Does it Pay or Does Firm Pay?

The Relation Between CSR Performance and the Cost of Debt

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ABSTRACT This paper investigates the link between corporate social performance and cost of debt financing.

The literature on the determinants of the cost of debt generally documents a negative association between measures of the risk of the firm and its cost of debt. The literature on Corporate Social Responsibility, instead, presents risk reduction as one of the potential benefits related to these investments. Thanks to that effect, therefore, an efficient market should recognize a 'ethical financial premium' to socially responsible firms, corresponding to a less cost of debt financing.

In order to test this hypothesis, the developed model investigates the relation between firms' CSR performance (measured through the SAM index*) and their cost of debt. Potentially confounding factors such as industry, size and time lag effects were also

analysed. Employing a unique data set of 332 firms over a time period of five years (1641 observations) we find some evidence that there is no 'ethical financial premium' for improved corporate social responsibility in term of cost of debt applied by banks and financial institutions to the company. Instead, the results document a positive relation between the CSR performance proxy and the cost of debt, demonstrating that CSR is not considered a value driver with an impact on the firm's risk profile, but a sort of waste of resources that can negatively affect the performance of the firm, independently from the country in which the firm operates.

* The views expressed in this paper are those of the authors and do not necessarily represent those of the SAM Group, that is the major source of our data on CSR. Any possible error in the interpretation of such data remains the sole responsibility of the authors.

Introduction. Why is this question interesting?

During the last years, worldwide companies have paid increased attention to corporate responsibility issues, increasing the amount of resources allocated to activities generically labelled as CSR investments. One reason behind this trend could be found in the idea that a link between corporate responsibility and performance exists. Among the different drivers of value, risk management has been seen as a key aspect leading to superior economic performance. In this sense, companies have started to develop sustainability strategies aimed at avoiding different kinds of risks, especially reputational ones. In other terms, they have started to leverage on CSR image as, previously, they did with marketing, brand awareness and environmental care.

By now, Corporate Social Responsibility[i] plays a central role both in the literature and in the strategies and activities of firms that have to respond to global climate changes, pollution, energy saving programs, etc.. Until now, however, a lot of these investments and the related disclosure policies have been considered as mere marketing activities or window dressing operations, as an attempt to 'appear' socially responsible, improving corporate image, but without any effective and real organizational and managerial change. Under these considerations, in many cases the organizational structure of the firm has seemed to relegate the CSR function under the control of the Public Relation function.

The main point is that, nowadays, the Social Responsibility has acquired a different role in business strategies, becoming an issue of governance more than a mere communication activity, with a deeper impact both on organizational and financial performance.

Most of the literature, after many discussions on the definition of responsible behaviours and their suitability with the profit concept, has focused on the relation between CSR and corporate performance (Margolis and Walsh, 2003; Dowell, Hart and Yeung, 2000, Konar and Cohen, 2001), providing interesting but not unanimous findings. If a link exists, it could be caused by a series of benefits (revenues-related outcomes and cost-related outcomes, in the terms of Perrini *et al.*, 2010) that are higher than the structural costs required to implement a concrete CSR policy.

On the point, we state that such investments can create value for the company and can improve its economic performance, influencing different aspects as, between the others, corporate reputation, risk profile and cost of debt.

The literature on the determinants of the cost of debt generally documents a positive association between measures of the risk of the firm and its cost of debt. The literature on CSR, instead, presents risk reduction as one of the potential benefits of these investments.

In particular, we focus our attention on the impact of CSR performance on the company's risk profile and, through this path, on the cost of debt (ultimately -although perhaps not immediately- on firm performance).

In other terms, we are looking at a well-known debate from a quite innovative point of view. The relation between CSR and the cost of financing hasn't been investigated a lot yet. Until now, the main attention was historically paid to more general definitions of performance and on traditional financial performance indicators as ROE, ROI, stock price, earnings volatility, etc.. Recent studies, finally, concern the link between the CSR and the cost of equity, but still not the cost of financial debts.

A part of literature (Angel and Rivoli, 1997) examines the impact of CSR policies on firms' cost of equity capital. It's argued that socially responsible investors will not invest in firms whose environmental policies are questionable. Di Giulio *et al.* (2007) demonstrate the existence of a negative relationship between corporate social performance and the weighted average cost of capital (WACC), assumed as proxy of the risk perceived by stakeholder.

Goss and Roberts (2009) demonstrate that firms with the worst social performance pay higher loan spreads but, at the same time, for the majority of the firms, the impact of CSR is not economically important.

Besides these contributes, to our knowledge, no empirical researches have studied the relation between CSR and debt (equity or financial liabilities). As demonstration of this "paucity of research on the CSR/performance link from the perspective of debt", Goss and Roberts (2009) underline that on the 52 studies reviewed by Orlitzky et al.(2003) and on the 103 papers reviewed by Margolis and Walsh (2001), none of them examines the link between CSR and corporate debt.

According to Sengupta (1998) a policy of timely and detailed disclosure reduces lenders' and underwriters perception of default risk for the firm, reducing its cost of debt.

In our opinion, a relevant element in reducing risk, faced and communicated by the firms, is CSR. So, if the socially responsible behaviour and the CSR investments imply a reduction of the risk (effective and/or perceived by the market), and, consequentially, an improvement of the financial performance of the firm (as the Stakeholder Theory sustains), banks will apply better conditions on the loans contract with the firms.

On the contrary, if the financial market does not recognize a value (in terms of risk reduction) to the CSR policies, the socially responsible firms will suffer of a competitive disadvantage due to the additional costs in which they will incur in terms of resources spent in no risk reduction investments. Aiming at finding a 'ethical financial premium' on the cost of debt paid by the firms, our hypothesis is that financial institutions are considered as neutral agent among the all firms' stakeholders, thus they will formulate their decisions and their evaluations only considering the financial leverage, the subjective risk of the firm and its capacity to meet its financial obligations.

The purpose of this work is, therefore, to enhance the empirical results on the effects of CSR policies on the cost of debt, understanding whether and how CSR policies impact the overall cost of debt they sustain.

The contribution of this work is to try to fill the gap in the empirical literature on the relationship between CSR and cost of debt. Moreover, examining this link should therefore help managers understanding the effect of CSR investments on firm's financing costs, and hence important implications for strategic planning.

