Eurasian Journal of Social Sciences, 8(3), 2020, 85-95
DOI: 10.15604/ejss.2020.08.03.001

EURASIAN JOURNAL OF SOCIAL SCIENCES

www.eurasianpublications.com

THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND FIRM PERFORMANCE: UNDER THE MODERATING ROLE OF CORPORATE SOCIAL RESPONSIBILITY (CSR)

Miao Wenhao
Corresponding Author: Universiti Malaysia Sabah, Malaysia
Email: 253159364@qq.com

Junainah Jaidi
Univerisiti Malaysia Sabah, Malaysia
Email: nenjaidi@ums.edu.my

Rosle Mohidin
Universiti Malaysia Sabah, Malaysia
Email: awgdin@ums.edu.my

Received: August 8, 2020 Accepted: September 20, 2020

Abstract

This paper investigates the moderating effect of Corporate Social Responsibility (CSR) on the relationship between capital structure and firm performance on the Chinese capital market. This paper applied a panel data regression technique using data composition represented by SSE180 index for a period spanning from 2010 until 2019. A total of 86 representative large listed firms was employed in this study for the period of 10 years with a total of 860 firm-year observation. The empirical results showed that debt has a significant negative relationship with firm performance. More importantly, this paper found that the level of CSR moderates the relationship between capital structure and firm performance. The study also found that, the relationship between capital structure and firm performance diminishing when the level of CSR is higher. In China capital market context, the debt ratio is quite high and CSR is a useful business strategy that could diminish the negative impact of capital structure on firm performance. Therefore, firms should comprehensively consider relevant influencing factors, such as CSR, and apply appropriate methods in determining the optimal capital structure in improving their firm performance.

Keywords: Capital Structure, CSR, Firm Performance, China, Panel Data Regression

1. Introduction

The theory of capital structure is an important issue in western contemporary finance research, especially after the famous MM Theory by Modigliani and Miller (1958), who pointed out that in the world of no tax (a perfect capital market), the firm's value would not be affected by the capital structure. However, the perfect capital market does not exist, as income is taxed for every firm.

Given the limitation of the MM Theory, capital structure and its association has increasingly attracted great attention. Different scholars started to re-define the relationship between them from different perspectives and many scholars have begun to conduct empirical research on their relationship since Jensen and Meckling (1976) put forward the Agency Theory of capital structure being related to the firm performance (Ahmed Sheikh and Wang, 2013). Therefore, the relationship between capital structure and firm performance has become a controversial issue in today's modern finance study.

In general, a firm's capital structure is represented by two types of financing, which are debt and equity. According to Jiang and Kim (2015), debt is considered as a punishment mechanism, can discipline or motivate managers to increase their efforts in maximizing the interests of shareholders. Therefore, debt is often regarded as an effective governance mechanism. In addition, based on the Agency Cost Theory (Jensen, 2005), capital structure can be affected by agency costs which is resulted from the conflict of interest between principal and agent. Furthermore, debt is often seen as one of the ways to alleviate agency problems as well as reduce the amount of free cash flow and firms' resources particularly in developed countries, which is consistent with the Agency Cost Theory (Li *et al.* 2019). According to the previous studies, we can conclude that debt can improve firm performance.

However, there is limited evidence on the relationship between capital structure and firm performance in emerging markets (Dawar, 2014). Given the significant institutional difference between developed and emerging countries, there is still a wide gap, especially in the case of growing economies like China. Chinese capital market, like in most developing countries, has a high concentrated ownership structure and weak institutional environment, such as poor investor protection, rampant insider self-trading, weak law enforcement and limited disclosure (Liu *et al.* 2015; Yu, 2013). Under this unique Chinese background, debt financing is generally adopted by firms. Due to insufficient protection of creditors and shareholders, limited bank supervision, debt plays a highly restricted role in restraining corporate management and even becomes a tool of controlling shareholders to erode creditors and minority shareholders. These factors make it doubtful whether debt can exert its governance influence.

Furthermore, due to the different findings on the relationship between capital structure and firm performance, Faulkender *et al.* (2012) suggested that direct effects of the capital structure on firm performance may not yield reliable results because their interaction may be impacted by other factors. Based on that opinion, Yang (2015) believed that previous studies ignored the role of Corporate Social Responsibility (CSR) when discussing how capital structure can influence firm performance. Yang (2015) further found out that the effect of capital structure on firm performance is changing with the level of the CSR based on Chinese listed firms. Therefore, this paper aims to examine the relationship between capital structure and firm performance under the moderating role of CSR. Understanding their relationship based on China capital market helped Chinese firms to comprehensively consider the influencing factor of CSR and apply appropriate methods to determine the optimal capital structure to achieve the purpose of improving firm performance. Meanwhile, this paper offers some important insights for Chinese government as an agency responsible in providing legal protection for investors and continuous improvement on the market mechanism.

