Corporate social performance and cost of debt: the relationship

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Abstract

Purpose – *This paper aims to investigate the link between corporate social performance (CSP) and cost of debt financing. Despite academic debate has focused on the link between corporate social responsibility (CSR) and CSP (expressed through accounting and market measures of profitability), few empirical researches have analysed the relations between CSR, cost of debt and its relation with the risk profile of a firm. The literature on the cost of debt determinants generally documents a negative association between measures of the risk of the firm and its cost of debt. The literature on CSR defines risk reduction as one of the potential benefits related to CSR activities. Thus, the expectation is that high CSP scores are inversely related to cost of debt.*

Design/methodology/approach – *Using a unique data set of 332 firms over a time period of five years antecedent to the global financial crisis, a linear regression model is applied.*

Findings – *The results show a positive relation between CSP and cost of debt, demonstrating that CSR is not a value driver with an impact on the firm's risk profile.*

Practical implications – *The research has also practical implications as it makes managers aware of the potentiality of CSP to reduce the firm's cost of debt.*

Originality/value – *These findings enlarge the empirical research on the value of CSP, expanding it towards a quite new area of investigation: the cost of external financing.*

Keywords *Risk, Corporate social responsibility, Corporate social performance, Cost of debt*

Paper type *Research paper*

1. Introduction

During the past years, a growing number of organisations have focused their attention on corporate responsibility issues, increasing the number of resources allocated to corporate social responsibility (CSR) activities.

According to the literature, the motivations that lead organisations towards corporate responsibility are disparate and relate to legitimacy, reputation and brand image issues; better relations with stakeholders; employees' health and safety; and social capital.

One of the main reasons behind this trend relates to the idea that a link between corporate responsibility and performance exists. Till the point, there is no unanimous position in the literature, as CSR activities could be seen as a costly diversion of scarce resource or, on the opposite, a strategic tool that managers can leverage on to create tangible and intangible value for the firm.

In this regards, risk management has been seen as a key aspect that may lead firms towards better economic performance. Recently, firms have started to develop sustainability strategies with the aim to avoid different kinds of risks, especially reputational ones. In other terms, they have started to leverage on CSR image as they did previously with marketing, brand awareness and environmental care.

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In this regards, CSR activities have been described by critical researches as marketing or window dressing operations implemented by firms to "appear" socially responsible without any effective and real organisational and managerial change.

Nevertheless, CSR has recently acquired a different role in business strategies, becoming an issue of governance more than a mere communication activity, with a deeper impact on both organisational and financial performance. Specifically, as literature has demonstrated over the years, in most of the cases, socially responsible firms show a better financial performance (Friede *et al.*, 2015; Mattingly, 2015).

Most of the literature, after many discussions on the definition of responsible behaviours (Carroll, 1999; Garriga and Mele, 2004) and their suitability with the profit concept (Epstein, 2007), has focused on the relation between CSR and corporate performance (Margolis and Walsh, 2003; Aupperle *et al.*, 1985; Mackey *et al.*, 2007; McWilliams and Siegel, 2001; Dowell *et al.* 2000; Konar and Cohen, 2001; Di Donato and Izzo, 2012), providing interesting but not unanimous findings (Ullmann, 1985; Deng *et al.*, 2013). If a link exists, it can result from a series of benefits – revenues-related outcomes and cost-related outcomes (Perrini *et al.*, 2011) – that are higher than the structural costs required to implement a concrete CSR policy.

In this regards, we state that CSR activities can a create value for the firm and can improve its economic performance, influencing different aspects such as corporate reputation, risk profile and cost of debt.

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

In particular, we focus our attention on the impact of CSR performance on the firm's risk profile and, through this path, on the cost of debt (ultimately – although not immediately – on firm performance). We build on the stakeholder theory to develop our hypothesis (Freeman, 1984; Davis, 1975; Donaldson and Preston, 1995) and, in particular, we focus on the instrumental view of stakeholder theory (Donaldson and Preston, 1995; Clarkson, 1995; Cornell and Shapiro, 1987, Mitchell *et al.*, 1997). We assume that the pursuit of social responsibilities helps firms to create value, be accountable to larger groups of stakeholders and gain reputational advantages that can impact the firm's overall performance. Thus, we look at a well-known debate from a quite innovative point of view. The relation between CSR and the cost of financing has not been investigated a lot yet. Until now, researches have mainly focused on providing a more general definition of performance and on traditional financial performance indicators (both market-based and accounting-based). Recent studies, finally, concern the link between the CSR and the cost of equity, but not the cost of financial debts.

