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Social Responsibility and Financial Performance: The Case of STOXX Europe Index

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Abstract

The main objective of this study is to analyze whether companies that pursue corporate social responsibility (CSR)-based policies have a higher level of financial performance compared to those that do not. Additionally, we study the effect of the last financial crisis on the relationship between CSR and financial performance in order to figure out whether or not companies sharing these environmental and social concerns had higher financial performance than their peers. To do so, three empirical models are designed, combining both traditional accounting measures (return on equity and return on assets) and a measure sensible to market values (Tobin's Q) to assess the financial performance. A sample of 266 listed companies, from 15 European countries and 14 industries, listed on the STOXX Europe 600, is analyzed. Results suggest that companies pursuing CSR policies financially outperform their peers, and these results are supported even during the financial crisis period. This study highlights the idea that companies pursuing CSR policies put a considerable effort on building a stronger corporate reputation which in turn generates short- and long-term benefits, leaving behind the idea of the traditional companies that focused only on financial performance.

Keywords: corporate social responsibility, financial crisis, financial performance, STOXX Europe 600, Tobin's Q

1. Introduction

Corporate social responsibility (CSR) has been described as the importance of pursuing environmental and social goals involving all shareholders and not just financial goals [1].

In a similar context, the concept of sustainability also comes up. Both CSR and sustainability are widely used terms. According to [2], sustainability requires us to “meet the needs of the present without compromising the ability of future generations to meet their own needs” (page 41). Therefore, CSR is the contribution of companies to sustainable development efforts, taking into account the impact of their social and environmental actions and their contribution to the improvement of society as a whole and of the surrounding environment [3].

CSR has been studied over the years with a special emphasis on the benefits it does generate in the company's financial performance. Many authors who have addressed the relationship between CSR and financial performance have come to

different conclusions. Many claim that there is a positive relationship [4–6], others argue that the existing relationship is negative [7, 8], while others claim that there is no relationship at all [9]. These differences may be due to the lack of theoretical support behind the hypotheses formulated and the limitations in the design and size of the sample and the variables used [10]. Also, Davidson and Worrell [11] state that sometimes doubtful CSR indexes or inappropriate techniques are used, which may contribute to the mix results found in the literature.

Our main motivation to study this topic is directly related to the growing concern of companies with the environmental and social issues, since there is a greater understanding that being socially responsible increases their reputation and image, thus generating short-, medium-, and long-term benefits. In addition, most studies on the relation between CSR and finance performance focus on a single industry or country.

Therefore, the main objective of this chapter is to analyze whether companies that pursue CSR-based policies have a higher level of financial performance compared to those that do not in an international sample. A separate analysis of this relationship will also be conducted and will be focused on the last financial crisis period in order to figure out whether or not companies sharing these environmental and social concerns have higher financial performances than their peers. To this end, 266 companies from 15 European countries were analyzed in a 10-year period from 2007 to 2016.

Results suggest that companies pursuing CSR-based policies have, on average, higher financial performance than those that do not. In the same way, during the period of financial crisis, companies pursuing CSR-based policies are found to have outperformed other companies in line with existing literature trends [12–16].

The study is divided as follows: Section 2 reviews the literature in order to have the theoretical support for the development of the hypothesis; Section 3 presents the sample selection process and the methodology used; Section 4 describes and analyzes the results obtained, and lastly, Section 5 presents the main conclusions.

2. Literature review

2.1 Sustainability and social responsibility—the same?

The concept of sustainability has undergone some changes in terms of approach, theories, and terminology. Its emergence was primarily due to a greater focus on existing environmental problems, but this concept has changed over time and gained a new perspective, including two further strands, the social and the economic [17]. In the past 15 years, scientific debate regarding sustainability has grown, focusing on the intertwining between the economic, environmental, and social goals [18]. Companies have begun to refer to this concept using different terminologies such as “sustainable development,” “sustainability,” “corporate social responsibility,” or “corporate responsibility.”