The overall structure of this paper takes the form of five sections, including Introduction, Literature Review and Hypothesis Development, Research Methodology, Empirical Analysis as well as Conclusion and Discussion. The first section provides the background, problem statement and the overall structure of this paper. Based on the previous literature reviews, the second section states key ideas and theories related to the relationship among capital structure, CSR and firm performance and proposes the hypothesis. The third section explained the procedures on how this study was carried out in order to get reliable results. The fourth section presents the process of empirical analysis. The last section concludes the main findings and discusses the implication of these findings to the China capital market in general.

2. Literature review and hypothesis development

2.1. Capital structure in China

China is currently the largest emerging market and the second largest economy worldwide. Its rapidly expanding capital market is gradually opening to global investors and international firms. Clarifying the capital structure choice of Chinese firms has become increasingly relevant (Chang *et al.* 2014). Capital structure refers to the composition and proportion of various kinds of funding resource held by the firm according to its financing decision (Niu, 2008). Generally, equity and debt financing are the two main methods for firms to obtain external funds.

In developed markets such as the United States, firms prefer to raise their funds through the equity market (Pessarossi and Weill, 2013). However, based on the Chinese distinctive capital market, Chinese firms generally rely on debt financing to get external funding resources and bank loans. Unsurprisingly, China's debt ratio is high compared to other developed countries. Banks are willing to lend to firms because of implicit government guarantees. In China, the government will bail out firms to prevent them from going bankrupt to ensure economic growth and to maintain social stability. For these reasons, there are few bankruptcies recorded in China, especially among state-owned enterprises and large listed firms. Under this unique Chinese background, debt financing is generally adopted by firms.

2.2. CSR in China

Combined the in-depth development of economic globalization with the Chinese rapid economic development, CSR that originated from the West, has attracted great attention in China. According to Stakeholder Theory (Freeman and McVea, 1984), the main purpose of CSR is to satisfy the various stakeholders of a firm. In this study, followed by Aguinis (2011, p. 858), CSR refers to "context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social, and environmental performance."

China's CSR practice was introduced from the West with the China's reform and open-door policy. Especially, the issues of child labor, food safety, and environmental pollution resulting from China's rapid economic development over the past two decades have raised concerns over CSR practices in China (Cheng *et al.* 2016). The term "social responsibility" first appeared in the Company Law of the People's Republic of China (revised in 2005), which required "when undertaking business operations, a firm shall comply with the laws and administrative regulations, social morality and business morality (Order of the President of the People's Republic of China No. 42, 2005). It shall act in good faith, accept the supervision of the government the general public, and bear social responsibilities." Since then, CSR practice in China has entered a stage of accelerated development. In order to be recognized by the government, investors and the public, many firms are actively trying to practice CSR and disclosure CSR reports.

Although China's CSR had a late start compared to the Western countries, it has developed rapidly. Cheng e*t al*. (2016) furthermore pointed out that the Chinese government has played a vital role in promoting the compilation and disclosure of CSR reports. The Chinese government and relevant departments have introduced a series of measures to encourage firms to fulfil their social responsibilities and issue CSR reports. For example, in 2008, the Shanghai Stock Exchange regulator issued notices and guidelines on how listed firms could reinforce their adoption of social responsibility. In 2012, the Chinese government established a CSR guiding committee to further promote the better fulfilment of social responsibilities. Chinese firms, especially state-level firms, were required to assume more social responsibilities, including no layoffs or pay cuts during economic difficulties (Yeh *et al.* 2019).

2.3. The relationship among capital structure, CSR and firm performance

There are mixed research findings in terms of the effects of capital structure on firm performance (Li *et al.* 2019). Some studies (Degryse *et al.* 2012; Margaritis and Psillaki, 2010) indicated that capital structure could influence firm performance positively. However, other empirical evidence showed that capital structure (measured by debt) is negatively related to firm performance. For

instance, the empirical results conducted by Li *et al.* (2019) suggest that the capital structure measured by long-term debt to the total assets is negatively linked to firm performance under the low credit risk European SMEs; Dawar (2014) found in Indian firms, leverage has a negative influence on firm performance, which is in contrast to the assumptions of Agency Theory as commonly received and accepted in other developed and also emerging economies. An empirical study conducted by Ahmed Sheikh and Wang (2013) on Pakistan listed firms indicates that capital structure is negatively correlated with firm performance measured by ROA, regardless of the capital structure is measured by total debt ratio, long or short-term debt ratio.

