

Corporate social responsibility report, debt capital cost— Evidence from Chinese A-share listed firms in the environmental sensitive industries

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Abstract. The disclosure of corporate social responsibility reports can reduce the cost of obtaining information for stakeholders, help investors analyze and decide. This paper empirically examines the relationship between social responsibility reporting and debt capital costs in the industry using data from environmentally sensitive companies listed on the Shanghai and Shenzhen A-shares in 2013-2016. The results of the study show that such corporate social responsibility report disclosure has a significant negative impact on the cost of debt capital; furthermore, the higher the quality of social responsibility reporting, the more beneficial to reduce the cost of debt capital, and this negative relationships are more pronounced in state-owned enterprises.

1. Introduction

In the 19th CPC National congress report of 2017, it pointed out that in the new era of economic development, it is necessary to optimize the economic structure and transform the growth ways. Enterprise requires sufficient financial support to transform and upgrade. Statistics shows that financial institutions (such as banks) provide about 75% of loans for social financing, most corporate financing comes from bank loans. Environmentally sensitive enterprises with heavy pollution characteristics, facing the grim environmental remediation and financial deleveraging, reducing debt financing costs has become the first appeal. While, under this pressure financial institutions will loans to this enterprise, prudently. Whether social responsibility reports and political behaviors of such enterprises can effectively reduce the cost of debt and obtain credit support remains to be tested. Contributions: 1, From the perspective of resource dependence theory and transaction cost theory; discussed the environmental risk responsibility report of the company and reduces the debt capital cost path, which provides reference for the familiar enterprises of bank credit decisions. 2, Enriched the literature on corporate social responsibility and political behavior.

2. Hypothesis

With the deepening development of the sustainable economic transformation, as the carrier of corporate to disclose social responsibility information, the CSR report plays an important role in the capital market. In July 2007, “green-credit policy” issued, requiring commercial banks to control credit for environmentally illegal enterprises and increase credit for green environmental protection enterprises. Easley (2004) has confirmed that information risks due to information asymmetry are not dispersed. When information is asymmetric, credit institutions reduce the risk of lending by raising capital prices. From Signaling Theory, investors can obtain useful information through voluntary information disclosure, and effectively reduce asymmetry of market information. The disclosure of CSR reports from environmentally sensitive companies compensates non-financial information, improves transparency, reduces asymmetry, and alleviates financing constraints.

Therefore, we propose the following assumption: H1, Disclosure of the CSR report of environmentally sensitive corporates can reduce the debt capital cost.

In the context of China's "Emerging + Transformation", governments are both market regulators and configurators of key resources, which have a significant impact on corporate development. Political connection provides special access to government resources and information for companies. From resource dependence theory, corporates maintain relationships with key stakeholders can reduce risk caused by resource constraints. Politically connected companies exchange legality and resources by responding to government social responsibility "calls". Then, the government has tangible or intangible endorsements for these enterprises, which will reduce the assessment risk of debt repayment. And, the state-owned enterprises are "born" in the government have lower risk and better solvency in the bank credit evaluation through their natural political connections, thus reducing the debt capital cost. Therefore, we propose the following assumption: H1a, The negative correlation between the CSR report disclosure and debt capital cost is more obvious in state-owned enterprises.

At present, the disclosure of the CRS report is infancy in China; enterprises have greater autonomy and randomness, which inevitably leads to mix quality of reports. According to Transaction Cost Theory, high-quality information disclosure can lower information asymmetry and reduce transaction costs. Unrealistic and incomplete information disclosures of enterprises force the fund suppliers to raise prices. While, creditors obtain adequate and reliable information through high-quality social responsibility reports, which effectively reducing the cost of information search, screening and loan risk assessment costs, improving information transparency and symmetry, and saving transaction costs. Therefore, we propose the following assumptions: H2, The higher quality of the CSR report for environmentally sensitive companies, the lower debt capital cost.

Facing external pressures, the organization may adopt a decoupling approach, which obeying on the surface, actually not executing (Greenwood, 2011). In the context of high political cost and economic transformation, private enterprises with a shot average life are very likely to adopt decoupling strategies to avoid "crowding out" by social responsibility fulfillment. With the sensitivity of the political environment rises, the government supervises affiliated companies strongly; if the company only responds to the government signal and does not implement it in substance, will lose legitimacy and resources after being discovered. State-owned enterprises that are born with public interest genes are motivated to fulfill their social responsibilities and maintain a benign connection with government, so the disclosed high-quality social responsibility report is more authentic. Therefore we propose the following hypothesis: H2a, the negative impact of CSR reporting quality on debt capital costs is more pronounced in state-owned enterprises.

3. Research design

Selects the debt capital cost (COD) = interest expense / (financial expenses + management fees + sales expenses) as Explained variable , the total score (Account) of RuiLing rating company for all social responsibility reports disclosed by listed companies as explanatory variables, drawing on the research of Pittman, Xianjie He. The specific indicators are shown in Table 1.