Our findings show a first empirical evidence that the cost of financial debts is affected, in relation to our panel, by CSR performance but not in the expected way: results show a positive

relation between CSR performance and cost of debt. This means that financial institutions not only seem not to apply any risk reduction for the CSR investments, but also consider them as a waste of resources which, as a consequence, has a negative impact on the cost of financing they will apply.

The paper is structured as follows: in section "Theory and hypothesis development" we analyze the theoretical framework in order to define the main assumptions of the work, presented in the section "Hypothesis". In section "Methodology" first the sample is explained, second all the variables are presented and then the regression model is depicted. Finally, the section "Empirical results" shows the main results of the model. The article concludes with the considerations on the results, the presentation of the managerial implications and of the limits of the work with its further researches in section "Conclusions and caveats".

Theory and hypothesis development

We begin this section by describing the debate on the relationship between CSR and financial performance that even if still open, represents one of the fundamental topics for the CSR business case. Assuming that this relation works, we discuss how CSR activities may create value, if the related benefits exceed the related costs, generating a favourable balance towards what we call the virtuous CSR balance.

Then, we consider how this value could correspond to a lower risk faced by firms recognized by efficient capital and financial markets. The development of this framework, enriched by the supportive literature, will lead to the explication of our major hypothesis.

CSR and performance

The studies on CSR have traditionally assumed the identification of the subjects to whom a firm is responsible as one of the most critical research aspects of the 'Business Case for CSR'.

Starting from the Shareholder Value Theory (Friedman 1962, 1970), classical finance theorists affirm the supremacy of shareholders value and interests, identifying the managers' duties and responsibilities only as function of shareholder value creation process.

According to this approach, investments in CSR simply represent an expensive resources distraction that shifts internal richness from shareholders, the natural beneficiary of these resources, to inefficient utilizations.

On the opposite, according to the Stakeholder View (Freeman, 1984; Davis, 1975; Donaldson and Preston, 1995), the management objectives and duties are larger than the simple value creation process towards shareholders, and the firm, economic agent within an economic arena, has much more bigger responsibilities. The challenge for the firm is to be accountable for a large number of stakeholders and to go beyond its economic and legal responsibilities. According to Davis (1975), corporate social responsibility starts where normative obligations and prescriptions end. In other words, the purpose of the firm is "to serve as a vehicle for coordinating stakeholders interests" (Evan and Freeman, 1988:51)[ii].

Trying to find a common point of view with the Shareholder View, the authors of the Stakeholder Theory underline how the pursuing of the social responsibility aims and the satisfaction of the different stakeholders don't imply a reduction of attention towards the shareholders, but, instead, can contribute to the value creation of the firm and, thus, the value for the shareholders as well (Clarkson, 1995; Waddock and Graves, 1997).

The Instrumental Stakeholder Theory (i.e. Clarkson 1995; Donaldson and Preston 1995; Freeman 1984) suggests a positive relation between Corporate Social Performance (CSP) and

Corporate Financial Performance (CFP)[iii], and this relationship has been largely examined in both management and finance literature.

According to this theory, the satisfaction of different stakeholders is an instrument, a tool, in order to improve organizational and financial performance.

The growing interest of the scientific community on this topic have overshadowed the evaluation issues of this phenomenon, as if such investments had a per se value instead of an economic value deriving from them.

The studies and the empirical evidence about the relationship between CSR and financial performance are historically not unanimous, revealing positive, negative or absence of relation and mutual influence. The different findings could be both attributed to the wide array of measures that have been used in empirical studies on CSR and the variety of firm performance definitions provided by the literature (Barney, 2002).

The balance of CSR: building the path towards value

In relation to the link between CSR and financial performance, a part of the literature (among the others, Preston and O'Bannon, 1997) states that this correlation is negative because of the high costs related to these investments, the potential competitive disadvantages (Aupperle *et al.,* 1985) and the difficulty of managers in understanding the real meaning of corporate social responsibility (Friedman, 1962). This point is supported by the theories on managerial opportunism and agency costs (Bearle e Means, 1932; Jensen, 2000; Marcoux, 2000).

At the same time, some authors show the other face of the coin, underlining that CSP is an organizational resource (Orlitzky *et al.*, 2003) that could provide internal or external benefits (or both) and that, moreover, these positive effects can be higher than the related costs.

Internal benefits are related to the development of new competencies, resources, and capabilities that are manifested in a firm's culture, technology, structure, and human resources.

External benefits are, instead, focused on the creation and maintenance of firm reputation that acts as reservoir of goodwill or assurance for the firm.

A comprehensive list of the benefits and costs connected to CSR cannot abstract from:

- reduction of risk;
- reduction of waste of resources;
- improvement of relations with regulators and stakeholders in general;
- improvement of human relations and employee productivity;
- creation of a positive 'moral capital';
- reduction of the cost of capital;
- improvement of internal resources and skills, with a global impact on the intangible assets of the firms;
- obtainment of the competitive advantage as they can lead to more efficient processes, improvement in productivity, lower cost of compliance and new market opportunity;
- development of customer loyalty;
- enhancement of reputation and legitimacy in terms, i.e., of improved credibility with the public and decreased litigation and future liability for environmental damage.

A concrete judgement on the potential value of CSR investment has to go through the analysis of the contribution of the two positions: benefits and costs of CSR.

In short, can CSR help to achieve a competitive advantage or, on the contrary, does it drive up costs to the detriment of financial monetary gain?

The starting idea of this work is that the advantages and benefits of CSR exceed the related costs, and that, thanks to this effect, CSR can create value for stakeholder in general through a process that we call the virtuous CSR balance. With regard to this point, two important clarifications are required. First, our basic assumption, that represents, at the same time, the cornerstone of our study and the hypothesis we are going to test, is that CSR is one of the variables a stakeholder normally consider in his/her decision process. Second, a possible bias in the virtuous CSR balance process regards both the transmission mechanisms and the lag effect that can affect this relationship.

It is simple to assume that a CSR value creation path requires: (a) the correct implementation of a CSR policy; (b) its effective communication; (c) the comprehension of this value by stakeholders; (d) the concrete use of this information by stakeholders and investors in their decisions (investing, buying, etc.).

Along this path many mistakes can occur.

