.3. Competitive advantage

The participation of voluntary environmental initiatives, such as ISE, can also be seen as an attempt to anticipate future regulation and eventually become a source of competitive advantage (Hoffman and Woody, 2008). Such advantages, however, result from the aggregated actions embedded in the sustainability strategy of the company, rather than as an isolated factor (Orsato, 2009). Indeed, the commitment to socially responsible actions decreases the likelihood of negative events and protects the value of the company, creating goodwill and moral capital (Gardberg and Fombrun, 2006; Godfrey et al., 2009). As the statements below suggest, all interviewees emphasized that sustainability can be a source of competitive advantage but only as a component of the organizational strategy; simply being listed in the ISE brings no advantage to the member companies. When asked whether ISE can bring competitive advantage (Question 16), the respondents stated:

“None. See examples of our competitors who are in the ISE. (...) When competing with us, competitors have no advantage for being members of ISE”. (R2)

“ISE can help to obtain competitive advantage but it is not the leading factor.”(R4)

“Sustainability is a competitive advantage, but not the ISE. The company sells directly to the end consumer.”(R1)

“Not by being in the ISE, but by being a company with a clear sustainability strategy. The ISE is not the cause, it is the effect.”(R3)

4.2.4. Access to knowledge

Voluntary social and environmental initiatives such as ISE involve the sharing of knowledge among its members, thus enabling the acquisition of knowledge about more effective practices, codes and systems for the management of environmental issues (King and Lenox, 2000). By participating in workshops, debates and other activities specifically designed for the club, companies learn from each other and overtime close the knowledge gaps between the participants. According to the respondents:

“We don't participate in the forums about ISE, but I think that we can learn much with others companies.”(R4)

We're favorable of exchanging knowledge. We've been the first to authorize the public release of the answers (R1)

4.2.5. Reputational value

As it was explored in Session 2.4.5, the specialized literature also indicates reputational gain as a motivation for companies to voluntarily adhere sustainability initiatives such as ISE. In a 2011 study with more than 400 global companies by *GlobeScan* – a consulting firm that conducts surveys on reputation, brands and trends – more than 50% of companies indicated business transparency as the most important action for increasing public trust. Indeed, *Moon and De Leon (2007)* are among those who have suggested that proactive companies in sustainability are more likely to attract positive attention by the general public and the media. We confirmed this proposition in our study. According to the interviews, the listing of the companies in sustainability indexes confers greater prestige and reputational value – even if it is not possible to quantify it. When asked whether the ISE membership creates reputational value, respondents said:

"Yes, but not because of the ISE alone but for being part of other indexes such as the governance and carbon indexes." (...) Although it is difficult to measure, I think there's reputational gain. Depends on the person with whom we are doing business. If you're an investor who has studied and knows the company, you recognize the value. If it's a large audience of individuals, sometimes it's more difficult. But there is a large group of individuals who consume our products because of our green initiatives." (R1)

"I think the answer is no. We are an old company that was privatized and just ISE does not help to change our image."(R4)

"The ISE is a way to contribute (to reputational value) but I don't know how much this is attributed to it, since we are also listed in other indexes." (R3)

In sum, efforts to be listed in the Corporate Sustainability Index (ISE) cannot be explained by finance theories alone. Having reputational value as the main driver, companies invest time and resources to participate in the selection process of the index because it allows them also create new competences. Even though the managers themselves do not have means to quantify the reputational gains, they consider the ISE membership an important sustainability asset to show clients and stakeholders. By making efforts to participate in the selection process they also learn about the key areas in which they should present good performance, or mitigate bad ones, such as in GHG emissions.

5. Conclusion

This article presented the research about the motivations companies may have to participate in corporate sustainability indexes. In Section 2 we reviewed the literature about social investment funds and sustainability indexes, making a clear distinction between them. Such review in itself is a contribution to the literature, since it presents the differences between these initiatives, which are often confused by non-specialists.

We then performed a review of academic articles, as well as unpublished thesis, dissertations, and proceedings of conferences in Brazil that looked for correlations between the inclusion of a company in the Corporate Sustainability Index (ISE) of the Brazilian stock exchange and the price of shares. As we explained in detail in Session 3, we used this material because, in the period of the study, the number of peer reviewed publications about the object of analysis (ISE) was still scarce. We were surprised by the findings:

even though there was much praise regarding the advantages of participating in the indexes, positive correlation between the inclusion in the ISE and the valuation of share prices of the company-members² was scant. Since the majority of these works, which used finance-oriented theories and methods for the analysis, did not explain why companies voluntarily adhere to social and environmental initiatives, we looked into a second research question: why, then companies commit time and resources to be listed in the ISE?

