

# Corporate Social Responsibility and Financing Constraints: Empirical Evidence from China's Listed Corporates

<sup>1,a</sup>Xilun Zhu

<sup>1</sup> Zhejiang University, Hangzhou, Zhejiang 310013, China

<sup>a</sup>xilunzhu@sina.com

**Keywords:** Corporate Social Responsibility, Financing Constraints, Information Disclosure Degree.

**Abstract.** By empirical analysis, this paper discovers that corporates with better social responsibility will face lower financing constraints. Besides, better stakeholder engagement and better CSR disclosure will significantly lower the financing constraints; and when test one after controlling the other, stakeholder engagement remain obvious significant while CSR disclosure lose significance.

## Introduction

In recent years, corporate social responsibility (hereinafter referred to as CSR) attracts wild attentions, yet related research in China is relatively less. This paper researches whether CSR is closely related to financing constraints in Chinese market from the view of China's listed companies. In this paper, we prove CSR has obvious negative correlation with financing constraint, namely corporates with Better CSR performance face with lower financing constraints.

## Theoretical Analyses and Research Hypothesis

With the development of social economy, corporate pays more attention to its sustainable development while pursuing benefit maximization and society calls for more social responsibility of the corporate. On May 14th, 2008, Shanghai Stock Exchange publishes "Published Notice on CSR Enhancement of Listed Corporate" and encourages corporate to release social responsibility report. But the relation of CSR performance and corporate financial performance is ambiguous, even contradictory. Some think it is positive correlated; some opposite and others think they are in U-shape relation or inverted U-shaped relationship (Margolis and Walsh,2003; Margolis et al.,2007). Based on previous research, this paper explores the impact of CSR performance on its idiosyncratic financing constraints. We adopt KZ index to measure financing constraints, considering cost of equity as well as borrowing limit, offering restrictions, dependence on bank loans and illiquidity of assets.

We believe that corporate valuing CSR has better CSR and influences financing constraints through two mechanisms. First, better CSR performance means high involvement and cooperation of stakeholders on the basis of trust (Andriof and Waddock,2002). Thus, the involvement of senior stakeholders can effectively lower opportunistic behavior and therefore increase income and profits. Second, literatures have showed that corporates with better CSR performance trend to release CSR report and publish CSR strategy. More CSR strategy related credible data and financial information release decrease information asymmetry between corporate and investors and therefore lower the financing constraints (Hubbard,1998).

Based on the above theories, this paper puts forwards the following hypothesis:

Hypothesis One: CSR report release can significantly lower corporate financing constraints.

Hypothesis Two: CSR performance has significant negative relation with financing constraints.

Hypothesis Three: degrees of stakeholders' involvement and information release have separately significant negative relation with financing constraints.

## Research Design

**Selection of Explained Variable:** We conduct lots of researches of corporate finance on financing constraints indexes and decide to construct KZ index as Baker et al. (2003) and therefore determine the financing constraints of sample corporates.

$$KZ\ Index = -\frac{1.002CF_{it}}{A_{it-1}} - \frac{39.869DIV_{it}}{A_{it-1}} - \frac{1.315C_{it}}{A_{it-1}} + 3.139LEV_{it} + 0.283Q_{it} \quad (1)$$

In the above equation,  $CF_{it}$  is the cash flow of the corporate in period t;  $DIV_{it}$  is the cash dividend in period t;  $C_{it}$  is the cash balance in period t;  $A_{it-1}$  is a total asset in period t-1;  $LEV_{it}$  is the total liability in period t;  $Q_{it}$  is PBR in period t.

**Selection of Explanatory Variable:** We adopt indexes in Rankins CSR Ratings to analyze the social responsibility performance of the corporate. There are mainly four indexes Macrocosm (M), Content (C), Technique (T) and Industry (I). It adopts structured expert scoring method with a full mark of 100, and then gets the final CSR score by weighted average. In this paper, we choose the rating score as the index measuring CSR.

**Econometric Model:** We construct the following model to explore the relation between corporate social responsibility and financing constraints:

$$KZ = \beta_0 + \beta_1 PL\_dummy + \beta_2 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (2)$$

$$KZ = \beta_0 + \beta_1 SC + \beta_2 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (3)$$

$$KZ = \beta_0 + \beta_1 ENG + \beta_2 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (4)$$

$$KZ = \beta_0 + \beta_1 DIS + \beta_2 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (5)$$

$$KZ = \beta_0 + \beta_1 ENG + \beta_2 DIS + \beta_3 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (6)$$

$$KZ = \beta_0 + \beta_1 SC + \beta_2 SC \times LEAST\_dummy + \beta_3 SC \times MOST\_dummy + \beta_4 LEAST\_dummy + \beta_5 MOST\_dummy + \beta_6 LnS + \sum In\_dummy + \sum Year\_dummy + \varepsilon \quad (7)$$

We use model (2) to verify hypothesis 1, namely whether there is relation between CSR report and corporate financing constraints. We use model (3) to verify hypothesis 2, namely the impact of CSR performance on corporate financing constraints among corporates sub-sample releasing CSR report. The two mechanisms of corporate CSR influencing financing constraints, namely hypothesis 3, are verified by model (4), (5), (6). Endogenous issues are verified by model (7).