Firms can misevaluate the requirement of the market (or of the main stakeholders) in relation to their sustainability efforts or cannot be able to anticipate law requirements, loosing a possible first mover advantage. Moreover, firms can incorrectly plan the CSR communication strategy, incurring in wrong decisions about the communication channels or the contents (let think about the length of CSR reports, the effective intelligibility of them and, overall, the increasing attention paid to the so called One Report (Eccles and Krzus, 2010)). On the point (c), the literature heavily insists on the time required to transform an investment in CSR (as any intangible and intellectual asset investment) into value. Time is required to develop the project, to implement it, to obtain the first tangible results and, overall, let say to generate the stakeholders' consciousness (in addition to their sensibility to such themes). For what concerns the investors' decisions, individual investors and financial institutions normally try to assess the default risk of

the firm (to which they are going to lend their money) using any available information. Social reports can be used in that sense, but only if they are perceived as reliable, fair and complete (concerning this issue, a discussion on the sustainability reporting standards rises up, assumed by many as a new challenge for the CSR business case).

Figure 1. Prerequisites of the virtuous cycle of CSR

FIGURE 1

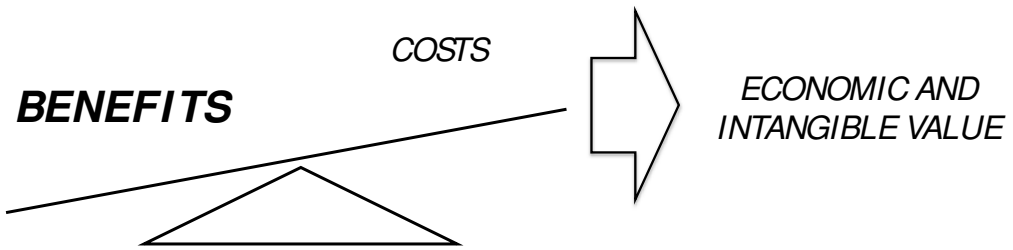
Prerequisites of the virtuous cycle of CSR

BASIC ASSUMPTION: CSR has a positive value for financial markets and it is taken into account by stakeholders for their decisions		
Steps	***Agent***	***Possible bugs***
Definition of the CSR policy	*Firm*	(a) mismatch with the expectation of the market (b) inability of anticipating the market evolution requirements
Implementation of the CSR policy	*Firm*	(a) correct policy but implemented in the wrong time/period (b) wrong budget decisions and abandonment of correct policies
Communication	*Firm*	(a) wrong way of communication (b) wrong channels of communication (c) un-appealing contents
Comprehension	*Stakeholders*	(a) stakeholders do not consider reliable the communication (b) misunderstanding of the CSR policies
Use of the communicated information in the investimng decisions	*Stakeholders*	(a) stakeholders do not consider reliable the communication (b) stakeholders require time to take CSR into account for his/her decisions

Due to these obstacles towards the value creation process, the lack of evidence of the relation between CSR and financial performance doesn't necessarily imply an evidence of lack, simply requiring a more rigorous study of the phenomenon.

The contribution of this work focuses on the potential benefits deriving from the correct implementation of CSR policies and their effective communication, both necessary factors to activate the virtuous cycle of CSR.

Figure 2. The virtuous cycle of CSR



In this framework, we decided to focus on a particular path of value creation, the risk management and the capability of CSR investments at reducing the cost of financial debt.

Corporate Social Responsibility and risk

As finance literature posits, performance and risk are two closely related elements, pivotal in the investment decisions of any economic agent. The existing trade off between returns and risk, in fact, lead managers to focus (at least theoretically) not simply on the short-term financial performance, but on its stabilization in a long-term horizon, trying to avoid the natural variability of results.

In competitive and dynamic environment, the ability to avoid, manage and minimize the risk firm profile, represent a critical element for the survival and the sustainability of the organization: an element that have economic value and on which firms can leverage. According to Menz (2010), credit risk, liquidity risk and systematic risk are components of the risk premium, but are not able

to fully explain it. There are other components, other "missing risk factors" as corporate governance and CSR.

In this scenario, the relationship with key stakeholders assumes a fundamental role, as stakeholders become a part of the environment to be managed, rather than an element that can drive corporate strategic decisions (Berman *et al*., 1999). In this sense, the attention paid by firms to stakeholders has the potential to significantly lower the costs of the firm (Barney and Hansen, 1994; Hill, 1995; Jones, 1995, Wicks *et al.,* 1999) and it is aimed to avoid decisions that will push stakeholders to oppose the organizations objectives or policies (Bowie and Dunfee, 2002), creating an insurance for negative events (Godfrey *et al.,* 2009). In this way, socially responsible firms can obtain less volatile and less risky performance.

Also the growing attention recently paid to CSR audit activities and the debate on the risk management approach, are evidences of the effort in building confidence among stakeholders (Story and Price, 2006) and of the role played by CSR at reducing the perceived risk of firms.

According to Soppe (2004) socially responsible firms are generally considered to be less risky, and Spicer (1978) demonstrates that institutional investors consider low-CSP firms to be riskier investments. This risk arises, *inter alia*, from the possibility of costly sanctions resulting from adverse legislative or regulatory actions, judicial decisions that can affect the consumers' perceptions of the distribution of future costs and revenues.

Spicer noted that, in terms of the theory of finance, an investment in a company that is socially irresponsible could be inefficient. By choosing a similar but socially responsible company, an investor might achieve the same return with less risk. Investors are assumed to consider both risk and the return, and high social responsibility may reduce risk, thus providing an incentive for company managers to invest in positive CSP measures. According to efficient market theory

(Fama, 1970), institutional investors consider both of the above issues when determining the appropriate risk-adjusted discount rate to use in discounting future cash flows.

Hypothesis

As the existing literature shows, the positive effects related to CSR are multiple and with an impact on internal and external firms resources.

Soloman and Hansen (1985) find that having a high level of CSR leads to benefits in employee morale and productivity that recover the related costs. Pava and Krausz (1996) and Preston and O'Bannon (1997) observe that CSR is positively associated with financial performance, also thanks to positive synergies with stakeholders (Stanwick and Stanwick, 1998 and Verschoor, 1998). Ruf *et al.* (2001) find that a change in CSR is positively associated with growth in sales and that returns on sales are positively associated with CSR for three financial periods.

Besides these advantages, the literature contributes on the relation between CSR and reputation (Fombrun *et al.* 2000) or CSR and negative events (Schnietz and Epstein, 2005), underlining the relevance in the risk reduction function and assurance role of CSR.

In this sense, one of the most important and critical advantages linked to CSR is a risk reduction effect that, at least hypothetically, should affect the cost of debt, that normally presents a negative association to the risk faced by the firm.

