

# DOES SOCIAL RESPONSIBILITY ENHANCE FIRM VALUE AND RETURN IN BRAZIL?

Andre Carvalhal\*, Eduardo Tavares\*\*

## Abstract

This paper analyzes whether corporate social responsibility brings value and enhances returns to shareholders in the Brazilian market. We analyze the companies listed on BM&FBovespa stock exchange using two methodologies (panel regressions and event studies). The results indicate that firms listed in the corporate sustainability index (ISE) of BM&FBovespa have higher price-to-book when compared to companies not listed on ISE. The event study shows that companies that leave ISE show negative abnormal returns. Moreover, firms entering ISE show positive abnormal returns, although results are not statistically significant.

**Keywords:** Corporate Social Responsibility, Firm Value, Returns

\* *Getulio Vargas Foundation, Graduate School of Economics*

\*\**Getulio Vargas Foundation, Graduate School of Economics*

## 1 Introduction

Corporate social responsibility (CSR) has been the subject of a lot of research recently. However many companies often have concerns about whether investors are aware of their sustainable business decisions, and are able to assess its impact on firm value and returns. Numerous articles have been published in order to analyze the social responsibility within organizations, and evaluate whether it brings positive returns to shareholders.

The shareholder theory states that managers should focus on maximizing firm value, respecting the rights of investors, partners or shareholders. By this theory, the only social responsibility of companies is to generate profits and wealth for their shareholders, and there would be a negative relationship between social responsibility and firm performance.

The stakeholder theory has been gaining strength recently by emphasizing that firm's decisions should take into account all stakeholders, both inside and outside the organization. Over time, the society and shareholders have encouraged companies to invest in CSR. For the shareholder theory the goal of financial responsibility ("maximizing shareholder wealth") is not distinct from social and environmental responsibility. According to Savitz and Webe (2006), sustainability should not be seen as philanthropy, because the company should obtain financial returns through its sustainability initiatives.

This paper analyses if socially responsible companies have higher market value and generate higher returns to shareholders in Brazil. We measure the quality of social responsibility practices through the presence of the company on the corporate sustainability index (ISE) of BM&FBovespa stock

exchange. Two methodologies are used in this study. First we estimate panel regressions to examine whether the market and financial indicators are better for ISE companies when compared to non-ISE firms. Second, we perform event studies to evaluate whether there are abnormal returns when a company enters or exits the ISE.

The results of the panel regressions indicate that companies listed on ISE have higher price-to-book compared to non-ISE companies. The event studies reveal that companies that leave the ISE show negative abnormal returns, and that firms entering the ISE show positive abnormal returns, although the latter results are not statistically significant.

This work is divided as follows. The next section presents a brief review of literature on the relationship between social responsibility and financial performance. Section 3 shows the data and methodology, whereas the fourth section presents and discusses the results. Finally, the fifth section concludes the paper.

## 2 Literature Review

In recent years, the companies and their shareholders have been encouraged to invest in CSR. Nevertheless, many firms still resist this policy, arguing that any effort that is not applied to maximize value causes the company to lose focus. According to Barros et al. (2008), organizations are being challenged to participate in this discussion, and the new paradigm of corporate sustainability is based on the Triple Bottom Line (TBL) theory, which asserts that organizations can achieve sustainability evaluating the economic, social and environmental aspects of their activities.

According to the shareholder theory, the only social responsibility of business is to generate profits and wealth for its shareholders (Friedman, 1970). Any action in other directions will weaken the companies and the capitalist system. This theory shows that maximizing shareholder value benefits the entire value of the company, and suggests a negative relationship between social responsibility and financial performance. High levels of social responsibility result in costs that put businesses at an economic disadvantage compared to other companies that have fewer actions and practices of CSR (Tsoutsoura, 2004).

The stakeholder theory states that companies must take into account all interested parties, both inside and outside the organization (Machado et al. (2009)). The desire to invest in socially responsible companies is not new. Since the 1990s many stock indices have been created to rank companies according to their social responsibility, such as the Dow Jones Sustainability Index (DJSI), FTSE4Good, and the ISE.

The ISE was created in 2005 to reflect the return on a portfolio composed of socially responsible companies in Brazil. The quality of social practices is measured through a quantitative questionnaire, which is answered voluntarily by the companies. The ISE questions are based on the TBL theory, covering economic efficiency, environmental practices, social justice and corporate governance.