According to [19], the concept of sustainability that embraces the three trends listed above is called triple bottom line or three Ps: planet (environmental), people (social), and profit (economic). Each strand interconnects with the others in order to establish a balance of responsibility where all interests are balanced, thus generating value for the company. In the same way, over time, the concept of CSR has won the attention of companies and their shareholders, along with a new meaning, since companies have realized that their business purposes have broadened beyond the economic purpose of generating profit for its shareholders,

now encompassing the interests of all stakeholders [20]. Indeed, according to [18], companies must consider the stakeholders' expectations and decisions. These authors highlighted the stakeholders' involvement and their role in the strategic management of organizations as a relevant topic for academic scholars. Also, Del Giudice et al. [21] underlined the crucial role played by owner-managers when engaging in sustainability activities jointly with employees and other stakeholders.

Currently, the pressure on business is high, and shareholders are increasingly asking companies for information not only on the economic and financial performance but also on their environmental and social concerns [22–25]. Thus, a greater transparency about the CSR activities is expected by shareholders [26]. In fact, with the emergence of greater environmental and social concerns, a greater emphasis on business transparency and accountability began to emerge. Following these new expectations, stakeholders are demonstrating a growing interest on sustainability performance and thus there is an increasing pressure on businesses to report on sustainability [18]. The nonfinancial reporting, together with the financial reporting, aims to provide shareholders “with the picture of corporate positions and activities on the economic, environmental and social fronts. In short, such reports attempt to describe company's contribution toward to sustainable development” [27], page 9).

Moreover, Cucari et al. [26] highlighted the importance of companies having a CSR committee. Indeed, through a CSR committee, companies can better plan and implement sustainable projects, enhancing the awareness and involvement of the stakeholders and ensuring the quality of the reporting process.

As can be seen, although sustainability has emerged from environmental problems and CSR from the emergence of social problems, both have a common intention, since their ultimate goal is to balance on both sides.

2.2 Benefits and limitations of pursuing a CSR-based policy

There are many reasons for pursuing a CSR-based policy. Kurucz et al. [28] define four reasons:

- Cost and risk reduction—environmental investments can lead to cost and risk reduction for the company, as there is present and future compliance with environmental legislation [29]. Building positive relationships with the surrounding community also results in reduced risks and costs [29].
- Competitive advantage—Singha et al. [30] suggest that environmental ethics influences environmental performance and competitive advantage. Competitive advantage is built thanks to the business commitment and adoption of CSR activities in order to meet the stakeholder's requirements. One of the most commonly used examples in literature is consumer loyalty. Pivato [31] shows that increased consumer loyalty is often the result of the adoption of CSR activities by companies. Also, socially responsible companies attract more investment. Certain investors avoid companies that do not fulfill their defined values and mission, which break the law and its principles [32].
- Reputation development—Smith [33] argues that CSR activities attract investors, consumers, and workers and explains that many workers prefer to work in companies that are more socially responsible. Brammer and Pavelin [34] underline the great importance of disclosing social responsibility reports.

- Value creation—Value creation through CSR practices enables companies, on the one hand, to meet the demands of all shareholders and, on the other hand, to pursue operations inherent to its core business. By enabling the involvement of all related parties and meeting their demands, the company can achieve a greater financial performance with the support of all through new opportunities and solutions [35].

However, the adoption of strategies that meet the concept of CSR may involve certain costs for companies, such as the implementation of quality control equipment, the purchase of environmentally friendly equipment. Hence, it is necessary to analyze the benefits and the risks and costs of applying CSR in the business world.

2.3 Relationship between CSR and financial performance

For any company, when costs or investments of any kind are incurred, the financial return is always analyzed, that is, an investment is considered good when it generates future benefits. Thus, in order to fully understand whether the application of the CSR concept has a positive impact on the company, a link must be established with the future benefits it may bring (or not) to the company's financial performance. Thus, the relationship between CSR and corporate financial performance is a relevant topic in business management literature.

There is evidence of a positive relationship between CSR and financial performance [12, 14–16]. A good financial performance results in good social performance as companies that are more profitable have more resources to invest in social activities. On the other way, greater investment in social activities attracts more and better resources, conscious consumers, and a higher reputation, further generating greater competitive advantage over other companies.

Today, companies view reputation as an extremely important factor that must be maintained and protected [3]. A greater focus on CSR makes the company more appealing to investments and consequently leads to a higher financial performance [36], given that the current investors are aware of the importance of social, environmental, and economic concerns. Some authors also argue that there are larger investments in companies with better social performance [37]. Similarly, Eccles et al. [38] come to the conclusion that it really matters to invest in CSR. Companies that do so have a higher financial performance, creating greater value for all their shareholders, given that they gain loyal consumers and more committed workers. On the other way around, Singha et al. [30] highlight that committed workers and top management, along with sustainable environmental management practices, enhance the firm's environmental performance and that, in turn, will positively influence its competitive advantage.