The literature on the determinants of the cost of debt generally documents a negative association between measures of the risk of the firm and the cost of debt. The literature on Corporate Social Responsibility, as shown, presents risk reduction as one of the potential benefits related to these investments. Thanks to that effect, therefore, we expect that the 'ethical financial premium' will impact on the rate of firms' cost of debt. In our opinion, an efficient financial market should

recognizes a premium to those firms that are socially responsible due to the fact that external environment and stakeholders, such as consumers, associations and institutions, are particularly sensitive on these topics and evaluate positively the CSR actions implemented by the firm, increasing the firm image and value.

This fact should lead to a reduction of the firm risk because a firm better settled in the environment and with a stronger image can face better negative events.

According to Goss and Roberts (2009), we assume that banks have no social agenda to promote and act as neutral agent, "favouring neither the shareholder, nor the multiple stakeholder view of the corporation". The judgment of the banks is assumed as focused only on the ability of the borrower to repay its loan obligations. If CSR policies lead to the advantages above mentioned and, between the others, to a lower risk profile, then banks will provide more attractive loan conditions and terms to responsible corporations. Alternatively, if the costs and disadvantages of CSR are higher than the related benefits, the bank, acting as a 'judge', will not recognize an ethical premium to those firms and, on the opposite, there will be a positive relationship between CSR and cost of debt.

> *H1: The financial market does recognize an ethical financial premium to socially responsible firms, assuming the CSR performance into the cost of debt definition process.*

In order to test this hypothesis, the study will empirically explore, through a linear regression model, the relation between the cost of debt and CSR performance through a sample of 332 companies for a period of 5 years, from 2005 until 2009, in order to test if the financial market rewards socially responsible firms somehow.

Methodology

This research aims at understanding when (and if) financial markets recognize an additional value to CSR policies implemented by the firms, taking them into account in the cost of debt's definition process.

We expect that the cost of debt applied by banks is affected, among the other factors, by the CSP of the firm, expressed by its CSR rating as defined by a leader group traditionally focused on socially responsible investments and on the evaluation of CSR since 1995.

In our opinion, as previously said, the financial market should recognize a premium to those firms that are socially responsible, leading to a reduction of the firm's risk.

Due to the fact that Corporate Social Responsibility actions usually produce effects at least one year later their implementation, we consider a lag time effect (deeper analysed in the following paragraph) of one year between the dependent variable, cost of debt, and the independent variable CSR.

Moreover, in addition to the time lag effect, the model controls for other confounding factors such as size and industry to enhance the internal validity of the findings. In the spirit of building a cumulative tradition of research, this study provides a richer understanding of CSR performance on risk profile of the firms.

In this section we will describe first the sample and the variables, and then the statistic model adopted to test the hypothesis.

Sample

The analysis is conducted testing the hypothesis on a sample of 332 companies and it covers a period of 5 years, from 2005 until 2009, for a total number of observations equal to 1641the e.

The sample is heterogeneous and includes companies from different countries and belonging to different industries.

This sample was obtained starting from the entire sample given by the Dow Jones Sustainability Indexes database. First we selected some countries representative of the different world area. We chose US companies for the USA area, French, German and Italian companies for the European area and Japan as representative of the East Asia area, getting a sample of 459 firms.

From this sample, we took out those companies that did not have CSR score data for at least 3 years of the considered period of time, in order to have the smallest number of missing data and to obtain a reliable sample dataset.

Starting from this smaller sample composed by 376 companies, we obtained all the financial data required to test the hypothesis and we exclude other 14 companies, which didn't have all the required financial data for the 5 years of the considered period of time. The financial data were taken from the Datastream resource.

Once we run the model, all the outliners were eliminated, obtaining a final sample used to test our hypothesis, of 332 firms. The following table summarizes the sample selection process:

TABLE 1

Summary of Sample Selection Screen

Selection Criteria	*Number of firms*
Firms with diclosure scores from 2004 to 2008	459
Less:	
Firms which did not have three concecutives years' score	83
Firms sample with sustainability information	376
Firms lacking financial data	14
Firms outliner dropped in the regression process	30
Final sample for regression	332

Cost of debt

In our model the dependent variable is the cost of debt (i), measured by the ratio 'financial interests expenses on financial debt', which represents a proxy of the total cost of debts faced by the firm.

Interest expenses on debt include all the service charges for the use of capital before the reduction for capitalized interest. Total debt includes all interests bearing debts, including loans, bonds, convertible bonds and short-term financial debt.

The data to build our dependent variable were taken from the Datastream database.

Banks and institutional investors are expected to examine past disclosures to make risk estimates and evaluate the rate of cost of debt to be applied to the firms. Consequently, according to Sengupta (1998), in this study we examine the main variables which affect the cost of debt, with particular regard to the CSR rating of the firm.

The CSR measure

Any research about the relation between social and financial performance has to face the problem of defying and measure corporate social responsibility.

A lot of studies identify and rank CSR characteristics and results by grading its policies and performance (e.g. firm-level data provided by Kinder, Lydenberg, Domini and Co. – KLD), or by surveying how the firm's activities and efforts are perceived (Fortune's Best 100 Companies to work for in America) or by deducting such elements from firms' inclusion (or exclusion) in the portfolio of socially responsible investment (SRI) funds (as, for example, Calvert Social Investment Fund or Domini Social Index Trust). Looking at these studies the conclusion is evident: CSR is not easy to assess and the different measurement solutions are inherently

subjective. Besides these considerations, we took into account for our research the so called Dow Jones Sustainability World Index (DJSWI) of Sustainable Asset Management Research (SAM), which is commonly used in this kind of studies in order to measure the firm-specific quality of CSR, assumed as a relevant explanatory variable in the regression on cost of debt. Notwithstanding the difficulties in measuring corporate social performance, in fact, the DJSWI is a widely recognized and accepted measure of firm-level CSR performance.

The Dow Jones Sustainability World Index comprises the leading companies in terms of sustainability around the world. It captures the top 10% based on long-term economic, environmental and social criteria out of the biggest 2500 companies worldwide. Components are selected according to a systematic corporate sustainability assessment that identifies the sustainability leaders in each of 57 industry groups. The underlying research methodology accounts for general as well as industry-specific sustainability trends and evaluates corporations based on a variety of criteria including climate change strategies, energy consumption, human resources development, knowledge management, stakeholder relations and corporate governance. While no industry is excluded in the selection process and in the composition of the DJSWI, subsets of the index provide investors with the possibility to apply filters against certain sectors[iv].

