Isaiah Oino, Erli Xi*

Sustainability and Its Value: Does Corporate Social Responsibility Score Impact Financial Access? A Review of Chinese Manufacturing Firms**

Abstract

Corporate social responsibility (CSR) in firms has shifted from just being responsible for the environment to strategic CSR by examining how the engagement of CSR activities enhance the company's financial performance. The paper examine if corporate social responsibility rating impacts financial access and financial efficiency. This paper analyses the CSR performance of 23 Chinese firms' annual data from 2010 to 2016 and their access to credit from financial institutions. The fixed effects model shows that corporate social responsibility significantly correlates with corporate financial access constraints. That is, the higher score of corporate social responsibility, the lower degree of financing access constraints. The study also found that improving corporate social responsibility will reduce the financial efficiency of enterprises by a small margin. The company's financial cost will be relatively reduced as the corporate social responsibility score increases.

Keywords: CSR; Financial performance; constraints, sustainability, firms
(JEL: C50, D21, D23)

Introduction

The sustainable corporate development debate continues to dominate in academia and among corporate executives. Although maximising shareholders' wealth remains the main aim for businesses, there are emerging requirements that firms need to be humane, ethical, and responsible. However, successfully reporting corporate social responsibility (CSR) activities to stakeholders is another challenge (Qiu et al., 2016). Corporate reports are costly and time-consuming despite the value of producing them remaining a big question among the executives. Existing literature cannot achieve consensus about the economic consequences of CSR reporting and performance (Hussain, Rigoni, and Cavezzali, 2018). Cohen and Simnett (2014) emphasised the need for further research on CSR reports because of these reports' lack of credibility, reliability, and usefulness. In line with this, the current paper aims to investigate the value of the CSR score. The paper deals with two related

* Isaiah Oino: Coventry University CV1 5FB, UK. Email: ac3497@coventry.ac.uk.

** Date submitted: January 29, 2021
Date accepted after double-blind review: November 26, 2021

research questions: (1) Does a higher CSR rating enhance financial access? (2) Does a higher CSR rating enhance financial efficiency?

Companies face significant pressures from stakeholders to be ethical and transparent (Liu et al., 2015; Elias, 2004). For this reason, stakeholders expect firms to disclose financial and non-financial information about a firm's strategies and operations (Haque, 2017). Consequently, many financial reports contain CSR performance information (Rupley, Brown, and Marshall, 2012). Most large firms have started issuing standalone sustainability reports (KPMG, 2011). Producing such reports can be costly, although their value is uncertain (O'Dwyer, 2002). For example, Liesen, Figge, Hoepner, and Patten (2017) argue that CSR is essential for building a firm's reputation in the financial market. On the other hand, Palmer, Oates, and Portney (1995) consider CSR reporting as an additional cost with no benefits.

Many scholars have linked CSR with corporate financing constraints (Goetz, 2018, Ho and Williams, 2003). According to Lamont et al. (2001:1), financial constraints are defined as 'frictions that prevent the firm from funding all desired investments. Organisations with high CSR scores are likely to enhance a good image, improving their relationship with financial institutions (Lin et al., 2015; Naomi et al., 2019). Previous studies have concluded that CSR disclosure can ease financial constraints (El Ghul et al., 2011). However, this study assumed homogeneity across the firms. The current study examines firms bearing in mind their age. The idea is that firms that are 'old' or have been in the market for a long time are likely to exhibit higher responsibility to the environment than newer firms.

On the other hand, newly registered firms will likely take time to find their feet; hence, banks will pay close attention to their business model. In addition, this article examines only manufacturing firms to eliminate the heterogeneity bias because different industries engage in different CSR activities. In addition, manufacturing firms need to disclose more information to the public (Cooke, 1992). The sector has also experienced increasing pressure to engage explicitly in CSR activities (Matten and Moon 2008). In addition, manufacturing firms may have negative environmental externalities such as gas and waste emission.

The study position itself within two competing theoretical views: First, the risk mitigation view which indicates that a firm with high (low) CSR activities will reduce its risk through a decrease (increase) in its asymmetric information and agency costs and its exposure to risks. Such risk reduction (increase) may lead to more or less access to financing. Second, in the overinvestment view, investors see CSR activities as a waste of financial resources (Goss and Roberts, 2011). These types of investors will demand a higher return for firms actively engaged in CSR activities. Therefore, with this view, the firm is less likely to be involved in CSR activities and has less finance access.