However, others authors, based on the shareholder theory, claim that the relationship between CSR and finance performance is negative because the company's motto is the creation of profit for the shareholder and that is not consistent with the increased costs of social responsibility activities [39, 40]. Also, the incremental costs from social responsibility activities may lead to losses in the company's competitive capacity [41]. Following this point of view, CSR activities have a negative impact on the financial performance and therefore reduce the shareholder benefits.

Considering the trend in literature according to which companies pursuing policies based on corporate social responsibility have a higher level of financial performance compared to those that do not, we formulated our hypothesis as follows:

Hypothesis: Companies that pursue CSR-based policies have a higher financial performance compared to those that do not.

3. Data and methodology

3.1 Sample and data collection

The sample was obtained from the STOXX Europe 600 Index and the information was accessed during February 2018. Financial information was taken from Bureau Van Dijk’s Amadeus database, version 14.07. Additional data was taken from FTSE Group and World Bank.

Our measure of CSR is based on The STOXX Europe Sustainability Index, a subset from the STOXX Europe 600 Index. It aggregates the selected companies according to a sector-business analysis together with sustainability assessments based on environmental, social, and economic criteria. The assessment is considered positive if the combination of company valuation and sector valuation results in a shaded matrix field in the Sarasin Sustainability Matrix [42].

From the initial sample of 600 companies, all those belonging to the public and financial sectors were excluded due to their specific rules and legislation, thus avoiding possible bias in the results. Companies for which it was not possible to calculate all the variables under study were also removed.

Besides, in order to avoid bias due to the extreme values found, outliers were also removed. Outliers are defined as the values of the variables below percentile 5% and above percentile 95%. Therefore, the final sample used for the study consists of 266 companies, with a total of 2660 observations.

Through the analysis of the sample composition by country (**Table 1**), we can see that most of the companies are from the United Kingdom with 84 companies (32%), France with 50 companies (19%), and Germany with 36 companies (14%).

Country	Number	% of Total
The United Kingdom	84	32
France	50	19
Germany	36	14
Sweden	17	6
Switzerland	17	6
Spain	14	5
Denmark	12	5
Finland	10	4
The Netherlands	8	3
Belgium	4	2
Norway	4	2
Italy	3	1
Portugal	3	1
Austria	2	0
Ireland	2	0
Total	266	100

Table 1.
Sample by country.

Sector	Number	% of Total
Mining and quarrying	11	4
Utility vehicles	0	0
Building and construction	9	3
Industrial	53	20
Retail trade	20	8
Transportation	11	4
Information	25	9
Real estate	6	2
Professional, scientific, and technical services	85	32
Administrative services, support, and waste management	3	1
Health care and social assistance	1	0
Art—entertainment and recreation	4	2
Hospitality and food services	4	2
Other services	34	13
Total	266	100

Table 2.
Sample by sector.

According to the North American Industry Classification System (NAICS), the 266 companies were divided into 14 sectors. The most represented sectors are the professional, scientific, and technical services sectors with 85 companies (32%), followed by the industrial and other services sectors with, respectively, 53 companies (20%) and 34 companies (13%) (**Table 2**).

3.2 Empirical model

Prior research on CSR has measured financial performance using accounting-based measures or market-based measures (e.g., see [14, 43, 44]). As accounting-based measures, those authors have used return on equity (ROE) and return on assets (ROA) and, as market-based measures, they use the Tobin’s Q. These two types of measures can capture the two dimensions of financial performance: the short-term through ROE and ROA [15] and the long-term and future evaluation through Tobin’s Q [14]. Indeed, several authors choose to use *Tobin’s Q* in order to study the relation between CSR and financial performance in a long-term perspective [39, 45].

Following previous studies, financial performance is measured by both ROE and ROA as accounting measures of short-term financial performance. ROE provides information on how efficient the company is in using its shareholder’s invested capital [39], while ROA measures the efficiency that comes from using all company’s assets during a fiscal year, that is, the ability to generate earnings [15]. Both profitability ratios are based on the company’s net income over a given fiscal period because it is what effectively “remains” after all expenses are deducted from the income obtained, thus presenting the impact of financial policies and also the tax burden incurred by companies in different countries. We also use Tobin’s Q as a market-based measure of long-term value which has proven to be an important variable to assess the future financial performance [46].