**Sample and Variable Declaration:** We conduct regression analysis by China's listed company data between 2010 and 2013 as sample. All the data are from Choice financial terminal and Rankins CSR Ratings Report. Details of data processing are as follows:

Table 1: Variable Declaration and Computing

Meanings	Variable Name	Variable Definition
1. Explained Variable		
Corporate Financing Constraints	KZ	Constructing by Model (1)
2. explanatory variable		
Whether release social responsibility report or not	PL	PL=1,if released; or PL=0
Rating score of CSR	SC	Score in Rankins CSR Ratings Report
Stakeholders Engagement	ENG	T-value in Rankins CSR Ratings Report
CSR Disclosure	DIS	Ratio of released project
whether has the highest financing constraints	MOST	MOST of the 25% with the highest KZ equal to 1; or MOST=0
whether has the lowest financing	LEAST	LEAST of the 25% with the highest KZ equal to 1;

constraints		or LEAST=0
3. Control Variable		
Total Assets	LnS	Logarithmic form of total assets

The following table shows the descriptive statistics of variables. The average of KZ is 0.54 with a variance of 1.33, a minimum of -9.88 and a maximum of 7.60, which shows that KZ differs a lot in the sample and financing constraints vary a lot. The average of PL is 0.25, namely only 25% of the companies release annual CSR Report. This shows that the CSR performance of our country's listed companies is relatively weak. SC, ENG and DIS vary less seriously but the overall discrepancy is also significant.

Table 2: Variable Descriptive Statistics

Names	Number of Observation	Average	Standard Deviation	Minimum	Maximum
KZ	6940	0.54	1.33	-9.88	7.60
PL	6940	0.25	0.43	0	1
SC	1725	34.86	11.87	13.33	82.44
ENG	1725	6.35	1.97	2.73	17.65
DIS	1725	0.27	0.18	0	1
LnS	6940	21.79	1.28	18.47	28.41

## Empirical Result and Analysis

The following table reports the regression results in Model (2), (3), (4), (5), (6), (7) and the used method is OLS.

**Regression Result and Analysis of Empirical Model:** From the result of model (2), we can see that parameters of dummy variable PL is significantly negative at the 1% level, showing that corporates releasing CSR report enjoy significantly lower financing constraints than the ones don't in the sample.

Model (3) explores the impact of CSR performance on financing constraints among the corporates releasing CSR report. We can see that parameter of SC is significantly negative at the level of 1%, namely that corporates with better CSR performance have lower financing constraints.

Model (4), (5), (6) verify the two mechanisms of CSR influencing financing constraints. We add stakeholder engagement in model (4) and find that parameter of ENG is significantly negatively in level 1%, showing that better stakeholder engagement contributes to lower financing constraints. In model (5), CSR disclosure is added and the result is significant. DIS is significant negative in level 5% and therefore show that corporate with higher information transparency enjoys lower financing constraints. We add two variables into Model (6) and parameter of ENG is still significantly negative in level 5%. This shows that better stakeholder engagement can also lower financing constraints when CSR disclosure is constant.

**Robustness Test:** Model (7) conduct robustness test to Model (3). Corporate with better CSR performance has lower financing constraints, which can result more investment in social responsibility. Thus, SC is related to error term, namely the generation of endogenous issues and other parameter deviation. In Model (7), we divide the sample data into three groups: high financing constraints group, low financing constraints group and the rest. We set up dummy variable MOST and LEAST to differ they three and introduce its interaction term with SC. If it is the case, we should find stronger correlation of financing constraints with CSR in the low financing constraints group. However, the regression result of Model (7) is just the reverse that financing constraints and CSR is significantly positive in level 1% in the low financing constraints group while in the high financing constraints group, they two are significantly negative. The regression result shows that the reverse causal relationship doesn't exist.

Table 3: Empirical Regression Result

Explanatory Variable	Explained Variable
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	KZ					
	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)
PL	-0.1775*** (-4.41)					
SC		-0.0088*** (-3.71)				-0.0042** (-2.32)
ENG			-0.0419*** (-3.08)		-0.0353** (-2.33)	
DIS				-0.3249** (-2.25)	-0.1585 (-0.98)	
<b>SC × LEAST<sub>dummy</sub></b>						0.0238*** (6.65)
<b>SC × MOST<sub>dummy</sub></b>						-0.0093** (-2.49)
LEAST						-3.2290*** (-21.92)
MOST						1.5307*** (10.38)
LnS	0.1328*** (9.24)	0.1384*** (6.75)	0.1264*** (6.41)	0.1178*** (6.10)	0.1286*** (6.48)	0.0801*** (6.09)
Constant	-2.4326*** (-6.91)	-2.1134*** (-3.72)	-1.8747*** (-3.34)	-1.8742*** (-3.32)	-1.9348*** (-3.43)	-0.9393*** (-2.56)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6940	1725	1725	1725	1725	1725
Adj- $R^2$	0.0501	0.0848	0.0825	0.0802	0.0910	0.6297

## Conclusions

This paper aims to explore the influence of CSR strategy on access to finance. By analyzing panel data of listed companies in China from 2010 to 2013, we draw the following conclusions:

We study the relation between CSR release and financing constraints and obtain that corporate releasing CSR receiving lower financing constraint comparing to ones don't release.

What's more, significant negative relation between CSR and financing constraints is conducted through two mechanisms and we verify they two. However, information release degree has non-significant influence on financing constraint when stakeholder involvement is constant.

Finally, with CSR becoming increasingly significant, government and the people call for corporates undertaking more social responsibilities and advocate its transparency and humanistic feelings. The conclusion drawn in this paper can offer reference to senior managers in management. We hope capable managers can adopt CSR, which meets the society requirements and bring more financing chance for the company meanwhile.

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