In the second phase of the study we analyzed several documents and collected primary data via semi-structured interviews, in order to identify alternative motivations for companies to invest in such initiatives. We departed from the findings of previous studies to develop the guidelines for the interviews. Among them were: easiness of fundraising, reputational gain, the search for competitive advantage, and the sharing of knowledge about social and environmental issues. The interviews revealed that being in the ISE is a consequence of the 'natural' process that the company undergoes to incorporate social and environmental issues into business strategy. The decision to participate in the selection process, therefore, is more an issue of coherence and alignment between the sustainability and the corporate strategies, than an isolated effort of valuing the company's shares via its social and environmental performance. This conclusion, which is not foreseen in the finance theories, finds more support in the justifications of strategy and institutional theories, which emphasize the often intangible and indirect influence of sustainability in the business performance.

The identification of factors motivating companies to join ISE and other voluntary social and environmental initiatives is relevant from both practical and theoretical standpoints. In practical terms, the results of our study inform managers about the expected results of sustainability-related investments. The study also contributes to the literature about the value generated for companies to voluntarily invest in environmental protection – also known as the 'pays to be green debate' (*Berchicci and King, 2007*). Even though research on the topic has increased significantly in recent years, there is plenty of room to define 'when it pays to be green' (*Orsato, 2009*). Studies can depart from the factors influencing the creation of value, revised in this article, to define and test hypothesis – even though this is not an easy task. *Epstein and Roy (2000)* had already recognized the difficulties inherent to the estimation of costs and benefits of social and environmental actions. According to them, "estimating the cash flow generation from a project expected for the future is a difficult task, especially in the case of costs and benefits associated to the environment, which are always uncertain and long-term" (*Epstein and Roy, 2000*). Nevertheless, we encourage researchers to use other methodologies so to continue making progress in this relevant field of inquiry.

Appendix 1. Interview questions

1. Does the company know the ISE process? If yes, what level of knowledge does it have of the ISE questionnaire? Has it participated in any phases of the ISE process?
2. What is the governance structure of your company regarding sustainability?
3. What is the hierarchical level of the person responsible for the topic?
4. What area of the company is responsible for sustainability?

² During the period of 2009–2013 – therefore, not covered by the studies analyzed in the article – the ISEs performance was lightly superior to that of the Bovespa, as noted in the research by *Lourenço and Branco (2013)*, and *Claro et al. (2013)*.

5. Why did the company decide to publish a sustainability reporting?
6. Have there been any questions from stakeholders about the company's social and environmental information? If yes, what type of information was requested?
7. Does the company consider the investment to join the ISE as being high?
8. What do you think of the investment to join the ISE?
9. Could you estimate how much of the company's total revenue these investments would represent?
10. Does being of the ISE portfolio influence the value of company's shares?
11. Have other companies in the same sector already joined ISE?
12. In your opinion, why companies in your industry participate or not in the ISE selection process?
13. Does the company participate in any voluntary sustainability initiative, such as the GRI and ISO? Which ones?
14. In your point of view, if your company was listed in the ISE, do you think there would be a gain in reputation?
15. To meet the requirements of the ISE, should your company carry out any innovation in products or organizational processes?
16. By being listed in the ISE, do you think that your company would gain some competitive advantage over competitors?
17. Do you think that by being listed in the ISE, your company could gain advantages in external financing (such as lower interest rates, and longer payment terms and grace periods)? If yes, what is the source of these funds? (ex. banks, stock market, investors).
18. Do your main funders of financial resources encourage you to join the ISE?
19. If your company already has a voluntary certificate, such as the ISO 14001, how was it prepared to attain such certification (ex: internal training, hiring outside consultants)? If yes, did your company end up sharing information about operational processes with other companies in order to obtain the certification?
20. Would the company be willing to share matters required in the ISE questionnaire with other companies?