Therefore, based on [43], three estimation models were developed to test the hypothesis:

$$ROE_{i,t} = \beta_{0i,t} + \beta_1 CSR_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Industry_{i,t} + \beta_5 Country_{i,t} + \beta_6 Financial Slack_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$ROA_{i,t} = \beta_{0i,t} + \beta_1 CSR_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Industry_{i,t} + \beta_5 Country_{i,t} + \beta_6 Financial Slack_{i,t} + \varepsilon_{i,t} \quad (2)$$

$$Tobin's Q_{i,t} = \beta_{0i,t} + \beta_1 CSR_{i,t} + \beta_2 Size_{i,t} + \beta_3 Leverage_{i,t} + \beta_4 Industry_{i,t} + \beta_5 Country_{i,t} + \beta_6 Financial Slack_{i,t} + \varepsilon_{i,t} \quad (3)$$

CSR is a dummy variable that assumes the value 1 if the company belongs to the STOXX Europe Sustainability Index and value 0 otherwise. The STOXX Europe Sustainability Index aggregates companies based on their sustainability ratings. The index *i* represents each of the companies in the sample, and the index *t* refers to the year. The estimation method used was the pooled Ordinary Least Squares. We controlled for unobserved country and year heterogeneity using country and year fixed effects. The standard errors were grouped by company in order to correct the presence of autocorrelation.

Based on prior literature, the following control variables were chosen: *Size*, *Leverage*, *Industry*, *Country*, *Financial Slack*, and *Crisis*. Size is a relevant control variable since larger companies are assumed to have more visibility, and to generate a greater impact with their operations [47], they are more likely to adopt CSR policies compared to small companies [12, 23]. Financial leverage was also taken into account since high debt levels lead to high levels of financial leverage causing a negative impact on financial performance [48]. In line with this conclusion, [12] also showed that this negative impact continued to persist when financial leverage was introduced in a CSR regression.

In addition, the type of business activities [49] as well as the level of economic development of a country [50] may be related to a higher or lower CSR. Indeed, companies developing activities with high social and environmental impacts tend to adopt more CSR policies compared to others. Besides, companies with high liquidity are more likely to adopt CSR policies compared to others with less liquidity that can only focus on their own business activities [51]. Appendix 1 provides more detailed information about variables' measurement.

4. Result analysis

4.1 Descriptive statistics

Table 3 presents the descriptive statistics of the variables for the total sample. ROE, ROA, and Tobin's Q present averages of 14.0, 5.4, and 97.6% and medians of 13.5, 5.1, and 0.786%, respectively. Regarding the standard deviation statistical measure, the values are small regarding the averages of each of the variables and do not show huge discrepancies, suggesting a certain normality in the sample distribution.

Furthermore, it is possible to observe that companies have, on average, a level of indebtedness of approximately 59%, suggesting that they rely more on external

Variáveis	Mean	Median	Max.	Min.	Standard deviation
ROE	0.140	0.135	0.720	-0.879	0.139
ROA	0.054	0.051	0.210	-0.786	0.058
Tobin's Q	0.976	0.786	3.55	0.024	0.709
Size	6.855	6.831	8.121	4.817	0.569
Leverage	0.585	0.595	0.909	0.001	0.159
Financial lack	1.510	1.332	5.865	0.072	0.823

Table 3.
Descriptive statistics for the whole sample.

capital than on equity to meet the asset needs. In terms of the current liquidity, that is, the ability to meet short-term liabilities, the result is higher than 1 (1.51), which means that companies have a favorable short-term financial situation.

In a next step, we divided the sample into two subsets, companies that pursue social responsibility-based policies (SRSE) and those that do not (NRSE). **Tables 4 and 5** present the values for the SRSE and NRSE, respectively.

It is possible to observe that the SRSE shows, on average, higher values than the NRSE for all financial performance measures, which means that, on average, SRSE has a higher financial performance compared to the NRSE. Moreover, the average of *Tobin's Q* in SRSE is higher than 1, while in NSRSE it is lower than 1, suggesting that companies pursuing social responsibility-based polices are more valued by the market.