In our opinion, CSR may have a relevant role in reducing a firm's cost of debt and risk profile. So, if the socially responsible behaviour and the CSR activities imply a reduction of the risk (effective and/or perceived by the market) and, consequentially, an improvement of the financial performance (as the stakeholder theory sustains), banks will apply better conditions on loans granted to the firm. On the contrary, if the financial market does not recognise the potentiality of CSR to reduce firm risk, socially responsible firms may suffer from a competitive disadvantage due to the additional costs that will incur for the resources spent in no risk reduction activities. Even acknowledging the lack of generally accepted definitions of corporate social performance (CSP) (Davenport, 2000), we consider CSP as "a set of descriptive categorisations of business activity, focusing on the impacts and outcomes for society, stakeholders and the firm itself" (Wood, 2010, p. 50). Among the other outcomes, we expect to find a negative relation between CSP and the cost of debt – considered as the overall rate paid by a firm to use debt financing. We refer to banks as a neutral agent among all firms' stakeholders, and we assume that they formulate their

decisions and their evaluations only considering firm's financial leverage, its risk profile and its capacity to meet its financial obligations.

Therefore, the purpose of this work is to enhance the empirical results on the effects of CSR activities on the cost of debt, understanding whether and how CSR activities affect the overall cost of debt sustained.

Our contribution is to try to fill the gap in the empirical literature on the relationship between CSR and cost of debt, extending the traditional research on CSR beyond the focus on cost of equity or performance. Moreover, from a practical point of view, we expect that by analysing the link between CSR and cost of debt, managers will be able to understand the effect of CSR activities on firm's financing costs, with relevant implications for strategic planning.

Our findings show 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 to avoid applying any risk reduction for CSR activities but also consider them as a waste of resources, which, as a consequence, has a negative impact on the cost of financing.

The paper is structured as follows: in Section 2, we introduce the theoretical framework to define the main assumptions of the work. In Section 3, we illustrate the sample of firms taken into account; the main variables; and the regression model adopted. Then, Section 4 shows the main results of the model. The paper concludes by providing some considerations on the results, the main managerial implications, the limits of the model and further researches agenda.

2. Related research and hypothesis development

Some studies (Angel and Rivoli, 1997) examine the impact of CSR activities on firms' cost of equity capital. In particular, they argue that socially responsible investors do not invest in firms whose environmental policies are questionable as they have a higher level of risk (Frederick, 1995; Starks, 2009). Di Giulio *et al.* (2011) demonstrate the existence of a negative relationship between CSP and the weighted average cost of capital, assumed as proxy of the risk perceived by stakeholders. Dhaliwal *et al.* (2011) find that firms exploit the benefit of a lower cost of equity capital associated with the initiation of CSR disclosure.

Goss and Roberts (2011) demonstrate that low-quality borrowers, that engage in discretionary CSR activities, do face higher loan spread. Menz (2010) and Schneider (2011) analyse the relation between CSR and corporate bond: the former from a risk point of view and the latter from the pricing point of view, with mixed findings.

Besides these contributions, to our knowledge, no empirical studies have studied the relation between CSR and debt (equity or financial liabilities). As a demonstration of this "paucity of research on the CSR/performance link from the perspective of debt", Goss and Roberts (2011) underline that of the 52 studies reviewed by Orlitzky *et al.* (2003) and 103 papers reviewed by Margolis and Walsh (2003), 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. Firms' risk can be defined as the risk related to both internal and external operations. Generally speaking, firm risk is the sum of systematic risk (market risk) and unsystematic risk (firm-specific unique risk), and it can affect the firm's structure, its strategy and, in a very relevant way, its profitability.

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, should lead managers to focus not simply on the short-term financial

performance but on its stabilisation in a long-term horizon, trying to avoid the natural variability of results.