Companies must meet the following criteria for inclusion in the ISE: a) be one of the 150 stocks with the highest trading volume in the last 12 months, b) have been traded in at least 50% of the days in the last 12 months; and c) meet the sustainability criteria established by ISE.

Socially responsible investments (SRI) have been growing significantly in different markets. Schröder (2005) analyzes 29 SRI stock indices and compares their performance with conventional indices. The results show that SRI stock indexes did not show a higher risk-adjusted return. Bauer et al. (2006) analyze SRI in Canada and show that they do not exhibit statistically significant returns. Mallett et al. (2005) examine the performance of green and SRI

funds, and show that they do not have superior performance.

Statman (2000) investigates the performance of 31 SRI funds in the U.S. as well as the DJSI. The results indicate that, despite having higher Jensen's alpha, the performance of SRI funds is similar to that of conventional funds and indexes. Derwall and Koedijk (2005) show that SRI funds have stable performance, but not higher than traditional funds.

Sánchez et al. (2005) study the performance of equity funds in Europe to evaluate whether there is a relationship between investment in socially responsible businesses and fund performance. The results show that the SRI funds have lower performance, especially because of their higher management fees. On the other hand, Plantinga and Scholtens (2001) conduct a survey with more than 800 European funds and conclude that SRI funds have a Sharpe ratio greater than traditional funds.

Cheung (2009) analyzes the impact of the inclusion and exclusion of companies in the DJSI. There is no evidence that these events have significant impact on stock returns and risk. Barros et al. (2008) conducts an event study to evaluate if the entry in ISE generates abnormal returns in Brazil, and show that companies entering the ISE obtain positive abnormal returns.

### 3 Data and Methodology

Our sample is composed of 658 companies listed on the BM&FBovespa from 2005 to 2009. The number of companies belonging to ISE varies annually. In 2009, the ISE had 47 shares of 38 companies representing 18 industries. The market value of ISE companies represented 46.1% of the total market value of companies traded on BM&FBovespa. The financial and market data come from the Economica database.

We perform two analyzes in this study. First we run panel regressions to evaluate whether the market value of ISE companies is greater than conventional firms. The Hausman test indicates that the random-effects panels are more efficient than fixed-effects. The model has the following form:

$$PTB = \alpha_1 + \alpha_2 ISE + \alpha_3 NM + \alpha_4 VOT + \alpha_5 VOTTOT + \alpha_6 ROA + \alpha_7 SIZE + \alpha_8 LEV + \alpha_9 GROW \quad (1)$$

where *PTB* is the price-to-book ratio, *ISE* is a dummy variable indicating whether the company is listed on ISE, *NM* is a dummy variable indicating whether the company is listed on the "Novo Mercado" (BM&FBovespa segment for companies with better governance practices), *VOT* is the largest shareholder's percentage of voting capital, *VOTTOT* is the largest shareholder's ratio of voting to total capital, *ROA* is the return on assets (operation income/total assets), *SIZE* is firm size (log of total assets), *LEV* is the leverage (liabilities/total assets), and *GROW* is average sales growth over the last 3 years.

We also perform an event study to examine whether there are abnormal returns when a company enters or exits ISE. We run a market model using the Ibovespa index as benchmark. We use an estimation window of 250 days before the announcement of the inclusion or exclusion of the ISE, and calculate abnormal returns in three windows: 5 days before and after the event (AR [-5,5]), 5 days before and 1 day after the event (AR [-5,1]), and 1 day before and after the event (AR [-1,1]).

#### 4 Results

Table 1 shows the descriptive statistics of the variables used in the study from 2005 to 2009. Around 3% of the companies are present in ISE, and 26% are listed in “Novo Mercado”. The companies have

average price-to-book of 2.41, ROA of 4%, and 60% of leverage. The largest shareholder has 61% of the voting capital and 1.41 votes for each share held.

**Table 1.** Descriptive Statistics (Descriptive statistics of all variables used in the study from 2005 to 2009. The definition of the variables can be seen in section 3)

	Average	Median	Std Dev	Min	Max
PTB	2.41	1.40	4.51	0.10	7.39
ISE	0.03	0.00	0.17	0.00	1.00
VOT	61.33	59.65	27.44	2.00	100.00
VOTTOT	1.41	1.11	0.57	0.40	3.94
NM	0.26	0.00	0.44	0.00	1.00
ROA	3.94	3.30	13.70	-85.20	426.70
SIZE	6.03	6.08	0.91	0.48	8.85
LEV	60.23	61.80	23.14	0.00	99.90
GROW	21.51	13.85	55.36	-90.17	94.45

Table 2 shows the correlation matrix between the variables. There is a positive correlation between firm value and ISE. Furthermore, ISE companies tend to be larger and adopt better governance practices when

compared to non-ISE firms. There is a negative relation between voting capital and ISE, indicating that the higher concentration of votes the worse social responsibility.