In addition, the association between CSR and firm performance has been examined by many scholars. In general, the works of literature on the impact of CSR disclosure on the firm performance showed that there is a positive relationship (Malik, 2015). Many studies revealed that firms actively engaged CSR activity certainly can improve firm performance (Chen and Wang, 2011; Cheng *et a*l., 2016; Famiyeh, 2017; Feng e*t al*. 2017; Jo and Harjoto, 2011). Studies by El Ghoul *et al.* (2011) and Yeh *et al*. (2019) showed that CSR activities may increase the satisfaction of all stakeholders, enhance the firm brand image and even increase firm value and lower the cost of capital. While Nelling and Webb (2009) find that there is no significant relationship between CSR and firm performance. Brammer *et al.* (2006) found out that CSR would have a negative effect on firm performance.

2.4. Hypothesis development

According to Agency Theory, debt utilized as a punishment mechanism could castigate or embolden managers to increase efforts in maximizing the interests of shareholders. Therefore, debt is frequently considered as an effective governance tool, which may enhance firm performance (Jiang and Kim, 2015). However, too high debt capital structure will also raise the agency cost of external debt, which in turn could increase the firms' financial and operational risks, thus undermining the sustainability of firms' development in the long run. Therefore, the influence of capital structure on firm performance is complex and the changes in agency costs can affect their relationship.

On the other hand, there is a general consensus that firms with a higher level of CSR are likely to increase the competitiveness of firms and improve their performance (Famiyeh, 2017). CSR, as an effective tool to reduce conflicts between stakeholders, could reduce information asymmetry, reduce agency costs, strengthen firm brand and reputation and bring additional social capital to the firm (Xiao and Xue, 2014). However, according to the standpoint of Barnea and Rubin (2010), when insiders (such as managers and major shareholders) overinvest in CSR or cover up firm's improper behaviors in pursuit of their own interests, CSR may also reduce firm performance. Based on that opinion, CSR practice could increase the cost of firms, which deviates from the goal of maximizing firm profits. Form what has been discussed above, CSR also can lead to changes in agency costs. While the changes in agency costs can affect the relationship between capital structure and firm performance. Based on the noted situation, Yang (2015) believed that the level of CSR can influence the effect of capital structure on firm performance. Therefore, this paper adhered to the study of Yang (2015) and proposed the following hypothesis:

H_1: CSR could moderate the relationship between capital structure and firm performance based on Chinese capital market.

3. Research methodology

3.1. Data and sample

In this paper, all financial data are collected and gathered from China Stock Market & Accounting Research Database (CSMAR) and annual reports (for missing data). CSR disclosure is collected from hexun.com, which provides a professional evaluation system of CSR disclosure of listed firms. In order to examine the relationship between corporate governance and firm performance, this paper employed panel data regression techniques using stock data represented by the aggregate composition of the Shanghai Stock Exchange 180 Index (SSE 180 index) based on

the Chinese capital market spanning from 2010 to 2019. Based on the Global Industry Classification Standard (GICS) jointly issued by Morgan Stanley and Standard & Poor's, SSE180 firms are divided into ten industries according to the actual characteristics of listed firms in China. They are Financials, Energy, Materials, Industrials, Consumer Discretionary, Consumer Staples, Health Care, Information Technology, Telecommunication Services, and Utilities.

Since this paper required the sample firms to have data available for all identified provisions, the sample excludes firms in the finance industry, as financial, insurance and real estate firms have different regulatory compliance requirements and asset holding requirements, which will effectively change their performance characteristics. In addition to that, in order to get balanced data, firms with unavailable information, indeterminable data or incomplete financial data are excluded in this study. Therefore, this paper retrieved the firm-year data from 2010-2019 and the final total number of observations are 86 firms, therefore the firm-year observations are 860.