In a competitive and dynamic environment, the ability to avoid, manage and minimise risks represents a critical element for a firm's survival and sustainability, as it may have an impact on its overall economic value. 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", such as corporate governance and CSR.

Lee and Faff (2009) show that firms with high CSR scores present lower idiosyncratic risk or lower levels of firm idiosyncratic volatility (Boutin-Dufresne and Savaria, 2004). 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 to be charged for the costly sanctions caused by adverse legislative, regulatory actions and judicial decisions that may affect consumers' perceptions of the distribution of future costs and revenues. Waddock and Graves (1997) argue that socially irresponsible firms may face uncertain future explicit claim, while Hong and Kacperczyk (2009) argue that "sin" firms can face higher litigation risks.

Spicer (1978) notes that, in terms of the theory of finance, investing in socially irresponsible firms can be inefficient. By choosing a similar but socially responsible firm, an investor might achieve the same return with less risk. Investors are assumed to consider both risk and return. In this regards, investing in high social responsible firms may reduce risk (Story and Price, 2006). This can encourage managers to invest in positive CSP measures. According to the 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.

As the existing literature shows (Orlitzky *et al.*, 2003; Fombrun and Shanley, 1990; Fombrun *et al.*, 2000; Ballou *et al.*, 2003; Wright *et al.*, 2001; Porter and Van der Linde, 1995; Russo and Fouts, 1997; Izzo, 2014), 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 benefits employees' morale and productivity, recovering the costs related to CSR activities (Backhaus *et al.*, 2002). Pava and Krausz (1996), Preston and O'Bannon (1997), and more recently Wang *et al.* (2016) observe that CSR is positively associated with financial performance, as it creates positive synergies between the firm and its stakeholders (Stanwick and Stanwick, 1998; 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 along 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 assurance role of CSR and its risk reduction function.

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 CSR, as shown, presents risk reduction as one of the potential benefits related to these activities. As a consequence, we expect that a high CSP score may positively impact the rate of firms' cost of debt. In our opinion, an efficient financial market should recognise a premium to those firms that are socially responsible, because of 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's image and value.

Following the studies of Goss and Roberts (2011), we assume that banks have no social agenda to promote and, acting as neutral agents, they "are interested solely in the ability of the borrower to repay its loan obligations". If CSR activities lead to the advantages mentioned above and to a reduction of firm's risk profile, we expect that banks will provide more attractive loan conditions to responsible firms. Alternatively, if the costs and disadvantages of CSR are higher than the related benefits, banks, acting as "judges", will not recognise better credit conditions to social responsible firms. This leads to the following hypothesis:

H1. High CSP scores are inversely related to cost of debt.

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 firms for a period of five years, from 2005 until 2009.

3. Sample and methodology

This research aims at determining whether and how CSP is related to firm's cost of financial debt.

We expect that the cost of debt applied by banks is affected, among the other factors, by the firm CSP, expressed by its CSR rating as defined by Dow Jones Sustainability Index provided by S&P Dow Jones Indices and RobecoSAM (Sustainable Asset Management [SAM]).

In our opinion, the financial market should recognise a premium to those firms that are socially responsible and that are reducing their risk thanks to this commitment. In this regards, we expect that if CSR activities lower risk (and at the same time improve a firm financial performance), then banks will favour firms with more attractive loan conditions.

Considering that CSR actions usually produce effects not immediately but in the long period, 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, assuming that financial institutions require at least one year to properly evaluate firms' CSR actions and effects produced.

In addition to the time lag effect, the model takes into account also other confounding factors such as firms' 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.

3.1 Sample

The analysis is conducted by testing the hypothesis on a sample of 332 firms, and it covers a period of five years, from 2005 until 2009, for a total number of observations equal to 1,641.

The sample is heterogeneous and includes firms 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, distinguishing among different world areas.

Then, we took out those firms not presenting CSR score data for at least three years of the considered period of time to have the smallest number of missing data and to obtain a reliable sample data set.

For this smaller sample composed of 376 firms, we got the financial data from the Datastream database.

After eliminating 44 firms because of missing data, our final sample contains 332 disclosing firms.

Table I summarises the composition of the used sample.

3.2 Cost of debt

To test *H1*, we examine whether a high score in CSP in the previous year gives firms an advantage in terms of a lower cost of debt of our sample firms in the current year.