For the remaining variables, on average, SRSE is larger than NRSE and the debt ratio is higher for SRSE compared to NRSE by approximately 4 percentage points

Variables	Mean	Median	Max.	Min.	Standard deviation
ROE	0.156	0.147	0.582	-0.767	0.131
ROA	0.061	0.056	0.210	-0.786	0.060
Tobin's Q	1.073	0.882	3.55	0.024	0.749
Size	6.974	6.969	8.046	5.315	0.499
Leverage	0.616	0.618	0.907	0.065	0.148
Financial Slack	1.419	1.306	5.728	0.072	0.719

Table 4.
Descriptive statistics for SRSE.

Variables	Mean	Median	Max.	Min.	Standard deviation
ROE	0.099	0.094	0.72	-0.879	0.148
ROA	0.037	0.036	0.198	-0.399	0.049
Tobin's Q	0.724	0.597	3.368	0.024	0.516
Size	6.809	6.762	8.121	4.818	0.589
Leverage	0.573	0.587	0.909	0.001	0.163
Financial Slack	1.545	1.349	5.865	0.114	0.858

Table 5.
Descriptive statistics for NSRSE.

Companies	Number	ROE	ROA	Tobin's Q
SRSE	740	0.156	0.061	1.073
NRSE	1920	0.099	0.037	0.724
p-Value		0.000	0.000	0.000

Table 6.
Mean *t*-test results.

(61.6% for SRSE and 57.3% for NRSE). On the contrary, *Financial Slack* presents higher value for NRSE (current liquidity of 1.545) on comparing to SRSE (current liquidity of 1.419).

Table 6 shows the results of the mean equality test of the dependent variables *ROE*, *ROA*, and *Tobin's Q*. Results suggest that there is statistical evidence to assert that the means are different between SRSE and NSRSE, since the *p*-value is 0.000 in all dependent variables.

The correlation between the different variables is presented in Appendix 2. Most of the variables do not show strong correlations with each other and are statistically significant at 1%, except for the correlation of the *Leverage* and *Low Impact* variables, which are statistically significant at 5%.

The dependent variables *ROE*, *ROA*, and *Tobin's Q* are positively correlated with the independent variable *CSR*, suggesting that firms that pursue *CSR* activities have higher financial performance. Regarding the control variables, *Size*, *Low Impact*, *Country*, and *Financial Slack* are positively related to the dependent variables, suggesting that companies with higher financial performance values are larger, have low environmental impacts, belong to countries with high economic development, and have higher liquidity values. On the other hand, the dependent variables are negatively correlated with *Leverage*, *Medium Impact*, and *High Impact*, meaning that companies with high debt values and higher environmental impact have lower financial performance values.

A multicollinearity test was performed by calculating the variance inflation factors (VIFs). The values are less than 10, suggesting that there are no multicollinearity problems.

4.2 Relationship between CSR and performance level

The main results of the three linear regressions estimated, Eqs. (1)–(3), are presented in **Table 7**.

Regarding the coefficient of the independent variable *CSR*, it assumes positive values for all models, with statistical significance at 5%, suggesting that companies that pursue *CSR*-based policies have a higher financial performance compared to those that do not. This is most visible in model 3 as the coefficient has the highest value.

Regarding control variables, most have statistically significant coefficients at 1% except for the *Leverage* and *Financial Slack* variable in model 1 which is statistically significant at 5%; *Size* and *Financial Slack* in model 2, which is statistically significant only at 10% and 5%, respectively; and *Financial Slack* which has a statistically significant value at 5% in all models. The expected signal for all variables is also confirmed. Thus, the *Size* variable has a positive coefficient for all models, which means that assuming everything else remains constant, larger companies show higher financial performance. The *Leverage* variable has a negative coefficient in all models, which means that the higher the corporate indebtedness, the higher the