Table 1. Variables definition and description

Variable type	Symbol	Variable names and metrics
Explained variable	COD	Interest expense/(financial expense + administrative expense + sales expense)
Explanatory variables	CSR Amount	Social responsibility report, disclosed is 1; otherwise, it is 0 Total social responsibility report score
Control variables	Size	the enterprise scale, take the logarithm of the total assets
	ROA	Return on assets, Net profit after tax/total assets
	LEV	Asset-liability ratio, Total assets/total liabilities
	Ind	Industry dummy variable, a particular industry is 1, otherwise ,it is 0
	Year	Annual dummy variable, a particular year is 1, otherwise, it is 0

Based on the research of Grahm (2014), we established the following model: $COD_{i,t+1} =$

$\beta_0 + \beta_1 \text{Independent}_{i,t} + \beta_2 \text{Size}_{i,t} + \beta_3 \text{ROA}_{i,t} + \beta_4 \text{LEV}_{i,t} + \beta_5 \text{Ind}_{i,t} + \beta_6 \text{Year}_{i,t} + \varepsilon_{i,t}$. When testing hypotheses H1 and H1a, Independent is CSR variable, then testing H2 and H2a, Independent is Account; ε is a random error term. Considering possible endogenous problems, the explanatory variables and control variables in the model are all delayed by one period. Further, by ultimate controller of this enterprise, divides the sample into state-owned or private enterprise groups and makes regression analysis separately. Referring to <The listed enterprise environmental protection verification industry classification management directory>, <Environmental disclosure guidelines for listed companies> and SFC industry classification standards, Screened 715 samples of environmentally sensitive companies. Other data comes from the Wind and CSMAR database.

4. Empirical results and analysis

From table 2, the mean of COD is 21.55%, indicating that the interest expense is large for corporate debt. Meanwhile, the difference between the maximum value and the minimum value is 103%, which means there is a large gap in the cost of debt capital between enterprises. The average value of Account is only 41.29, showing that quality of the CSR report has low level in environmentally sensitive industries. The highest score is 77.19, the lowest is 25.46, means a big difference in the quality of CSR reports. That said, the industry is in an unbalanced financing state and lacking of motivation to actively disclose or improving the quality of CSR reports.

Table 2. Descriptive statistics of main variables

Variable	Obs	Mean	Std. Dev.	Min	Max
COD	2856	0.2155	0.2250	0.0000	1.0336
Size	2856	22.3105	1.2905	19.7034	26.1791
ROA	2856	0.0314	0.0613	-0.2207	0.2040
LEV	2856	0.4462	0.2204	0.0505	0.9752
CSR	2856	0.2612	0.4394	0.0000	1.0000
Account	800	41.2920	11.3243	24.8365	77.1944

To test hypothesis H1, H1a, used explanatory variable CSR to carry out OLS multivariate statistical regression on model (1) with controlled industry and year, and the results are shown in table 3. The regression coefficient of CSR is negative and significant at the 1% level, so hypothesis H1 is verified. Under the same conditions, environmental companies could reduce the debt capital cost by 2.93% through releasing the CSR report. Regressing the state-owned enterprise group and the private enterprise group, respectively. The coefficient of variable CSR is negative, and it is significant at the level of 1%. At the same time, the disclosure of social responsibility report can reduce the corporate debt capital cost by 3.59%, which is higher than the whole sample and also than private enterprises. Therefore, H1a is verified.

Table 3 Debt capital cost, The CSR disclosure

Explanatory variables	Explained variable COD		
	All samples	State firms	Private firms
CSR	-0.0293*** (-0.0067)	-0.0359*** (-0.0096)	-0.013* (-0.0089)
Size	-0.0487*** (-0.0027)	-0.0533*** (-0.0040)	-0.0446*** (-0.0034)
ROA	-0.244*** (-0.0574)	-0.0928 (-0.0867)	-0.543*** (-0.0727)
LEV	0.417*** (0.0168)	0.403*** (0.027)	0.394*** (0.0194)
Constant	-1.072*** (-0.0596)	-1.213*** (-0.087)	-0.818*** (-0.075)
Ind	Control	Control	Control
Year	Control	Control	Control
Obs	2856	1438	1418
Adj- R2	0.595	0.616	0.515

Table 4 Debt capital cost, The CSR scores

Explanatory variables	Explained variable COD		
	All samples	State firms	Private firms
Account	-0.00277*** (-0.00053)	-0.00297*** (-0.00067)	-0.00140** (-0.00068)
Size	-0.0519*** (-0.0051)	0.0570*** (0.0059)	0.0196** (-0.0086)
ROA	-0.431*** (-0.124)	-0.230*(-0.138)	-1.026*** (-0.218)
LEV	0.494*** (0.0388)	-0.0782* (-0.0432)	0.0498*** (0.0153)
Constant	-1.078*** (-0.108)	-1.211*** (-0.125)	-0.115*** (-0.183)
Ind	Control	Control	Control
Year	Control	Control	Control
obs	800	587	213
Adj- R2	0.649	0.637	0.734

Note: ***, **, and * indicate significant levels at 1%, 5%, and 10%, respectively.

To test the hypothesis H2 and H2a, regressed the relationship between the quality of CSR report and the debt capital cost with control of industries and years. In Table 4, the relationship between them is negative and significant at the level of 1%, assuming H2 is verified. With the quality of the CSR report improves by 1 percentage point the debt capital cost will decreased by 0.28%. From group tested, the quality of CSR reporting (Account) of state-owned enterprises is more significant in reducing the cost of debt capital (COD), thus proving the hypothesis of H2a. About control variables, the asset-liability ratio (LEV) is significantly positively correlated with the debt capital cost (COD). The company's profitability (ROA) is significantly negatively correlated with the debt capital cost (COD), means company's profitability and solvency are the important factors of debt capital cost.

5. Research conclusions

Environmental sensitive enterprises disclosed the CSR reports would reduce debt capital cost, and the negative impact on state-owned enterprises is greater. It means in sever macroeconomic environment, the disclosure of CSR report can effectively alleviate financing difficulties. Further, the higher the quality of CSR report, the lower the debt capital cost. The negative impact on state-owned enterprises is still higher than private enterprises. The responsibility of state-owned enterprises, risk awareness, survival dilemma of private enterprises and financial pressure finally make them adopt different coping strategies.

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