We test these two views using the Chinese manufacturing industry because, according to the United Nations Statistics Division, China accounted for 28 per cent of global manufacturing output in 2018 (UNSD (United Nations Statistics Division), 2018). That is 10 % more than the United States. That is why China is seen as the "world's factory" In addition, the manufacturing industry contributed 30 % of the country's total output. This indicates the importance of the industry not only in the Chinese context but globally. To understand the significance of CSR scores on financial access, we collected annual data from 23 Chinese manufacturing firms' from 2010 to 2016.

This study contributes to the literature by examining the effect of CSR on a firm's access to finance within the context of manufacturing firms. We also extend the studies on the investors' perception of a firm's CSR activities (Sharfman and Fernand, 2008; Cheng et al., 2014). Applying the fixed effects model, the results indicate that firms that engage more in CSR activities face fewer financial constraints, hence, a higher score. In addition, for each percentage point of the financial leverage index increase, financing efficiency decreases by 0.3012 percentage points, showing that the increase of the financial leverage has a negative impact on financing efficiency. We also note that as firms grow in size, the percentage of equity financing decreases by 0.0330 percentage points. This implies that the larger the firm, the more they are likely to be leveraged.

The findings have several implications for managers and future researchers. First, the results clearly show the managers the need for the firms to be socially responsible. Also, the results extend the debate on being responsible and the rating and its implication on financial access and efficiency.

Corporate Social Responsibility, Chinese Context.

Ethical, responsible, and caring practices have long been part of the Chinese business community. In China, CSR is referred to as "responsible business," which is considered part of traditional ancient Chinese culture. Confucian thought played an essential role in advocating responsible business principles in China. The Confucian virtues of righteousness – (yi) and sincerity – (xin) were applied to business relationships, and merchants were encouraged to utilise their wealth to help scholars and the poor (Wang and Juslin, 2009). In China's long history, many Chinese merchants followed the main principles of Confucianism, such as morality, sincerity, credit, justice, and benevolence, applying them in their daily business lives.

However, traditional Confucianism was seriously denounced (Pang et al., 1998) during the Cultural Revolution. All business enterprises in China were state-owned and governed under the planned economy as of 1949. Enterprises functioned as a part of the government and engaged in various socially responsible activities to benefit all nation members (Lu, 1997). Because the roles of government and enterprise are mixed and distinct, these activities cannot be considered CSR in the modern

sense (Li et al., 2004). Not until 1978 did the modern concept of CSR appear in China after opening the country to investment and economic reform under Deng Xiaoping. The new separation between government and business enterprises led to the modern enterprise system (CIBA, 2006).

The debate on global warming has called for industrialised countries to do more to the environment. This has influenced the Chinese government to develop the Harmonious Society concept (Wang and Juslin, 2011), aimed at economic prosperity and ensuring sustainability within the country. Although China's economy continues to grow faster than most countries globally, Lu (2009) noted that most companies behave less ethically and socially to the environment. This results from intense competition, leading to much focus on profit maximisation, sometimes at moral sacrifice (Harvey 1999). The likelihood of a firm acting socially responsible depends on the level of competition. In other words, firms are likely to look for shortcuts whenever the profit margins are very low which may imply going concern risk.

In promoting Scientific Development and Harmonious Society", the Chinese government has set economic and social policy agenda, which include energy-saving, emission reduction, and labour rights protection as national strategies. As Marquis et al. (2017) noted, powerful stakeholders such as the Chinese government may influence corporations to adopt and adapt global CSR practices. Similarly, Ge and Zhao (2017) argued that state-owned firms tend to focus on more visible external-oriented CSR practices. Nevertheless, companies must fulfil their social responsibilities and publish their annual reports while disclosing social responsibility reports. Since then, many Chinese firms have realised the importance of higher social and environmental standards to compete in the global market (Christmann and Taylor, 2006). Consequently, Chinese managers and entrepreneurs have felt the need to integrate socially responsible practices into daily operations, hoping to recognise a potential global competitive edge (Gugler and Shi 2009).