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

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

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 at t time in the regression, the same as the cost of debt, dependent variable, considering that, according to the hypothesis of efficient market, their impact occurs in the same year in which the cost of debt is applied.

Then, the following regression is then estimated:

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

where *Kd* is the cost of debt measured by the ratio "financial interests expenses on financial debt", which represents a proxy of the total cost of debts sustained by the firm. Interest expenses on debt include all the service charges for the use of capital before the reduction for capitalised interest. Total debt includes all interests bearing debts, including loans, bonds, convertible bonds and short-term financial debt.

Banks are expected to examine past disclosures to market risk estimates and evaluate the rate of cost of debt to be applied to the firms. Consequently, building on Sengupta (1998), we examine the main variables that affect the cost of debt, with particular attention to the expected impact of CSR on risk.

To proxy for firm's CSR performance, we use the indicator CSP. A lot of studies identify and rank CSR characteristics and results by grading its activities and performance (e.g. firm-level data provided by MSCI ESG STATS database, formerly known as KLD database), 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 (e.g. Calvert Social Investment Fund or Domini Social Index Trust). Looking at these studies, the conclusion is evident: CSR is not easy to be assessed and the different measurement solutions are

Table I Sample composition

	Country area				
Industry	*USA*	*Europe*	*East Asia*	*Others*	*Total*
Financial services	36	20	15	4	75
General industries	45	51	8	4	108
Utilities	17	22	9	5	53
Real estate/construction	9	14	1	1	25
Technologies/communication	19	11	24	2	56
Chemicals/pharmaceuticals	6	5	4	–	15
Total	132	123	61	16	332

Note: This table reports the industry and the county area of the firms composing the final sample

inherently subjective. Besides these considerations, we took into account the Dow Jones Sustainability World Index (DJSWI) of SAM research, commonly used to measure the firm-specific quality of CSR, because it quantifies the sustainability performance of a firm by assigning a corporate sustainability score to CSR firms' performance. Despite the difficulties in measuring CSP (Carroll, 1979), the DJSWI is a widely recognised and accepted measure of firm-level CSR performance.

Building on Sengupta's (1998) approach, the CSR scores for each year have been adjusted by calculating the average of the total CSR performance of a firm over two consecutive years (years $t - 1$ and $t - 2$). 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.

Because of the not immediate effects of CSR activities, 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. In other terms, assuming a long-term effect of CSR activities, 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 scores obtained in time $t - 1$ and $t - 2$.

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

We consider a number of control variables in the regression, which are derived from previous researches. Most of these variables mainly impact, directly or indirectly, the risk profile of the firm. In particular, the risk depends on the financial structure of the firm, its operating profitability, its specific risk level and the value attributed by the market, as a sort of first general judgement recognised by the external environment.

Moreover, we took into account the industry as control variable, considering that lenders could apply a higher cost to firms operating in high risk industries (enriching the previous proxy of the specific risk). The firm's country has also been taken into account considering the different institutional pressure on firms in various countries and their impacts on CSR investment, quality and disclosure (Carnevale and Mazzuca, 2014). Indeed, we presume that different countries can suffer particular contingent macroeconomic conditions that heavily affect the cost of debt. Finally, the size of the firm has been considered as a relevant control variable for our model, 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 assumed in the regression model are as follows:

- *Operating profitability*: This is expressed by the return on investments (ROI) ratio. It is expected to be negatively correlated with the cost of debt.
- *Financial leverage*: It is expressed by the net debt/total assets (FIN LEV). It controls for financial pressure and is expected to be positively correlated with the cost of debt. Firms with higher leverage are expected to pay higher spreads.
- *Operating risk*: It is 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*: It is expressed by the total assets (TA). It is expected to be negatively correlated with the cost of debt. According to Diamond (1989, 1991) and Goss and Roberts (2011), larger firms are better able to withstand negative shocks to cash flow and are

less likely to default. In addition, there are reputation effects, positively related to firm size, that can lead investors to assume larger firms to be less risky.