The Dow Jones Sustainability World Index database consists of a global, European, North American and Asia Pacific, set of indexes on CSR companies' performance. For each of the Dow Jones Sustainability Index, a Corporate Sustainability Assessment methodology is implemented in order to get comparable and homogeneous results in the score valuation. This assessment identifies the leading sustainability companies from the DJSWI universe for each sector and quantifies the sustainability performance of a company by assigning a corporate sustainability score. For each company the input information are given by the companies themselves, through

the fulfilment of a questionnaire, plus reports, policies and publicly available documents of the firms.

The global indexes are composed by sub-indexes. The scores of the global indexes are obtained by the average sum of the sub-indexes score, weighted differently depending on the industry. The global scores have a range from 0 up to 100.

A potential drawback of the SAM score, common to a lot of CSR measurements provided by different independent analysts, could be attributed to the interpretation done by the company filling the questionnaire and, then, to the analyst's perception of corporate disclosure practices.

However, to reduce these potential risks, guidelines are provided to the companies and strict checks and controls are implemented by SAM (i.e. an external review by Deloitte is required).

Following the previous literature (Sengupta, 1998), the CSR scores for each year have been adjusted, calculating the average of the total CSR performance of a firm over two consecutive years (years t-1 and t-2)[v].

Due to the characteristics of CSR investments related to its not immediate effects, before running our model, we provide a one-year lag between the measurement of the independent variable CSR and all the other variables, including the dependent variable cost of debt. In other terms, assuming a long term effect of CSR policies, we assume that the effect of the CSR, especially on the dependent variable, is shifted: the cost of debt at time t is affected by previous CSR performance, in our model the average score obtained in time t-1 and t-2.

This assumption is consistent with the fact that normally CSR investments produce not instantaneous effects, and banks, as the other stakeholders, need time to incorporate the new information on their decisions processes.

The control variables

In order to correctly test the relation expressed in the hypothesis and verify the existence of an effect of the CSR performance on the cost of debt, we considered some control variables that previous literature considered the most relevant in affecting the cost of debt.

The major part of the control variables included in the model mainly impact, directly or indirectly, on the risk profile of the company, acting in this way on the cost of debt applied by the banks to the firms. In particular, the risk depends on the financial structure of the company, its operating profitability, the specific risk level of each firm and the value attributed by the market, as a sort of first general judgement recognized by the external environment.

Moreover, as control variables, we also included the industry in which the firm operates, which can impact on the debt considering if the firm operates in a high or low risky industry (enriching the previous proxy of the specific risk), the country in which the firm is settled, considering that different countries can suffer particular contingent macroeconomic conditions that heavily affect the cost of debt and, last but not least, the size, because there is some evidence that bigger firms present a lower risk profile.

So, consistently with existing literature on the cost of debt, the control variables are:

- Operating Profitability: expressed by the Return on Investments ratio (ROI) and it is expected to be negatively correlated with the cost of debt;
- Financial leverage: expressed by the Net Debt/Total Assets (FIN LEV); it controls for financial pressure and it is expected to be positively correlated with the cost of debt;
- Operating risk: expressed by the unlevered Beta (BETA UNLEV) which is depurated by the financial structure effect. The unlevered beta is the coefficient representing the volatility compared to the market and measures the operating risk; it is expected to be positively correlated with the cost of debt;

- Size: expressed by the Total Assets (TA); it is expected to be negatively correlated with the cost of debt. According to Diamond (1989; 1991) larger firms are better able to withstand negative shocks to cash flow and are thus less likely to default. In addition, there are reputation effects that increase with firm size, hence, larger firms are viewed as less risky by banks and should enjoy lower yields on debt;
- Market Capitalization (MKT CAP); it is expected to be negatively correlated with the cost of debt considering that it represents the evaluation of the market on the firm, thus the more the market recognizes value to the firm, the less the cost of debt;
- Country area: expressed by dummy variables depending on the country area of the firm (US or England, European, East Asia, Others); three dummy variables (D1 ANGL, D2 ASIA, D3 OTHERS) have been created concerning this control variables and the European countries were taken as baseline.

The forecasts on the relationships between the dependent variable and each single independent variable, previously mentioned, reflect prior researches that a firm's beta is positively associated with its expected stock returns (e.g., Sharpe, 1964, Lintner, 1965), that larger firms attract wider media and analyst coverage thus reducing information asymmetry and the cost of equity capital (Bowen et al., 2008), that higher book-to-market firms are expected to earn higher ex-post returns (Fama and French, 1992), and that levered firms earn higher subsequent stock returns (Modigliani and Miller, 1958; Fama and French, 1992).

Here the variables used and the way they were constructed are presented:

TABLE 2

Variables

Variable		*Definition*	Source
DEPENDENT VARIABLE			
i	Cost of debt	Interest Expense on Debt /Total Debt	Datastream
	IE Interest Expense on Debt	Represents the service charge for the use of capital before the reduction for interest capitalized. If interest expense is reported net of interest income, and interest income cannot be found the net figure is shown. It includes but is not restricted to: Interest expense on short term debt; Interest expense on long term debt and capitalized lease obligations; Amortization expense associated with the issuance of debt.	Datastream
	TD Total Debt	Represents all interest bearing and capitilized lease obligations. It is the sum of Long and Short Term debt.	Datastream
INDEPENDENT VARIABLE			
CSR	Corporate Social Responsibility score	SAM average score of CSR performance on the subsequent Corporate Sustainability Assessment Criteria: Economic, Environment and Social.	SAM
	CSR as average	The performance metric CSR is taken as the average of the total performance score of a firm over two consecutive year	SAM
ROI	Return on investment	Return on invested capital. (Net income before Preferred dividends + ((interest expenes - interest capitalized) * (1- tax rate))) / average of last year's and current year's (total capital + last year's Short Term Debt and current portion of Long Term Debt) * 100	Datastream
TA	Total Asset	Represents the sum of Total Current Assets, Long Term Receivables, Investment in unconsolidated subsidiaries, other investments, Net Porperty plant and equiplment and other assets.	Datastream
BETA	Unlevered Beta	An ungeared beta (or asset beta) can be estimated by extracting total debt figures from the company accounts database. Ungeared Beta=Geared Beta*market value/(market value+total debt. Total debt is all borrowings plus loan stock outstanding.	Datastream
MKT CAP	Market Capitalization	Market Price-Year End * Common Shares Outstanding	Datastream
FIN LEV	Financial Leverage	(Long Term Debt + Short Term Debt & Current Portion of Long Term Debt) / Total Assets * 100	Datastream
IND	Industry		SAM
COUNTRY	Country		SAM

Regression Design

The impact of CSR disclosure on a firm's cost of debt is examined testing the hypothesis through a linear regression model:

$$Kd_t = f\ (CSR_{t-1},\ control\ variables_t) \qquad (1)$$

Where Kd_t is the cost of debt at year t and CSR_{t-1} is a measure of CSR performance over a two years period ending in year t-1. All the control variables are in the regression at the t time, the same as the cost of debt dependent variable, considering that, according to the hypothesis of efficient market, their impact occur in the same year in which the cost of debt is applied.