3.2. Model design

Given the data set (panel data) of this paper, two potential regression models can be used in the analysis, which are Fixed Effect model and Random Effect model. To decide whether Fixed Effect model and Random Effect model is more appropriate, this study performs the Hausman (1978) test. The results (p=1.0000) lead us to a Random Effects model. The econometric model is specified as follows:

$$FP_{it} = \alpha_0 + \beta_1 DEBT_{it} + \beta_2 CSR_{it} + \beta_3 DEBT_{it} * CSR_{it} + \beta_4 BS_{it} + \beta_5 BI_{it} + \beta_6 CD_{it} + \beta_7 SO_{it} + \beta_8 CC_{it} + \beta_9 FS_{it} + Year\ dummy_{it} + Industry\ dummy_{it} + \mu_i + \varepsilon_{it} \quad (i=1,\ldots,N;\ t=1,\ldots T) \quad (1)$$

where FP_{it} represents a dependent variable that measures firm performance for firm i at time t. Tobin's Q is defined as the ratio of market value to final total assets.

In this paper, the key independent variables include DEBT, CSR and their interactive term DEBT*CSR. If the coefficient of the interaction term is significant, indicating that the moderating effect exists. $DEBT_{it}\ is$ to measure capital structure for firm i at time t. In this paper, capital structure is obtained by dividing total debt by total assets. CSR is a moderator variable, measured by the rating scores of A-shares listed firms' CSR reports. The higher CSR score, the higher quality of CSR disclosure. The maximum score is 100.

Moreover, this study used several control variables that might have an impact on firm performance, which are Board Size (BS), Board Independence (BI), CEO duality (CD), State Ownership (SO), CEO Compensation (CC). Board Size (BS) is measured as the total number of directors on the board. Board Independence (BI) is calculated as the ratio of the number of independent directors divided by the total number of directors on the board. CEO duality (CD) is a dummy variable, which equals 1 if the CEO is also the chairman of the board of directors, and 0 otherwise (Kao *et al.* 2019). State ownership (SO) is calculated as the ratio number of state-owned shares divided by the total number of shares (Hu *et al.* 2010). CEO compensation (CC) will be measured the total top 3 executives, excluding allowance received by executives.

FS_{it} represents the firm size, which is the control variable that will be controlled to ensure the robustness of the conclusion. In addition, this paper employed industry dummy variables to control for industrial effects as well as year dummy variables in the model to capture the regulation effect, which might affect the outcome variable.

4. Empirical analysis

4.1. Descriptive statistics and correlation

Table 1 showed the main descriptive statistics of the research variables used in this paper for the full sample. With regards to firm performance variable, a high Tobin's Q (greater than 1) implies that the value created by the firm is greater than the cost of the invested assets. The result showed that the median Tobin's Q is 1.45, implying that more than half of the sample firms created wealth for shareholders. In terms of the capital structure, the median of debt ratio is 51.69% and the

maximum of debt ratio is as high as 88.59%, indicating that debt ratio is quite high. In terms of CSR, as shown in the Table 1, the quality of CSR disclosure varies widely (the score of CSR disclosure ranges from -13.88 to 85.77).

Table 1. The main descriptive statistics of key variables

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
TQ	2.0556	1.4451	14.0858	0.0504	1.6462
DEBT	0.5127	0.5169	0.88587	0.00006	0.1842
CSR	37.4673	28.94	85.7700	-13.8800	20.846
BS	9.5488	9.0000	17.0000	5.0000	1.9079
BI	0.3885	0.3636	0.8000	0.1250	0.0781
CD	0.1267	0.0000	1.0000	0.0000	0.3302
SO	0.0545	0.0000	0.7682	0.0000	0.1406
Ln CC	14.862	14.793	17.7457	11.8241	0.7664
Ln FS	24.393	24.333	28.6364	19.7325	1.6890
Observations			860		

Notes: TQ (Tobin's Q) is defined as the ratio of market value to final total assets. DEBT is to measure capital structure, which is obtained by dividing total debt by total assets. CSR is measured by the rating scores of A-shares listed firms' CSR reports provided by http://www.hexun.com/. BS (Board Size) is measured as the total number of directors on the board. BI (Board Independence) is calculated as the ratio of the number of independent directors divided by the total number of directors on the board. CD (CEO duality) is a dummy variable, which equals 1 if the CEO is also the chairman of the board of directors, and 0 otherwise (Kao *et al*. 2019). SO (State ownership) is calculated as the ratio number of state-owned shares divided by the total number of shares (Hu *et al.* 2010). Ln CC (CEO compensation) is the logarithm of total compensation of Top 3 executives, excluding allowance received by executives. Ln FS is the logarithm, of book value of total assets.

Table 2 provides the correlation matrix with t-statistics among all key variables in the regression analysis. The correlation coefficients between all independent variables are small (with a maximum of 0.511), implying that there is no multicollinearity problem. According to Shao (2019), a correlation of absolute value 0.7 or higher may indicate a multicollinearity problem, which serves as a preliminary test for multicollinearity. Therefore, the regression models used to test the hypotheses are relatively free from multicollinearity problem.