- *Market capitalisation*: It is expressed as MKT CAP and is expected to be negatively correlated with the cost of debt. It represents the evaluation of the market on the firm. So, we assume that the value of a firm, as recognised by the market, is inversely proportional to its cost of debt.
- *Country area*: It is expressed by dummy variables that depend on the country area of the firm (Europe, USA or England, East Asia, others); three dummy variables (D1 ANGL, D2 ASIA, D3 OTHERS) have been created concerning these control variables. European countries have been taken as baseline.

Multiple correlation among the explanatory variables do not reveal multicollinearity issues as their values are low.

The forecasts on the relationships between the dependent variable and each single independent variable reflect prior studies 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).

Appendix contains complete definitions and source of all variables.

4. 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 because some firms have started implementing CSR actions in the past three years of the considered period of analysis. The final sample, being composed of firms with at least three CSR scores over five years in respect to our time horizon, leads to a total number of observations of 1,641.

Data are analysed with STATA.

The descriptive statistics can be summarised in Table II.

The regression results are presented in Table III.

The significance of the model results in high χ^2 (<0.000) and with a R^2 of 0.3567, which means that the variables can sufficiently be explained together with the dependent variable.

The results of the model contrast with our hypothesis, which aimed at verifying if high CSP scores are inversely related to cost of debt: the dependent variable, cost of debt, appears to be positively and significantly related ($z = 1.79$) with CSP proxy, suggesting that banks do not interpret a high CSP as a risk reduction factor. Our results suggest that banks register CSR activities as a costly diversion of firm resources or, even worst, an activity that can, at least hypothetically, lead to an increase in risk. This result is coherent with previous studies on CSR overinvestment, which illustrate how managers overinvest in CSR activities to gain private benefits at the expense of shareholders' needs. Barnea and Rubin (2010) affirm, in fact, that overinvestments in CSR occur when managers get incentives from the implementation of CSR initiatives and he/she can obtain an advantage from them, while the cost is borne by the shareholders. The accreditation of incentives for CSR then stimulate managers to act egoistically at the expenses of a firm stakeholders' needs. In this case, high levels of CSP could be interpreted as a factor that will increase risk, with an immediate effect on the cost of debts.

Table II Summary statistics

Variable	*Mean*	*SD*	*Minimum*	*Maximum*
I	0.0490	0.0287	0.0153	0.1057
CSR score	64.64	10.06	28.5	92.08
ROI	9.83	10.22	−74.09	86.51
TA	1,057,897	7.76	242,055	20,987,446
BETA	0.6204	0.3526	0.08	2.27
MKT CAP	13.0902	2.98	34.64	2,487,515
FIN LEV	3.83	15.24	0.02175	8.56

Notes: This table reports the descriptive statistics of the principal variable. The sample consists of 1,641 firms. The financial data are collected from Datastream database. CSR score is extracted form SAM; Appendix contains complete definitions of all variables; N = 1,641; i = cost of debt

Table III Regression results

i	*Coefficient*	*Standard error*	z	*P > |z|*	*(95 % CI)*	
CSR	0.0720	0.0431	1.79	0.085*	−0.0125	0.1565
ROI	−0.4320	−0.0153	−3.22	−0.001***	−0.4020	−0.4620
TA	−0.1682	−0.0126	−3.98	0.000***	−0.1435	−0.1929
BETA	0.1719	0.0134	3.34	0.001***	0.1456	0.1982
MKT CAP	−0.0425	−0.0256	−6.72	0.000***	0.0076	−0.092676
FIN LEV	0.2860	0.0292	2.56	0.007**	0.2288	0.343232
D_BANK	−0.0048	0.0025	−1.75	0.072*	−0.0097	0.0002
Controls						
Industry		Yes				
Country		Yes				
Adjusted R^2		0.3567				
χ^2		0.0000				
Number of observations		1,641				

Notes: This table shows the coefficients from the regression aimed to verify *H1*; The dependent variable is the cost of debt. Descriptions of the explanatory variables are provided in Appendix; Indicator variables for year, industry and country are included in the regression, but coefficients are not reported; *low 0.1 0.05 < x < = 0.1; **medium 0.05 0.001 < x < = 0.05; ***high 0.001 x < = 0.001; i = cost of debt; CSR = corporate social responsibility; ROI = return on investment; TA = total assets; BETA = unlevered beta; MKT CAP = market capitalisation; FIN LEV = financial leverage; D_BANK = dummy variable for industry (banks)

At the same time, our findings are not necessary the proof of the financial market aversion to CSR activities, but the confirmation of market's need of more reliable and clearer information.