Literature Review and Hypothesis Development

The Strategy of CSR

McElhaney (2009) stated that strategic CSR is an integrated enterprise strategy that combines the company's core business capabilities and goals and aims to actively create constructive social change while creating value for the company and integrating it into day-to-day business processes, operations and customs. Fleming and Jones (2013) claimed that CSR strategy could be used as a tool for social enterprises or entrepreneurs to obtain value outside the traditional business operation mechanism of the enterprise.

Therefore, strategic CSR is seen as a balancing act – companies must strike a balance between economic and social values that must be achieved across stakeholders

(Lantos, 2001). Strategic CSR also includes the inclusion of core business activities of social and environmental activities (Werther and Chandler, 2011). However, Di Domenico (2010) argued that social enterprises emphasise the importance of sustainable development and adopt economic methods to maintain their core business and provide solutions to social or environmental challenges. Strategic CSR methods can also enable social enterprises' most important social influence to be fully utilised, thereby bringing greater benefits to enterprises (UNESCAP, 2020). Social enterprises create value and form relationships because of innovation transformation and organisational competitiveness of products and services that will enable social and business success to promote each other. Social enterprises can also create social value by identifying active leaders. They can communicate and manage corporate goals and overall goals to relevant stakeholders.

Effective corporate responsibility requires integrating CSR into corporate strategy and online business (Werther and Chandler, 2011). Companies need to be able to consciously identify, prioritise and deal with the most important social undertakings of the enterprise, or, at minimum, the ones that have the greatest influence on the future of society and business. Therefore, society and business are mutually reinforcing relationships, and any decision that does not benefit both parties cannot be accepted.

However, when the society or company is just implementing actions that benefit the interests of one party and the cost of action is to sacrifice the interests of the other party, it will find itself in a difficult situation (Werther and Chandler, 2011). CSR practices should balance the relationship between society and business interests and find the right balance. Companies must also balance the relationship between long-term goals and short-term costs. Thus, to achieve these goals, companies must have procedures to deal with all of these issues. Thus, the strategic background of CSR activities will help companies plan, organise, lead and execute their CSR practices (Werther and Chandler, 2011). However, some constraints may restrict firms from achieving short- and long-term goals. The non-financial constraints are those linked with the social and policy environment. These constraints include a lack of human resources or expertise and political instability.

The importance of CSR activities

The value of companies engaging in CSR activities has been viewed from many lenses. For example, the importance of CSR on employees satisfaction and commitment (Cunha and Turner, 2011; Nurn and Tan, 2010, Exter et al., 2011; Bryman and Bell, 2007) and consumer perception of companies' CSR activities (Butt (2016); Rahim et al., 2011); Pomering and Dolnicar, 2009) and some have viewed CSR and financial performance (Gazzola, 2014a; Chih et al.,2010; Baron et al.,2009; Margolis et al.,2009; Peloza, 2009). Also, Bayoud et al. 2012; Kim et al., 2010; Lamberti and Lettieri, 2009; Castaldo et al., 2009; Husted and Allen,

2007; Porter and Kramer, 2006) established that customer and stakeholder groups' awareness of products, CSR value may have a positive impact on the organisational reputation not only from the customer perspective but also in capital markets in the event of raising funds. This implies that firms with good reputations tend to have greater development potential because of access to finance as a competitive advantage.