Table 2. The correlation matrix with t-statistics among all variables in the regression analysis

Correlation	TQ	DEBT	CSR	BS	BI	CD	SO	CC	FS
TQ	1.000								
DEBT	-0.511***	1.000							
CSR	-0.097***	0.034	1.000						
BS	-0.043	0.034	0.137***	1.000					
BI	-0.086**	0.212***	0.003	-0.370***	1.000				
CD	0.056	-0.051	-0.069**	-0.116***	0.007	1.000			
SO	-0.107***	0.040	0.070***	0.095***	0.057*	-0.082**	1.000		
CC	-0.022	0.003	0.079*	0.057*	-0.026	0.100***	-0.162***	1.000	
FS	-0.526***	0.442***	0.107***	0.120***	0.235***	-0.142***	-0.047	0.243***	1.000

Notes: ***, **, * represent the significant at the 0.01 level, 0.05 level, 0.1 level respectively.

2. Regression results

In order to detect either the existence of endogeneity problem in the data, the test of Hausman-test was conducted, the results (Prob.=1.000) showed that the Random Effect model is more suitable for the data set of this study. However, if one or more independent variables in the model have a correlation with the random disturbance term, the panel regression results may suffer from the endogeneity problem.

Table 3. The moderating role of CSR on the relationship between capital structure and firm performance (with probability)

Dependent Variable: TQ			
Variable	IV regression (b)	OLS (B)	Random Effect
DEBT	-1.152	-3.958 ***	-1.216 ***
	(0.453)	(0.000)	(0.009)
CSR	-0,002	-0.024 ***	-0.004
	(0.887)	(0.000)	(0.459)
CSR*DEBT	0.014	0.044 ***	0.018 **
	(0.485)	(0.000)	(0.040)
BS	0.039	0.042	-0.009
	(0.384)	(0.113)	(0.734)
BI	1.036	1.293 **	0.639
	(0.462)	(0.049)	(0.331)
CD	0.790 **	-0.148	-0.070
	(0.021)	(0.262)	(0.566)
SO	-0.950 *	-0.834 **	-1.186 ***
	(0.082)	(0.010)	(0.000)
CC	0.200	0.017	0.336 ***
	(0.137)	(0.807)	(0.000)
FS	-5.056 ***	-0.342 ***	-0.535 ***
	(0.000)	(0.000)	(0.000)
C (Constant term)	10.742 ***	11.334 ***	10.213 ***
	(0.000)	(0.000)	(0.000)
Hausman-test	χ^2 (26) =1.96		-
Prob	Prob> χ^2= 1.000		-
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
N	860	860	860
Hausman-test	-	-	p=1.000
R^2	0.480	0.467	0.238
Adjusted R^2	0.391	0.450	0.215
F-statistic/Wald χ^2	227.250 ***	28.047 ***	10.022 ***
Prob	0.000	0.000	0.000

Notes: ***, **, * represent the significant at the 0.01 level, 0.05 level, 0.1 level respectively
The values in parentheses represent the p-value.

If all the independent variables are exogenous, OLS (Ordinary Least Squares) can obtain more efficient estimation. If there are endogeneity issues, Instrument Variables (IV) need to be used to ensure the validity of the results. In this paper, the lagged value of each explanatory variable is used as the instrumental variable. It compares OLS with Instrumental Variable method (IV method) and the null hypothesis is that difference in coefficients is not systematic. The results ($\chi^2(26) = 1.96$; prob.> χ^2=1.000) showed that there are no endogeneity problems in the research model. Therefore, the Random Effect is appropriate for this study's data set. The specific results are shown in Table 3 (the influence of CSR on the relationship between capital structure and firm performance).

According to Table 3, the results showed that the coefficient of debt is negative and statistically significant for Tobin's Q at 1 percent level. The coefficient of the interaction term is significant at the 5 percent level, indicating that CSR can moderate the relationship between capital structure and firm performance. More specifically, when the level of CSR was higher, the relationship between capital structure and firm performance will be diminished because of the role of CSR. In terms of the control variables, the results showed that both state ownership and firm size have a significantly negative effect on firm performance. CEO compensation can increase firm performance. There is no significant relationship between board size, board independence and firm performance.