**Table 2.** Correlation Matrix (Correlation among all variables used in the study from 2005 to 2009. The definition of the variables can be seen in section 3)

	PTB	ISE	VOT	VOTTOT	NM	ROA	SIZE	LEV	GROW
PTB	1.00								
ISE	0.07	1.00							
VOT	-0.06	-0.07	1.00						
VOTTOT	-0.06	0.08	0.06	1.00					
NM	0.05	0.32	-0.22	0.11	1.00				
ROA	0.00	0.05	0.03	0.01	0.03	1.00			
SIZE	-0.02	0.31	-0.01	0.09	0.35	0.02	1.00		
LEV	0.20	0.06	0.06	0.09	-0.05	-0.18	0.30	1.00	
GROW	0.03	-0.02	0.00	-0.05	0.08	0.00	0.01	-0.02	1.00

We classify the companies into 2 groups according to their presence in ISE. Table 3 shows the average (and median in parentheses) value of each variable for both groups of companies. Companies listed on the ISE have higher price-to-book (3.45) when compared with non-ISE firms (2.32). The differences in mean and median are statistically significant at 1%. Furthermore, the ISE companies adopt better governance practices, have lower capital concentration, are larger, more profitable and more leveraged than non-ISE firms.

Table 4 shows the results of random-effects panel regressions from 2005 to 2009. In all models, the ISE variable is positive and statistically significant

at 5%. When we add good practices on both social responsibility and governance (ISE and NM, respectively), only ISE is significant. This means that the social responsibility measured by ISE is much broader than the governance metrics of “Novo Mercado”. This is not surprising because some requirements to enter ISE are similar to those of NM. However, it is important to note that “Novo Mercado” has important governance practices that are not prerequisite to ISE, such as the issue of only voting shares. For example, if a company wants to enter Novo Mercado, it has to grant all minority shareholder voting rights, according to the one share one vote rule, but this is not a requirement to enter ISE.

**Table 3.** Firm Characteristics and Social Responsibility

	Non-ISE Firms	ISE Firms	Test of Difference
PTB	2.32 (1.30)	3.45 (2.30)	0.00*** (0.00***)
VOT	61.82 (60.00)	54.06 (51.00)	0.00*** (0.00***)
VOTTOT	1.39 (1.11)	1.59 (1.61)	0.00*** (0.00***)
NM	0.23 (0.00)	0.84 (1.00)	0.00*** (0.00***)
ROA	3.78 (3.20)	6.66 (5.55)	0.01*** (0.00***)
SIZE	5.96 (6.02)	7.16 (7.10)	0.00*** (0.00***)
LEV	59.87 (61.50)	66.04 (65.40)	0.00*** (0.00***)
GROW	21.82 (13.92)	17.05 (12.91)	0.33 (0.98)

The sample is divided into 2 groups: companies listed and not listed on the ISE. The average (median in parentheses) value of each firm characteristic is reported. The definition of the variables can be seen in section 3. We conduct a statistical test to analyze whether the differences in average (and median) are significant between the two groups, and the p-value is reported. \*\*\*, \*\* and \* indicates difference statistically significant at 1%, 5% and 10%, respectively

**Table 4.** Firm Value and Social Responsibility

	I	II	III
ISE	0.55*** (0.02)	0.58** (0.02)	0.54** (0.02)
VOT		0.01 (0.98)	0.01 (0.73)
VOTTOT		-0.68** (0.02)	-0.68** (0.02)
NM			-1.20 (0.40)
ROA	0.05* (0.06)	0.03* (0.06)	0.03* (0.06)
SIZE	-3.11*** (0.00)	-2.78*** (0.00)	-2.48*** (0.00)
LEV	0.09*** (0.01)	0.07*** (0.01)	0.06*** (0.00)
GROW	0.02*** (0.01)	0.01*** (0.01)	0.01*** (0.01)
R <sup>2</sup> aj	0.66	0.75	0.75

Random-effects panel regressions from 2005 to 2009 with price-to-book as dependent variable. The definition of the variables can be seen in section 3. The p-values, adjusted for autocorrelation and heteroscedasticity, are reported in parentheses. \*\*\*, \*\* and \* indicates statistical significance of 1%, 5% and 10%, respectively

Table 5 shows the results of event studies. We can see that firms entering the ISE show positive abnormal returns, although the results are not

statistically significant. On the other hand, companies that leave the ISE show negative abnormal returns and the results are significant at 10%.