Financial constraints

Modigliani and Miller (1958) argued that capital is freely circulated under ideal conditions, and companies can obtain capital according to their needs. Myers and Majluf (1984) took the lead in proposing the financing constraint hypothesis. They pointed out that the information asymmetry that exists widely in the real economy makes the external financing cost of the enterprise higher than the internal financing. Ultimately, the enterprise cannot raise all the funds needed for the investment according to the reasonable capital cost. This paper defines the degree to which the company's optimal investment needs cannot be met as *financing constraints*. Kaplan and Zingales (1997 2000) found that the degree of corporate financing constraints is negatively correlated with investment-cash flow sensitivity, and they argued that there is no simple linear relationship between financing constraints and investment-cash flow sensitivity. Kaplan and Zingales's research was further confirmed by Cleary (1999), who studied the relationship between the company's investment spending and internal cash flow from 1,317 US companies between 1987 and 1994 and found that companies with better consolidated financial positions rely more on internal cash. A large number of data samples and highly objective data provide good research support for the views of Kaplan and Zingales. From another perspective, Cleary (1999) indicated a non-linear relationship between internal cash flow and investment. When there is sufficient or very insufficient cash flow, the company's internal cash flow will be lower than the investment – cash flow sensitivity. In fact, when a company faces severe financing constraints, it is inevitably more sensitive to its internal cash flow due to the high cost of obtaining external financing. When the company's financing constraints are low, it is very easy to obtain funds. From a strategic management perspective, Luo et al. (2015), Cheng et al. (2014) and Sharfman and Fernando (2008) argue that CSR information is value relevant, and the financial market participants use this information to develop their perception of the firm. Similarly, Bernardi and Stark (2018) and Dhaliwal, Radhakrishnan, Tsang, and Yang (2012) from the accounting view and Hartojo and Jo (2015) from a business ethics perspective argue that firms that provide CSR disclosure with higher scores receive more attention from the security analysts and resultantly are more attractive for the investors.

Related Studies on CSR and Financial Constraints

Pijourlet (2013) mainly studied the impact of CSR on capital structure and bond selection and whether corporate social responsibility will affect the scale of stocks issued by enterprises. His survey included data from 5,859 sample companies. His investigation concluded that corporate social responsibility and financial leverage are negatively correlated. The results also show that more CSR activities of enterprises will increase investors' goodwill towards the company and broaden the financing channels of enterprises. Cheng, Ioannou, and Serafeim (2014) noted that the relationship between corporate social responsibility and the KZ index is negatively correlated and concluded that companies adopting corporate social responsibility face low capital constraints.

Chan, Chou, and Lo (2017) collected all companies listed in the US market from the MSCI, ESG and STAT databases from 1992 to 2010 and confirmed Campbell's (2007) view that there is a remarkable negative relationship between activities of CSR and financial constraints/distress levels. Hence;

H1. Higher CSR Score positively impacts access to financial resources.

According to the agency theory, managers make decisions that are likely to maximise their interests. Therefore CSR score will help monitor the managers and may reduce information asymmetry and agency problems (Cerbioni and Parbonetti, 2007). Studies have indicated that firms that voluntarily adopt CSR policies demonstrate less opportunistic behaviour (Benabou and Tirole, 2010) and engage the stakeholders more (Cheng et al., 2014). Therefore, the CSR score will likely enhance the trust between the firm and its stakeholders, including banks. Indeed, Dhaliwal et al. (2011) demonstrate that a good CSR performance allows analysts to predict firms' future earnings better and reduces the errors in their forecasts. Also, Lins et al. (2017) find that firms with high CSR score experience higher profitability and growth and tend to raise more debt. Hence;

H2. Higher CSR Score positively impacts financial leverage.

Regarding the cost of capital, Feldman et al. (1997) noted that investors perceive firms' higher CSR scores as less risky. Further, CSR may signal the quality of management to investors (Akpinar et al., 2008), which may lead to a decrease in monitoring and auditing costs. Ioannou and Serafeim (2015) also demonstrated that firms with higher CRS scores tend to receive more favourable recommendations from financial analysts. Therefore;

H3. Higher CSR scores negatively impact the cost of finance.

Methodology and Data

We collected annual data from 23 Chinese manufacturing companies listed on the Chinese A-SHARE stock market. We concentrated only on those firms with complete data from 2010 to 2016. The annual financial data for the companies were collected from the Resset Database and Ccer Database. Also, the data on CSR were collected from Runling Global (RKS), an authoritative third-party rating agency concerning the corporate social responsibility of the enterprises in China. It provides professional, independent, and objective scientific, corporate responsibility rating information to investors, consumers and the public. RKS's responsibility ratings include ESG ratings (environment, social responsibility and governance), CSR reporting ratings and socially responsible investor services. RKS uses a structured professional scoring method for the system to rate the CSR performance of the companies, starting the evaluation from three zero-level indicators: a. Integrity M-score, b. Content C-score and c. Technical T-score.

Meanwhile, RKS also designs first- and second-level indicators to comprehensively evaluate the CSR reports disclosed by all listed companies. RKS set up 16 first-level indicators and 70 secondary indicators, including "strategic effectiveness", "responsibility management," and "writing norms". The total score is 100 out of 100 points. M – score weight 30 %, Content C – score weight 50 % and Technical T – score weight 20 %. Our final sample is a balanced panel of 1449 firm-year observations from 2010 to 2016.