References

- Bansal, P., 2005. Evolving sustainably: a longitudinal study of corporate sustainable development. *Strategic Manag. J.* 26 (3), 197–218.
- Bansal, P., Roth, K., 2000. Why companies go green: a model of ecological responsiveness. *Acad. Manag. J.* 43, 717–736.
- Barnett, M., King, A., 2008. Good fences make good neighbors: a longitudinal analysis of industry self-regulation institution. *Acad. Manag. J.* 51, 1150–1170.
- Barney, J., 1991. Firm resources and sustained competitive advantage. *J. Manag.* 7 (1), 99–120.
- Beato, R., Souza, M., Parisotto, I., 2009. Rentabilidade dos índices de sustentabilidade empresarial em bolsas de valores: um estudo do ISE/Bovespa. *RAI rev. adm. inovação* 6 (3), 108–127.
- Berchicci, L., King, A., 2007. Postcards from the edge: a review of the business and environment literature. *Acad. Manag. Ann.* 1 (1), 513–547.
- Bogéa, F., Campos, A., Camino, D., 2008. Did the creation of ISE created value to companies?. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 32. ANPAD, Rio de Janeiro, 2008, Rio de Janeiro. *Anais*.
- Branco, M.C., Rodrigues, L.L., 2006. Corporate social responsibility and resource based perspectives. *J. Bus. Ethics* 69 (2), 111–132.
- Brealey, R., Myers, S., 1992. *Princípios de Finanças Empresariais*, third ed. McGraw-Hill, Portugal.
- Capelle-Blancard, G., Monjon, S., 2012. Trends in the literature on socially responsible investment: looking for the keys under the lamppost. *Bus. Ethics: A Eur. Rev.* 21, 239–250.
- Castro Jr., F., Famá, R., 2002. As novas finanças e a teoria comportamental no contexto da tomada de decisão sobre investimentos. *Cad. Pesqui. em Adm.* 9 (2).
- Cavalcante, L., Bruni, A., Costa, F., 2007. Sustentabilidade empresarial e desempenho corporativo: uma análise do mercado brasileiro de ações. In: Encontro Nacional da Associação Nacional dos Programas de Pós graduação em Administração, vol. 31. ENAMPAD. Rio de Janeiro. *Anais*. Rio de Janeiro.
- Cheng, B., Ioannou, I., Serafeim, G., 2014. Corporate social responsibility and access to finance. *Strategic Manag. J.* 35, 1–23.
- Christmann, P., 2000. Effects of “Best practices” of environmental management on cost advantage: the role of Complementary assets. *Acad. Manag. Rev.* 43, 663–680.
- Christopher, S., Busch, T., 2011. Stakeholder engagement and environmental strategy – the case of climate change. *Bus. Strategy Environ.* 20 (6), 351–364.
- Claro, P., Claro, D., Araki, Y., 2013. Como o Investimento Socioambiental afeta Desempenho das Empresas em Épocas de Crise Financeira?. In: Encontro Nacional da Associação Nacional dos Programas de Pós graduação em Administração, vol. 37. Rio de Janeiro. *Anais*. Rio de Janeiro.
- Dawkins, C., Fraas, J., 2011. Coming clean: the impact of environmental performance and visibility on corporate climate change disclosure. *J. Bus. Ethics* 100, 303–322.
- Delmas, M., Toffel, M., 2008. Organizational responses to environmental demands: opening the black box. *Strategic Manag. J.* 29, 1027–1055.
- Dias, E., 2007. Índice de sustentabilidade empresarial e retorno ao acionista- um estudo de evento. Dissertação de Mestrado em Administração de Empresas, Universidade Presbiteriana Mackenzie, São Paulo, p. 137.
- Dias, E., Barros, L.A., 2008. Sustentabilidade empresarial e retorno ao acionista: um estudo sobre o ISE. In: Encontro Nacional da Associação Nacional dos Programas de Pós graduação em Administração, vol. 32. Rio de Janeiro. *Anais*. Rio de Janeiro.
- DiMaggio, P., Powell, W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *Am. Sociol. Rev.* 48, (2), 147–160.