**Table 5.** Abnormal Returns and Social Responsibility

Abnormal Return	ISE Entrance	ISE Exit
AR <sub>0</sub>	0.05% (0.46)	-0.22% (0.38)
AR[-1,1]	-0.12% (0.44)	-1.60%* (0.09)
AR[-5,1]	0.32% (0.39)	-1.89%* (0.10)
AR[-5,5]	0.67% (0.32)	-2.99%* (0.08)

Abnormal returns around the companies' entrance and exit of ISE from 2005 to 2009. The abnormal returns are calculated using the market model with an estimation window of 250 days. The abnormal returns on the event date (AR<sub>0</sub>) and cumulative abnormal returns (AR [-1,1], AR [-5,1] and AR [-5,5]) are calculated. The p-values are reported in parentheses. \*\*\*, \*\* and \* indicates statistical significance of 1%, 5% and 10%, respectively

## 5 Conclusion

The relationship between corporate social responsibility (CSR), firm value and return has been vastly studied in the international literature. However, there is no consensus whether CSR significantly impacts firm value and return. Some studies show a positive relationship whereas others show CSR is not significant.

This study examines whether CSR increases firm value and returns in Brazil. We analyze listed companies from 2005 to 2009 using two methodologies (panel regressions and event studies). The results indicate that companies present in ISE have higher price-to-book when compared to non-ISE companies. The event studies reveals that companies that leave ISE show negative abnormal returns, whereas firms entering ISE show positive abnormal returns, although the latter results are not statistically significant.

## References

1. BARROS, L.; DIAS, E. Índice de Sustentabilidade Empresarial (ISE): O Impacto do Anúncio da Carteira e o Retorno ao Acionista. *Revista Brasileira Finanças*, v. 8, p. 1-29, 2008.
2. BAUER, R.; DERWALL, J.; OTTEN, R. The Ethical Mutual Fund Performance Debate: New Evidence from Canada. *Journal of Business Ethics*, v. 70, p.111-124, 2006.
3. CHEUNG, A. Do Stock Investors Value Corporate Sustainability? Evidence from an Event Study. Griffith University Working Paper, 2009.
4. DERWALL, J.; KOEDIJK, K. Socially Responsible Fixed-Income Funds. Tilburg University Working Paper, 2008.
5. FRIEDMAN, M. The Social Responsibility of Business is to Increase its Profits. *The New York Times Magazine*, p.1-37, 1970.
6. MACHADO, M.; MACHADO, M.; CORRAR, L. Desempenho do Índice de Sustentabilidade Empresarial (ISE) da Bolsa de Valores de São Paulo. *Revista Universo Contábil*, v. 5, p.1-14, 2009.
7. MALLETT, J.; MICHELSON, S. Green Investing, Socially Responsible Investing, or Index Funds? Stetson University Working Paper, 2005.
8. PLANTINGA, A.; SCHOLTENS, B. Socially Responsible Investing and Management style of Mutual Funds in the Euronext Stock Markets. Groningen University Working Paper, 2001.
9. SÁNCHEZ, J.; SOTORRÍO, L. Performance of European SRI Funds vs Conventional Funds, *Revista AECA*, v. 83, p. 1-16, 2005.
10. SAVITZ, A.; WEBE, K. The Triple Bottom Line How Today's Best-Run Companies Are Achieving Economic, Social, and Environmental Success — and How You Can Too. Jossey-Bass, 2006.
11. SCHRÖDER, M. Is there a Difference? The Performance Characteristics of SRI Equity Indexes. ZEW Centre for European Economic Research Paper, v. 5, 2005.
12. STATMAN, M. Socially Responsible Mutual Funds. Canyon University Working Paper, 2000.
13. TSOUTSOURA, M. Corporate Social Responsibility and Financial Performance. University of California at Berkeley Working Paper, 2004.