The negative relation between CSR performance and market risk profile assessment can be justified by:

- the stakeholders' belief that the information presented by firms is not reliable (and, thus, this information cannot be taken into account for their decisions);
- a misunderstanding of the CSR activities; the market's operators do not correctly perceive what firms declare in their reports in relation to CSR activities; and
- the time required to effectively assume CSR in the decisions process.

Concerning the first point, which in our opinion represents the most critical one, doubts on the reliability of sustainability reports and other CSR communication instruments developed by firms have already moved the attention of an increasing number of studies towards an alternative form of reporting, such as the integrated report, stimulating 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 mandatory guidelines or principles (as IAS/IFRS or USA GAAP) 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 are not aware of the contents or the importance of the CSR activities communicated by firms, and, for this reason, they consider these activities as a diversion of firm resources. A basic assumption of this work, in fact, is that financial markets are efficient, and, specifically, they take the variable CSR into account to define the risk profile of a firm. We tested this hypothesis using CSP (measured by SAM) as proxy of CSR, assuming that the performance metric is one of the decision drivers of any stakeholders (and, among them, banks). Unfortunately, CSR performance is a "multidimensional construct that encompasses a large and varied range of corporate behaviour in relation to its resources, processes and outputs" (Brammer and Millington, 2008, p. 1326) and does not necessarily coincide with the stakeholders' perception of the CSR image of a firm. In other terms, this effect can limit the explanation power and relevance of our independent variable (it could be possible that banks' decisions are more sensitive not to CSP as whole but to a firm disclosure of its CSR activities). As Moser and Martin (2012) posit, a limitation of the studies based on archival data refers to the fact that "current disclosures do not provide direct data on CSR expenditures or on the profitability of such expenditures".

In relation to the third point, concerning the time required to consider the CSR variable into the managers' decision making process, we are confident that our model neutralises this effect because of the way it is structured. However, future studies could broaden the time period of analysis to verify the [. . .] applicability/reliability/veracity of our conclusions.

The largest part of the control variables included in the model appears significantly correlated with the cost of debt, in line with our expectations and previous studies' results.

In accordance with the literature, Table III shows an inverse relation between the cost of debt and the operating profitability of a firm, expressed by the control variable ROI ($z = -3.22$), which means that more the firm is profitable from an operating point of view, the lower cost of debt it has to pay to finance itself.

Similarly, a negative and significant relation ($z = -3.98$) is found between the dependent variable and the size of the firm, expressed by the TA of the firm, which indicates that the larger is the firm, the lower is the cost of debt applied by banks, in accordance with previous studies results.

The results show also a significant and positive effect ($z = 3.34$) of the risk of the firm, expressed by the unlevered beta (BETA), on the cost of debt, which indicates that the more the specific risk of the firm, the higher the cost of its borrowing. Concerning the financial leverage (FIN LEV), expressed by the ratio between the debt and the TA, the results show a positive and significant relation ($z = 2.56$) with the dependent variable, highlighting how a high level of debt makes the cost of debt rising. Regarding the market capitalisation variable (MKT CAP), the model shows a significant and negative relation with the dependent variable ($z = -6.72$), in line with the expectation. This result is also due to the inverse relation between the value attributed to the firm by the market and the risk profile of the firm, thus the cost applied by the banks.

The control variable country (COUNTRY), which considers the area in which the firm operates, is not significant.

Finally, the variable controlling for the industry (INDUSTRY), expressed by dummies, shows a significant and negative impact on the cost of debt for three industries, namely, banks, manufacture and utilities (respectively $z = 0.061$, $z = 0.029$ and $z = 0.052$). These results have to be interpreted considering that the excluded industry dummy was the technological sector because of its high level of risk. Thus, we can say that belonging to

these three industries has a negative relation with the cost of debt in respect to the firms operating in the technological sector.