- Eisenhardt, K., 1989. Building theories from case study research. *Acad. Manag. Rev.* 14, 532–550.
- Epstein, M., Roy, M., 2000. Strategic evaluation of environmental projects in SMEs. *Environ. Qual. Manag.* 9, 37–47.
- Eurosif, 2010. European SRI Study 2010. European Sustainable Investment Forum, Paris.
- Fisher-Vanden, K., Thorburn, K., 2011. Voluntary corporate environmental initiatives and shareholder wealth. *J. Environ. Econ. Manag.* 62 (3), 430–445.
- Flick, U., 2004. Uma introdução à pesquisa qualitativa. Bookman, Porto Alegre.
- Fombrun, C., Gardberg, N.A., Barnett, M.L., 2000. Opportunity platforms and safety nets: corporate citizenship and reputational risk. *Bus. Soc. Rev.* 105 (1), 85–106.
- Fowler, S., Hope, C., 2007. Critical review of sustainable business indices and their impact. *J. Bus. Ethics* 76, 243–252.
- Gardberg, N., Fombrun, C., 2006. Corporate citizenship: creating intangible assets environments. *Acad. Manag. Rev.* 31, 329–346.
- Godfrey, P., Merrill, C., Hansen, J., 2009. The relationship between corporate social responsibility and shareholder value: an empirical test of the risk management hypothesis. *Strat. Manag. J.* 30, 425–445.
- Gonçalves, R., 2010. Práticas de sustentabilidade e valor da empresa. Dissertação de Mestrado em Ciências Contábeis, Universidade Presbiteriana Mackenzie, São Paulo, p. 78.
- Guimarães, C., 2010. Impacto do ISE no valor de empresa obtido pelo modelo Ohlson. Dissertação de Mestrado em Ciências Contábeis, Fundação Escola de Comércio Álvares Penteado, São Paulo, p. 197.
- Hart, S.L., Dowell, G.A., 2011. Natural-resource-based view of the firm: fifteen years after. *J. Manag.* 37 (5), 1464–1479.
- Hoffman, A., 2005. Climate change strategy: the business logic behind voluntary greenhouse gas reductions. *Calif. Manag. Rev.* 47 (3), 21–46.
- Hoffman, A., Woody, J., 2008. Mudanças Climáticas: desafios e oportunidades empresariais. Elsevier, Rio de Janeiro.
- Hoti, S., Mcaleer, M., Pauwels, L., 2007. Measuring risk in environmental finance. *J. Econ. Surv.* 21, 970–998.
- Husted, B.W., Allen, D.B., 2001. Toward a Model of Corporate Social Strategy Formulation. Paper Presented at the Social Issues in Management Division and Academy of Management Conference, Washington, DC.
- Jeswani, H.K., Wehrmeyer, W., Mulugetta, Y., 2008. How warm is the corporate response to climate change? Evidence from Pakistan and the UK. *Bus. Strategy Environ.* 18, 46–60.
- King, A., Lenox, M., 2000. Industry self-regulation without sanctions: the chemical industry's responsible care program. *Acad. Manag. J.* 43, 698–716.
- Koehler, D., 2007. The effectiveness of voluntary environmental programs—A policy at a crossroads? *Policy Stud. J.* 35 (4), 689–722.
- Kolk, A., Pinkse, J., 2004. Market strategies for climate change. *Eur. Manag. J.* 22 (3), 304–314.
- Lee, S., 2011. Corporate carbon strategies in responding to climate change. *Bus. Strategy Environ.* 21 (1), 33–48.
- Lee, S., Rhee, S., 2007. The change in corporate environmental strategies: a longitudinal empirical study. *Manag. Decis.* 45 (2), 196–216.
- Lopez, M., Garcia, A., Rodriguez, L., 2007. Sustainable development and corporate performance: a study based on the Dow Jones sustainability index. *J. Bus. Ethics* 75 (3), 285–300.
- López-Gamero, M., Claver-Cortés, E., Molina-Azorín, J., 2008. Complementary resources and capabilities for an ethical and environmental management: a quali/ quanti study. *J. Bus. Ethics* 82, 701–732.
- López-Gamero, M., Molina-Azorín, J., Claver-Cortés, E., 2011. Environmental uncertainty and environmental management perception: a multiple case study. *J. Bus. Res.* 64, 427–435.