	ROE	ROA	Tobin's Q
β_0	0.145 *** (3.678)	0.097 *** (6.457)	3.149 *** (17.341)
CSR	0.008 ** (1.068)	0.004 ** (1.361)	0.061 ** (2.479)
Size	0.017 *** (3.384)	0.004 * (1.861)	0.278 *** (11.502)
Leverage	-0.019 ** (-0.988)	-0.104 *** (-10.783)	-1.359 *** (-14.303)
Low impact	0.051 *** (9.682)	0.016 *** (6.807)	0.179 *** (6.387)
Medium impact	-0.049 *** (-8.519)	-0.015 *** (-6.055)	-0.137 *** (-4.882)
High impact	-0.052 *** (-7.777)	-0.017 *** (-6.255)	-0.241 *** (-7.882)
Country	0.054 *** (8.851)	0.019 *** (7.288)	0.226 *** (8.632)
Financial Slack	0.000 ** (0.103)	0.002 ** (0.933)	0.0353 ** (1.969)
No. of Obs.	2660	2660	2660
Adjusted R ²	0.130	0.179	0.313
p-Value (F-statistics)	0.000	0.000	0.000

*Statistical significance at 10%.
**Statistical significance at 5%.
***Statistical significance at 1%.

Table 7.
Relation between CSR and financial performance.

leverage level and consequently the lower the financial performance, confirming the studies of Waddock and Graves and Capon et al. [12, 48]. Given the industry in which companies operate and the impact they have on environmental and social levels, it can be stated that the *Low Impact* variable has a positive coefficient for all models and the *Medium Impact* and *High Impact* variables present negative coefficients also for all models.

Regarding the *Country* variable, it has a positive coefficient for all the models, suggesting that firms in the countries with the highest level of economic development have higher financial performance. Finally, the *Financial Slack* variable also has a positive coefficient for all models, meaning that companies with higher working capital values have a higher financial performance.

Based on R² values, the first model explains 13.0% of the total variation of the ROE, the second one 17.9% of the total variation of the ROA, and the third one 31.3% of the total variation of the Tobin's Q. The third model shows the highest value, which is in agreement with the study by [52].

Finally, the models are valid in the explanation of the ROE, ROA, and Tobin's Q measures because the p-value of the F-statistics is equal to 0.000 in all the models which means that the hypothesis of joint nullity of the independent variable coefficients can be rejected.

In conclusion, the results support our hypothesis that companies pursuing CSR-based policies have a higher financial performance compared to those that do not, both in the short-term (ROE and ROA) and in the long-term (Tobin's Q).

4.3 Impact of financial crisis in financial performance

Given that most of the previous studies look at the relationship between CSR and financial performance in periods of nonfinancial crisis, it would be interesting to understand how this relationship works during periods of recession. In fact, the last economic and financial crisis (2009–2013) was considered by many as the worst

	ROE	ROA	Tobin's Q
β_0	0.171 *** (4.354)	0.107 *** (7.205)	3.374 *** (18.644)
CSR	0.051 *** (5.213)	0.016 *** (4.634)	0.132 *** (3.649)
Crisis	-0.034 *** (-6.512)	-0.012 *** (-5.351)	-0.110 *** (-8.116)
Crisis * CSR	0.072 *** (5.7969)	0.020 *** (4.680)	0.114 *** (2.595)
Remaining control variables	Included	Included	Included
No. of Obs.	2660	2660	2660
Adjusted R ²	0.145	0.188	0.335
p-Value (F-statistics)	0.000	0.000	0.000
*Statistical significance at 10%.			
**Statistical significance at 5%.			
***Statistical significance at 1%.			

Table 8.
Relation between CSR and financial performance: Impact of crisis.

financial crisis since the Great Recession of 1930 with a huge impact on the lives of companies, notably on their financial performance [53].

According to [54], financial crisis affects negatively corporate financial performance. During these periods, investors are more concerned about financial performance and the disclosure of CSR information may minimize this concern [55].

In order to focus on the effects of crisis on the financial performance of companies pursuing CSR policies, a modification was made to the models, including the *Crisis* dummy variable and a *Crisis* * *CSR* interaction variable. This modification makes the impact of the financial crisis on the relationship between CSR and the financial performance more clear [52].

Table 8 presents the main results of this additional analysis. We chose not to present the results for the remaining variables to make it simpler.

There is statistical evidence that, in years of crisis, companies with SRSE have a higher financial performance compared to NRSE, since the coefficient of the interaction variable *Crisis* * *CSR* is positive and statistically significant for the three models studied. Thus, keeping all other factors constant, in the years of financial crisis, it appears that the ROE for the SRSE is on average 0.072 higher than ROE for the NRSE, the ROA is 0.02 higher, and the Tobin's Q is 0.114 higher, on comparing to the NRSE. The *Crisis* variable has a negative and statistically significant coefficient in all models, suggesting that the NRSE in the years affected by the financial crisis showed a reduction in financial performance. During the years of financial crisis, the SRSE presented an average increase of 0.038 units (0.072–0.034) in model 1, an increase of 0.008 units (0.020–0.012) in model 2, and an increase of 0.004 units (0.114–0.110) in model 3.