5. Summary and conclusions

In 2013/2014, the European SRI retail fund market has continued to grow: assets under management (AUM) are now €127bn (€108bn last year) within 957 funds (922 in 2013) (Vigeo, 2014). At the same time, SRI funds and market shares increased, recording remarkable increases in The Netherlands (17.8 per cent of the national AUM), Belgium (7.5 per cent), France (4 per cent), Switzerland (3.8 per cent) and Germany (3.1 per cent). The financial crisis that has shocked the financial markets all over the world seems not to heavily move firms away from social activities. 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, aimed at encouraging the utilisation of the new Guidelines for Multinational Enterprises, recommends the publication and diffusion of non-financial information to reinforce the relations with the main stakeholders and stabilises 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 caused this situation.

Among a long list of advantages, a risk reduction effect is often cited as a result of a correct and effective implementation of CSR activities. Consequently, this work investigated the relation between the cost of debt, for its negative correlation with firms' risk profile, and the CSR performance in a panel of 332 worldwide firms over a period of five years, from 2005 until 2009, for a total number of observations equal to 1,641. In doing so, we focused on firms' risk and their 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 analysis has been conducted in a pre-crisis scenario to avoid distorted results after 2009 due to the crisis and its consequences. Future studies could focus on the same issue after the crisis to verify whether the results are still actual. It is reasonable to assume that the post-crisis scenario presents significant changes in the factors that affect firm and market risks, with consequences on banks' credit financing decisions.

The findings of this paper are related to a recent line of inquiry on the implication of CSP and disclosure topics on a firm's cost of financing. This study extends the investigation of the consequences of CSP by filling the lack of an evident link between the CSP and the cost of debt. In this regards, we investigate whether managers should focus on CSR to get a positive effect on cost of debt financing. According to the outcomes of the research, CSP does not play a pivotal role in the cost of debt's definition process, in contrast with our hypothesis that high CSP scores are inversely related to cost of debt. Thus, we conclude that the hypothesis is not verified and document a positive correlation between cost of debt and CSP.

These results suggest that banks do not attribute to CSR practices an important role in reducing the operating risk facing by the firms.

To our knowledge, this paper is one of the few that examine the impact of social responsibility activities on the cost of debt. Although previous studies did not deeply explore this relation, it represents a relevant issue to be explored, as financial debt is one of the predominant forms of external financing for firms and the growing investments in CSR could be justified if this relation is proved.

Our results appear to be partially coherent with Goss and Roberts (2011), who found that low-quality borrowers who engage in discretionary CSR activities face higher loan spreads

and shorter maturities. This suggest, as in our case, that banks do not regard CSR as a significantly value-enhancing or risk-reducing factor.

In this study, we contribute to the CSR theory, in the field of the relationship between CSP and debt financing cost, by:

- enriching the scarce debate on the link between CSR and cost of debt; and
- broadening the CSR-CFP discussion towards the use of different variables.

Further studies may help shedding light on the relationship between CSR, CSP and cost of debt and understanding 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 at explaining our results regard the relation between CSP and corporate social disclosure. The success key of any CSR policy, in fact, is related not only to its contents and its intrinsic correctness but also to the way in which it is communicated and is understood by a firm' stakeholders (Wood and Jones, 1995), banks and financial institutions. Managers should consider that the lack or the misleading communication on CSR actions could actually lead to a failure of CSR potential benefits to the firm itself, affecting, among all the other mentioned aspects, the cost of debt financing. Thus, further studies could enrich this work using, at the same time, two different variables, distinguishing between CSR performance and CSR disclosure.

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Appendix

Table AI 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 capitalised. 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 capitalised lease obligations; amortisation expense associated with the issuance of debt	Datastream
	TD Total debt	Represents all interest bearing and capitalised 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 years	SAM
ROI	Return on investment	Return on invested capital = (net income before preferred dividends + [interest expenses − interest capitalised] × [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 property plant and equipment and other assets	Datastream
BETA	Unlevered beta	An ungeared beta (or asset beta) can be estimated by extracting total debt figures from the firm 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 capitalisation	Market price-year end × common shares outstanding	Datastream
FIN LEV	Financial leverage	(Long-term debt + short-term debt and current portion of long term debt)/total assets × 100	Datastream
IND	Industry		SAM
COUNTRY	Country		SAM

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