- Lourenço, I.C., Branco, M.C., 2013. Determinants of corporate sustainability performance in emerging markets: the Brazilian case. *J. Clean. Prod.* 57, 134–141.
- Luz, S., Silva, R., Coelho, P., 2008. A influência da divulgação do índice de sustentabilidade empresarial sobre os preços das ações no Brasil e nos Estados Unidos: um estudo de eventos nos anos de 2005 a 2007. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 32. ANPAD, Rio de Janeiro. *Anais*.
- Machado, M., Machado, M., 2008. Retorno acionário e adesão ao índice de sustentabilidade empresarial da bovespa: um estudo de eventos. Rio de Janeiro. *Anais*. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 32. ANPAD, Rio de Janeiro.
- Machado, M., Machado, M., Corrar, L., 2009. Desempenho do índice de sustentabilidade empresarial (ISE) da Bolsa de Valores de São Paulo. *Rev. Universo Contábil* 5 (2), 24–38.
- Madariaga, J.G., Cremades, F.R., 2010. Corporate social responsibility and the classical theory of the firm: are both theories irreconcilable? *Innovar* 20 (37).
- McGuire, J., Sundgren, A., Schneeweis, T., 1988. Corporate social responsibility and financial performance. *Acad. Manag. J.* 31, 854–872.
- McWilliams, A., Siegel, D.S., Wright, P.M., 2006. Corporate social responsibility: strategic implications. *J. Manag. Stud.* 43 (1), 1–18.
- Moon, S., De Leon, P., 2007. Contexts and corporate voluntary environmental behaviors. *Organ. Environ.* 20, 480–496.
- Nunes, J., Teixeira, A., Nossa, V., 2009. Análise das variáveis que influenciam à adesão das empresas ao índice Bovespa de sustentabilidade empresarial. Rio de Janeiro. *Anais*. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 33. ANPAD, Rio de Janeiro.
- Nunes, T., 2010. Indicadores contábeis como medidas de risco e retorno diferenciados de empresas sustentáveis- um estudo no mercado brasileiro. Dissertação de Mestrado em Ciências Contábeis, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo, São Paulo, p. 182.
- O'Rourke, A., 2003. The message and methods of ethical investment. *J. Clean. Prod.* 11, 683–693.
- Orsato, R., 2009. *Sustainability Strategies: When does it Pay to be Green?* Palgrave Macmillan, UK.
- Orsato, R., Campos, G., Barakat, S., Nicoletti, M., Monzoni, M., 2014. Why join a carbon club? A study of the banks participating in the business for climate platform. *J. Clean. Prod.* <http://dx.doi.org/10.1016/j.jclepro.2014.01.007>.
- Orsato, R., Clegg, S., Falcão, H., 2013. The political ecology of palm oil production. *J. Change Manag.* 13 (4), 444–459.
- Ortas, E., Burritt, R., Moneva, J., 2013. Socially Responsible Investment and cleaner production in the Asia Pacific: does it pay to be good? *J. Clean. Prod.* 52, 272–280.
- Porter, M., Van der Linde, C., 1995. Toward a new conception of the environmental-competitiveness relationship. *J. Econ. Perspect.* 9, 97–118.
- Rezende, I.A., Nunes, J.G., Portela, S.S., Nascimento, A.P., Salvador, N., Telles, T.E., 2007. Um estudo sobre o desempenho financeiro do Índice BOVESPA de Sustentabilidade Empresarial. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 31. ANPAD, Rio de Janeiro. Rio de Janeiro. *Anais*.
- Russo, M., Fouts, P., 1997. A resource-based perspective on corporate environmental performance and profitability. *Acad. Manag. J.* 40, 534–559.
- Silverman, D., 2006. *Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction*, third ed. Sage, London.
- Social Investment Forum Foundation, 2010. Report on Socially Responsible Investing Trends in the United States. Social Investment Forum Foundation, Washington.
- Souza Cunha, F.A.F., Samanez, C.P., 2013. Performance analysis of sustainable investments in the Brazilian stock market: a study about the corporate sustainability index (ISE). *J. Bus. Ethics* 117 (1), 19–36.
- Tavares, E., 2011. Responsabilidade social aumenta o valor e retorno do acionista-evidências do mercado brasileiro. Dissertação de Mestrado em Administração de Empresas, Fundação Getúlio Vargas, Rio de Janeiro, p. 26.
- Teixeira, A., Nossa, V., Funchal, B., 2011. O índice de sustentabilidade empresarial (ISE) e os impactos no endividamento e na percepção de risco. *Rev. Contab. Financeira-USP* 22, 29–44. São Paulo.
- Vellani, C., Albuquerque, A., Chaves, E., 2009. Uma tentativa de mensuração da relação entre valor de mercado e sustentabilidade empresarial nas ações listadas no ISE da Bovespa. In: Encontro Nacional da Associação Nacional dos Programas de Pós-graduação em Administração, vol. 33. São Paulo. *Anais*. Rio de Janeiro.
- Walls, J., Phan, P., Berrone, P., 2008. An Assessment of the Construct Validity of Environmental Strategy Measures. IESE Research Papers, D/754. IESE Business School.
- Zyglidopoulos, S.C., 2001. The impact of accidents on firm's reputation for social performance. *Bus. Soc.* 40 (4), 416–441.