Given that the financial performance of SRSE decreased less than the financial performance of the NRSE during the period of crisis, it was possible to conclude that during the period of financial crisis, the financial performance of companies adopting CSR-based policies suffered fewer negative impacts compared to the financial performance of companies that do not. These results are in line with [56], which concluded that with the onset of the subprime financial crisis, the positive relationship between financial performance and CSR was disappearing but that was inverted when companies began implementing CSR strategies.

5. Conclusions

Companies pursuing corporate social responsibility policies have realized how important is to build and protect their corporate reputation through the use of corporate social responsibility policies, leaving behind the idea of the traditional company that focused on financial performance only.

This study was conducted to understand whether companies pursuing policies based on social responsibility outperform those that do not as well as how financial performance of both types of companies was affected by the financial crisis. Companies that have a good relationship with society, as the activities they perform improve the quality of life and the environment, are probably better accepted by the market and therefore are in a better position than the rest of companies.

The results suggest that indeed, on average, companies that pursue policies based on corporate social responsibility have higher values of financial performance compared to companies that do not pursue these policies, both in the short-term (ROE and ROA) and in the long-term (Tobin's Q). This is in line with the studies by Griffin, Margolis and Walsh, and Orlitzky et al. [4–6].

During the period of crisis, it is possible to conclude that all companies suffered a reduction in financial performance. However, this reduction is less negative in companies that pursue policies based on corporate social responsibility. In fact, this group of companies maintained their performance above the others even during this period of crisis, which meets the findings of Marti et al. [52].

This study contributes to the existing literature on social responsibility and corporate financial performance by providing an overview of the positive aspects of “betting” on social responsibility policies and the resulting benefits. It also contributes to the literatures that study the impact of financial crisis on the relation between corporate social responsibility and finance performance. Thus, it highlights the idea that socially responsible companies benefit from a stronger reputation and image and are therefore better accepted by society, which in turn generates short- and long-term benefits.

The main difficulty found when preparing this study was the lack of information on the variables used, which contributed to reduce the size of the sample. Also, the lack of information made it impossible to use some important variables such as research and development. Therefore, our results should be interpreted with some caution.

Acknowledgements

The authors are grateful for the financial support from FCT-Fundação para a Ciência e Tecnologia (Portugal), national funding through research grant (UIDB/04521/2020).

A. Appendices

A.1 Appendix 1. Variables description

Variables	Calculation
Dependent variables	
ROE	Ratio between net income and equity
ROA	Ratio between net income and total assets
Tobin's Q	Ratio between market capitalization and total asset value
Independent variables	
CSR	Dummy variable that assumes the value 1 if the company belongs to the STOXX Europe Sustainability Index and value 0 otherwise
Size	Total assets' logarithm
Leverage	Ratio of total liabilities to total assets
Industry	Dummy variable based on the environmental impact of companies' activity: low impact, medium impact, and high impact. This classification results from the categorization by the FTSE Group: http://www.ftserussell.com/?_ga=2.101616001.1622009662.1506552100-356423440.1505860288
Country	Dummy variable assuming value 1 if the company is located in a country with a high gross national income growth rate and value 0 otherwise. Information was taken from World Bank.
Financial Slack	Current ratio (current assets divided by current liabilities)
Crisis	Dummy variable that assumes value 1 for the 2009–2013 period data and value 0 otherwise.

A.2 Appendix 2. Pearson correlation matrix

	ROE	ROA	Tobin'S Q	CSR	Size	Leverage	Financial Slack
ROE	1						
ROA	0.725***	1					
Tobin's Q	0.425	0.525***	1				
CSR	0.183	0.184***	0.221	1			
Size	0.160***	0.197***	0.391***	0.129***	1		
Leverage	-0.061***	-0.319***	0.407***	0.122***	0.325***	1	
Financial Slack	0.067***	0.186***	0.251***	-0.069***	-0.229***	-0.427***	1

*Statistical significance at 10%.
**Statistical significance at 5%.
***Statistical significance at 1%.

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