The regression model

Having defined the model and the variables, the following regression is then estimated:

$$i_t = \alpha + \beta_1 CSR_{t-1} + \beta_2 ROI_t + \beta_3 TA_t + \beta_4 BETA\ UNL_t + \beta_5 MKT\ CAP_t + \beta_6 FIN\ LEV_t + \beta_7 IND_t + \beta_8 COUNTRY_t + \varepsilon$$

where:

- *i* is the cost of debt sustained by the companies and expressing the price of lending as described previously;
- *CSR* is the Corporate Social Responsibility score as defined above;
- all the other variables are the control variables described previously, including the intercept α and the error ε.

The expected signs of the coefficients of the variables are presented in the following table:

TABLE 3

Expected relations

The effect of CSR disclosure on the cost of debt

Model: $i_t = \alpha + \beta_1 CSR_{t-1} + \beta_1 ROI\ t + \beta_3 TA_t + \beta_4 BETA\ UNL_t + \beta_5 MKT\ CAP_t + \beta_6 FIN\ LEV_t + \beta_7 IND_t + \beta_8 COUNTRY_t + \varepsilon$

Variable	Predicted sign
INTERCEPT	?
CSR	+
ROI	-
TA	-
BETA	+
MKT CAP	-
FIN LEV	+

Empirical results

The regression analysis has been performed on a cross-sectional basis, on 332 firm-year observations. For each year there were some missing data due to the fact that some companies have started to implement CSR actions in the last three years of the considered time period. As already explained, the panel is composed by firms with at least three CSR score over a 5 years time horizon. Thus, the total number of observations was 1641. Data are analysed with STATA. The descriptive statistics can be summarized in the following table:

TABLE 4

Summary statistics

Variable	N	Mean	Standard deviation	Minimum	Maximum
Cost of debt	1641	.0490	.0287	0.0153	.1057
Corporate Social Responsibility score	1641	64.64	10.06	28.5	92.08
Return on investment	1631	9.83	10.22	-74.09	86.51
Total Asset	1641	1.39e+08	3.96e+08	242055	4.75e+09
Unlevered Beta	1633	.6204	.3526	.08	2.27
Market Capitalization	1617	484182	1.78e+07	34.64	7.17e+08
Financial Leverage	1641	5.72	18.03	.02175	31.3711

In order to verify for the collinearity that can eventually exist among the variables in the regression, we looked at the correlation matrix, which, actually, doesn't highlight any significant collinearity problem among the considered variables:

TABLE 5

Correlation

	i	CSR	ROI	TA	BETA	MKT CAP	FIN LEV
i	1.0000						
CSR	0.0777	1.0000					
ROI	0.2502	-0.0420	1.0000				
TA	-0.2343	0.0359	0.1748	1.0000			
BETA	0.1869	0.0110	0.2183	-0.2578	1.0000		
MKT CAP	-0.0364	-0.0161	-0.0137	0.0886	-0.0164	1.0000	
FIN LEV	0.2745	-0.0270	-0.1504	0.0693	0.0004	0.0063	1.0000

A first glance regarding the relation between the cost of debt and the CSR could be found in the previous Correlation table, which reveals a positive correlation between the two mentioned variables.

We present in the following table the regression results:

TABLE 6

Regression Results

i	Coeff.	Std. Err.	z	P > |z|		(95% Conf. Interval)	
CSR	.0000992	.0000587	1.69	0,091	*	-.0000158	.0002142
ROI	-.0002658	-.0000823	-3.23	-.001	***	-.0001046	-.000427
TA	-0.8.63e-12	1.87e-12	-4.62	.000	***	-1.23e-11	-4.97e-12
BETA	.0074831	.0023738	3.15	.002	**	.0028306	.0121356
MKT CAP	-3.79e-11	4.71e-12	-8.06	.000	***	-4.72e-11	-2.87e-11
FIN LEV	.0003212	.0001164	2.76	.006	**	.0005493	.0000932
D_BANK	-.0047585	.0025446	-1.87	.061	*	-.0097458	.0002289
D_GEN IND	-.0004576	.0024615	-0.19	.853		-.0052821	.0043669
D_MANUF	-.0049876	.0022778	-2.19	.029	**	-.009452	-.0005233
D_UTIL	-.0044355	.0022816	-1.94	.052	**	-.0089073	.0000363
D_RE CONSTR	-.0029108	.0027194	-1.07	.284		-.0082408	.0024191
D_CHEM	-.0014755	.0026365	-0.56	.576		-.006643	.003692
D_ANGL	-.0009089	.0014724	-0.62	.537		-.0037949	.001977
D_ASIA	-.0020714	.0016587	-1.25	.212		-.0053224	.0011797
D_OTHER	-.0010871	.002758	-0.39	.693		-.0064927	.0043185
_CONS	.0422437	.0047524	8.89	.000		-.0329293	.0515582
Adjusted R^2		0.2741					
Chi square		0.0000					
Number of observations		1641					
*	low	0.1	0,05<x<=0.1				
**	medium	0.05	0.001<x<=0.05				
***	high	0.001	x<=0.001				

The significance of the model results very high (Chi square < 0.000) and with a R^2 of 0.2741, which means that the variables can sufficiently explained together the dependent variable.

Our initial hypothesis, H1, aimed at verifying if financial markets do recognize an ethical financial premium to socially responsible firms, including the CSR performance into the cost of debt definition process.