4.3. Robustness test

In order to test the robustness of the above results, Equity ratio was used to replace debt. Equity ratio can also reflect the capital structure. The equity ratio is the ratio of shareholders' equity to total assets, which reflects how much of a firm's assets are invested by its owners. The smaller Equity ratio indicates that the firm is in a state of over-indebted, which may easily weaken the firm's ability to withstand external shocks. If the Equity ratio is too large, it means that the firm did not actively use the financial leverage to expand the scale of operation. As shown in the Table 4, when Equity ratio is substituted for DEBT, the sign of the coefficients will change from negative to positive. This is because the higher equity ratio, the smaller DEBT. Hence, the test result is consistent with the Table 3. The specific results are shown at Table 4.

Table 4. Robustness test (using Equity Ratio to replace debt ratio) N=860

Variables	DEBT Random effect model	Equity Ratio Random effect model
Capital Structure (CS)	-1.216 ***	1.505 ***
	(-2.625)	(3.116)
CSR	-0.004	0.014 ***
	(-0.741)	(3.363)
CS*CSR	0.018 **	-0.020 **
	(2.060)	(-2.352)
BS	-0.009	-0.008
	(-0.340)	(-0.318)
BI	0.638	0.655
	(0.973)	(0.996)
CD	-0.070	-0.078
	(-0.574)	(-0.638)
SO	-1.186 ***	-1.234 ***
	(-4.598)	(-4.754)
CC	0.336 ***	0.311 ***
	(4.565)	(4.209)
FS	-0.535 ***	-0.507 ***
	(-8.621)	(-7.802)
C (Constant term)	10.213 ***	8.687 ***
	(6.725)	(5.232)
Industry	Yes	Yes
Industry	Yes	Yes
Hausman-test	p=1.000	p=1.000
R^2	0.238	0.240
F-Statistics	10.022 ***	10.102 ***
Prob (F-Statistics)	0.000	0.000

Notes: ***, **, * represent the significant at the 0.01 level, 0.05 level, 0.1 level respectively. The values in parentheses represent the t-statistics corresponding to the coefficients of each variable.

5. Conclusion and discussion

This paper investigated the relationship between capital structure and firm performance under the moderating role of CSR. To examine the relationship among these three variables, this paper employed panel data regression techniques using SSE 180 index based on Chinese capital market. The empirical results showed that the level of CSR can moderate the relationship between capital structure and firm performance. More specifically, the relationship between capital structure and firm performance diminishing when the level of CSR is higher.

It is found that debt has a significant negative correlation with firm performance. This is in contrast with the assumption of Agency Theory. According to Agency Theory, debt can restrain the opportunism behavior of the managers and the interest encroachment behavior of the controlling shareholders due to the high cost of debt financing, thereby alleviating firm’s agency

problem. If a firm has a large amount of free cash flow, managers may overinvest for personal interest, which is not conducive to the improvement of firm performance. However, the result showed debt is negatively related to firm performance. It is believed that, the reason for the negative relationship is due to a higher debt ratio in our sample firms (the median of debt ratio is 51.69% and the maximum of debt ratio is as high as 88.59%). This situation will also raise the agency cost of external debt, which in turn could increase the firms' financial and operational risks, thus undermining the sustainability of firms' development in the long run.

In addition to that, the capital market mechanism in China is not mature, in which there are insufficient protections for both creditors and shareholders as well as limited bank supervision, while the debt of Chinese listed firms is generally from bank loans. Under this unique Chinese background, debt plays a limited role in restraining firm management, thus failing to improve or enhance firm performance. Therefore, firms should formulate a reasonable debt ratio to give play to the effective governance effect of debt. The Chinese government should constantly strengthen legal protection for investors and improve the market mechanism.

More importantly, the results showed that CSR can moderate the relationship between capital structure and firm performance, implying that CSR could be a useful business strategy. On the one hand, the high level of CSR can help firms to gain a good reputation and organizational recognition. It is beneficial for firms to maintain their vitality and long-term sustainable development. Therefore, firms with a higher level of CSR can attract more investors for them and additionally improve the corporate governance structure, which resulted in the higher debt ratio that can reduce agency costs of debt financing, thus improving the firm performance.

On the other hand, when the level of CSR is lower, the reduction of the number of investors will lead to a higher cost of debt financing. At this time, a higher debt ratio will not only increase the agency cost of external debt but also cause conflicts between creditors and shareholders, leading to financial difficulties, hence unable to boost or augment firm performance. Therefore, firms should comprehensively consider relevant influencing factors, such as CSR, and apply appropriate methods to determine the optimal capital structure to achieve the purpose of improving firm performance.

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