Actually, the results are in contrast with our initial hypothesis. In fact, the dependent variable, cost of debt, appears to be positively and significantly correlated (z = 1,69) with the CSR performance. This sign of the relation means that the higher is the CSR score, the higher the cost applied by the banks to their borrowings, due to the fact that nowadays, banks still do not recognize an investment in CSR as a profitable investment, but it is seen as a waste of money. Thus, the results of the regression seem to confirm that we can not expect a lower cost of debt if the companies behave socially responsible.

The largest part of the control variables included in the model appears significantly correlated with the cost of debt and in line with the expectations and the previous researches.

Aligned with the literature, table 6 shows an inverse relation between the cost of debt and the operating profitability of the company, expressed by the control variable ROI (z = -3,23), which means that the more the company is profitable and has a high ROI, the lower the cost of debt it has to pay to finance itself.

Similarly, a negative and significant relation (z = -4,62) is found between the dependent variable and the size of the company, expressed by the Total Assets (TA) of the firm, which indicates that the larger is the firm, the lower the cost of debt applied by the banks to it, according to previous studies.

The results show also a significant and positive effect (*z = 3.15*) of the risk of the company, expressed by the Beta Unlevered (BETA), on the cost of debt, which indicates that the more the specific risk of the company, the higher the cost of its borrowing. Concerning the financial leverage (FIN LEV), expressed by the ratio between the Debt and the Total Assets, the results show a positive and significant relation (*z = 2,76*) with the dependent variable, highlighting how a high level of debt make the cost of debt rising. Regarding the Market Capitalization variable (MKT CAP), it shows a significant and negative relation with the dependent variable (*z = -8.06*), in line with the expectation and considering that the more is the value attributed to the firm by the market, the lower the risk of the firm and thus, the cost applied by the banks.

The control variable Country (COUNTRY), which considers the area in which the company operates, results no significant for any country. Thus, it seems to be no relation between the cost of the borrowings and the belonging country.

Finally, the Industry (INDUSTRY) variable, expressed by dummies, shows a significant and negative impact on the cost of debt for three industries, named as banks, manufacture and utilities (respectively *z = 0,061*, *z = 0,029 and z = 0,052*). These results has to be read considering that the excluded Industry dummy was the technological sector due to the high level of risk specific of that sector. Thus, we can say that belonging to these three industries has a negative relation with the cost of debt in respect to the firms of the technological sector.

In order to summarize these results, the following table gives an overview of the regression model's conclusions.

TABLE 7

Regression results

The effect of CSR disclosure on the cost of debt

Model: $i_t = \alpha + \beta_1 CSR_{t-1} + \beta_1 ROI\ t + \beta_3 TA_t + \beta_4 BETA\ UNL_t + \beta_5 MKT\ CAP_t + \beta_6 FIN\ LEV_t + \beta_7 IND_t + \beta_8 COUNTRY_t + \varepsilon$

Variable	Predicted sign	Coefficient estimate	Statistically significance
INTERCEPT	?		
CSR	+	+	*
ROI	-	-	***
TA	-	-	***
BETA	+	+	**
MKT CAP	-	-	***
FIN LEV	+	+	**
Adjusted R^2		0.2741	
Chi square		0.0000	
Number of observations	1641		
*	low	0.1	0,05<x<=0.1
**	medium	0.05	0.001<x<=0.05
***	high	0.001	x<=0.001

Conclusions and caveats

In 2010, the European Ethic Funds have registered an increase of 41%, with assets for 75 billion of Euro[vi] and similar results have been registered in the US and Asian markets. The financial crisis, that has shocked the financial markets all over the world, then, seems not to move the

companies away from social investments. On the contrary, CSR has been defined as a successful exit strategy from the crisis itself. The joint memorandum of Ocse and Global reporting Initiative (Gri), aimed at encouraging the utilization of the new Guidelines for Multinational Enterprises, recommends, especially during this period of crisis, the publication and diffusion of non financial information in order to reinforce the relations with the main stakeholders and stabilize the market. At the same time, and that is an undeniable fact, the crisis has strongly changed the financial scenario and its rules, recognizing the risk management systems, the remuneration policies and some financial instruments largely used until now, as the trigger events that have lead to this situation. On this issue, it could be interesting to point out two recent news about some changes in the remuneration policy system.

In the last days of December 2010, the Committee of European banking supervisors (Cebs), in relation to the new strict regulation about the bankers' remuneration system (that reduces the immediate cash benefit and shift in the future a big part of the top managers' remuneration) decided that the banks with a better risk profile will obtain better conditions and flexible bonuses aligned to those of American and Asian competitors. At the same time, different statistics reveal that a growing number of firms (the first movers are the Switzerland companies) have started to link a big part of the managers' variable remuneration to the non-financial performance of the company, primarily measured by CSR evaluation metrics.

This kind of announcements confirms, from one hand, the need for an effective risk management system and, on the other hand, the growing attention toward the CSR investments and the potential advantages obtainable through it.

Among a long list of advantages, a risk reduction effect is often cited as a result of a correct and effective implementation of CSR policy. Due to this effect, this work investigated the relation between the cost of debt, for its nature negative correlated to firms' risk profile, and the CSR

performance in a panel of 332 worldwide companies for a period of 5 years, from 2005 until 2009, for a total number of observations equal to 1641. In doing so, we started from the analysis of risk and its theoretical correlation with the cost of debt (the higher the risk, the higher the cost applied by banks) and CSR (the higher the responsibility reputation or performance, the lower the risk and, consequently, the cost of financing debt).

The findings of this paper are related to a recent line of inquiry on the implication of corporate social performance and disclosure topics on a firm's cost of debt (equity or financial). This study extends the investigation of the consequences of CSP by providing a lack of an evident link between the CSP and the cost of debt. In contrast with our initial hypothesis, that states the financial market does recognize to socially responsible firms an ethical financial premium, assuming the CSR performance into the cost of debt definition process, the results of our study seem to deny the existence of a particular role of CSP in the cost of debt's definition process.

In other terms, and with no differences among the geographic areas analysed, financial markets do not recognize any 'ethical financial premium' to socially responsible companies, instead a positive correlation between cost of debt and CSP is verified in relation to our panel.

It seems to mean that financers do not attribute to CSR practices any important role in reducing the operating risk facing by the firms.

To our knowledge, this paper is one of the few, mentioned above, that examine the impact of social responsibility investments on the cost of debt financing. Although previous studies did not deeply explore this relation, the issue is relevant because debt financing is the predominant form of external financing and the growing investments in CSR could find an additional justification if this relation is proved.

Our results appear partially consistent to Goss and Roberts (2009) that found that firms with the worst social responsibility scores bear a higher cost of debt than the most responsible firms, but

the premium associated with CSR is very modest. This suggest, as in our case, that banks do not regard CSR as a significantly value enhancing or risk reducing factor.

The above results give a first empirical evidence that the cost of debt applied by banks and financial institutions is not affected at all by CSR results. In other terms, we fail to uncover any support for the existence of a 'ethical financial premium' to responsible firms, thesis supported by the Stakeholder View, which underlines how CSR investments can reduce firms' risk and enhance their financial performance.

Coming back to Figure 1, the possible explanations of our results can regard: (a) the basic assumption of our study; (b) the CSR policy implementation bugs.

On the first point, our results can suggest that, in this moment, and in relation to our panel, CSR is seen as a costly distraction of firm resources that increases its risk profile. At the same time, a more depth analysis of our results can regard the possible bugs that, at least theatrically, affect the CSR implementation process. In other terms, and due to some literature results previously commented, our findings are not necessary the proof of the financial market aversion to CSR investments, but the confirmation of market's need of more reliable and clear information.

If our results are justified by the existence of a bug, in fact, it can be an internal bug (related to the actions in which the firm is the agent) or an external one (related to the steps where stakeholders are the agent). In our opinion, the first hypothesis is not viable, because the correctness' level of the CSR performance is evaluated through the CSR proxy itself and, in that way, the model implemented definitely incorporates this possible bias. Thus, only the external biases remain. The negative relation between CSR performance and the risk profile assessment of the market can be justified by: (a) the stakeholders' belief that the information presented by firms are not reliable (and, thus, these information cannot be taken into account for their decisions) (b) a misunderstanding of the CSR policies (c) the time required in order to effectively assume CSR

in the decisions process. On the first point, that in our opinion represents the most critical one, the doubts on the effective reliability of Sustainability Reports and of the different CSR communication instruments developed by firms have already lead the literature's attention toward the mentioned One Report and toward a open and animate discussion on the future CSR communication scenario. Among the others, a possible way to overcome this bias is to develop, as it is already done, and implement general accepted guidelines or principles (as IAS/IFRS or US GAAP, in the accounting world) for the Sustainability Report, in addition to common audit procedures that, if correctly applied, will assure the market on the specific firms' results and communication outputs. The compulsory nature of these instruments is still a far possibility, but the signs of a future change are quite heartening.

Even the second point could be approached as a communication problem: stakeholders miss in understanding the contents or the importance of the CSR policies communicated by the firms, and in doing so they consider these investments as a waste of resources. Besides that, it could be possible that the bias just analysed consists in a variable definition problem. A basic assumption of this work, in fact, is that financial markets are efficient and, specifically, they take the variable CSR into account in order to define the risk profile of a company. We tested this hypothesis using CSP (measured by SAM) as proxy of CSR, assuming that the performance metric is on of the decision drivers of any stakeholders (and, among them, investors). Unfortunately, CSR performance (the results, the outcomes of the implemented policies) not necessary coincides with the stakeholders' perception of the CSR image of a firm and that can create a deep difference between what "I do" and what people think "I'm doing". In other terms this effect can limit the explanation power and relevance of our independent variable CSR (it could be possible that the banks' decisions are more sensitive not to the CSP as whole but to the disclosure about CSR activities).

In relation to the third point, the one concerning the time required in order to consider the CSR variable into the decision process, we are quite confident that our model neutralizes this effect, due to the way it is structured, but, nevertheless, future studies could analyse a broader time period in order to verify our conclusions.

In this study, we contribute to Corporate Social Responsibility Theory, in the field of the relationship between CSP and debt financing cost, by (1) enriching the scarce debate on the link between CSR and cost of debt and (2) broadening the CSR-CFP discussion towards the use of different variables.

Further researches may help shed light in those aspects of CSR that add value and those that do not. More works, concluding, are needed in order to verify and test the relationship between CSR, CSP and cost of debt and to understand how market agents react to firm-level CSR initiatives. On the point, and regarding the possible bugs presented, a very interesting aspect that could enrich the previous discussion and contribute in explaining our results regard the relation between Corporate Social Performance and Corporate Social Disclosure. The success key of any CSR policy, as normally occurs with a lot of other firm's initiative, in fact, is not only connected to its contents and its intrinsic correctness, but its success also depend on the way it is communicated and, moreover, how it is understood and interpreted by the stakeholders and, in this case, by banks and financial institutions. In other terms, further studies could enrich this work using, at the same time, two different variables, used as a proxy of CSR performance and CSR disclosure.

Notes

[i] CSR has been defined in the literature as voluntary corporate actions designed to improve social conditions (Mackey *et al.*, 2007), or as corporate actions not required by law that attempt to further some social good and extend beyond the explicit transactional interests of the firm (McWilliams and Siegel, 2000).

[ii] In this sense, Clarkson (1995) distinguishes between primary and secondary stakeholders. Primary stakeholders are those groups, organizations or persons that continuously engage in the company activities and whose participation is essential for the survival of the corporation. In this category we find employees, suppliers, customers, banks and financial institutions, shareholders, the government and the local community. Secondary stakeholders are those groups who affect or are affected by, influence or are influenced by the corporation; however they do not engage in transaction with the corporation and they are not essential for its survival. Media and various interest groups fall within this category. On the topic, Mitchell *et al.* (1997) underline that secondary stakeholders have legitimate claims on the firms, but lack both urgency and power to enforce those claims.

[iii] Wood (1991:693) defines CSP as a "business organization's configuration of principles of social responsibility, process of social responsiveness, and policies, programs and observable outcomes as they relate to the firm's societal relationships".

[iv] Dow Jones Sustainability World Indexes FACTSHEETS: http://www.sustainability-indexes.com

[v] Analysis was also performed simply using the CSR score for only one year (t-1) and the results obtained were similar to those illustrated in the paper.

[vi] Figures presented in the "Green, Social and Ethical Funds in Europe 2010", prepared by Vigeo with the support od SRI Funds Service and Morningstar.

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Abbrevations

CSR: Corporate Social Performance

CSP: Corporate Social Performance

SRI: Socially Responsible Investment

SAM: Sustainable Asset Management Research

DJSI: Dow Jones Sustainability Index