Introduction of Variables in the First Design

We first assess the relationship between CSR and financial constraints of Chinese listed manufacturing companies using a fixed-effects model. We use aggregated CSR scores following previous studies (Cheng et al., 2014). The dependent variable is the KZ index of capital constraints as used in previous literature (Almeida et al., 2004; Cheng et al., 2014). The KZ-Index (Kaplan-Zingales Index) is a relative measurement of reliance on external financing. Companies with a higher KZ-Index score are more likely to experience difficulties when financial conditions tighten since they may have difficulty financing their ongoing operations. Kaplan and Zingales (1997) used a sample of 49 financing-constrained companies from 1970 to 1984 to synthesise qualitative and quantitative information. The samples were divided into five groups based on the financing constraints, and then the regression coefficients were obtained through ordered logistic regression. Lamont et al. (2001) used these coefficients to construct a KZ index to discriminate financing constraints through a broader sample of companies. A larger KZ index represents a larger financing constraint for enterprises (Lamont et al., 2001).

$$KZ\ Index = -1.001909\ X\ \frac{cash\ Flow}{K} + 0.2826389\ X\ Q \quad (1)$$
$$+3.13919\ X\ \frac{Debt}{Total\ capital} + -39.3678\ X \frac{Dividends}{K}$$
$$\pm 1.314759\ X\ \frac{Cash}{K}$$

Cash Flows are equal to the income before extraordinary items for the year plus the sum of total depreciation and amortisation for that year. K represents the sum of property, plant and equipment in the last year, while debt represents the sum of annual total long-term debt, notes payable and current portion of long-term debt, and dividends represent the annual total cash dividends paid (common and preferred), and cash equals the sum of annual cash and short investment.

$$Q = (Annual\ Market\ capitalization + Annual\ Total\ shareholders\ equity - annual\ book\ value\ of\ common\ equity - annual\ deferred\ tax\ assets / annual\ total\ shareholders' equity$$

Basically, a higher KZ index may indicate that the firm is more capital constrained. This is because firms with high cash flows and large cash balances have more internal funds to deploy for new projects and, as a result, they are less capital constrained (Baker et al., 2003). In addition, firms with high dividend payments may indicate that they can be self-financed (Lamont et al., 2001). Finally, firms with high leverage are less capable of obtaining more debt financing because the probability of default is already high, and, as a result, the cost of financing is high as well (Baker et al., 2003).

Introduction of Variables in the Second Design

We analyse whether the enterprises' CSR positively impacts access to finance and improves financial efficiency. Financial efficiency measures how efficiently a firm's assets generate revenue. In measuring financial efficiency, we use the model expressed as:

$$FE = C + FC + FL + CSR + LNS + \mu(2)$$

FE represents the dependent variable financial efficiency, measured as the ratio of total expenses over total income (Philippe et al., 2013).

FC represents the financing cost measured as the cost of capital / (total financing – financing expenses) (Cao, Liu, and Wang, 2013),

FL represents the financial leverage. This is measured as the ratio of total debt to total capital.

CSR is the performance score of corporate social responsibility evaluation from Rankins CSR Ratings (RKS).

LNS represents the company size used as a control variable. We measure company size using the natural logarithm of the total assets. Meanwhile, μ is the residual.

Control variables

We selected our control after carefully reviewing the literature (Hartojo and Jo, 2015; Cheng et al., 2014; Dhaliwal et al., 2012). Our main control variables included size measured as the natural logarithm of total assets. We include this control because the bigger firms with less debt in the capital structure have more resources to invest in nonprofit-making activities (Hussain et al., 2018).

Results and Analysis

Model Construction and Data Description

We establish the impact of CSR on the KZ index (a relative measurement of reliance on external financing) and the impact of the corporate social responsibility score on financing efficiency. Also, we analyse how CSR affects corporate financing costs and financial leverage. In doing so, we control the size of the company. The models can be summarised as follows:

Model 1: $KZ = C + \beta_1 CSR + \beta_2 lns + \mu$

Model 2: $FE = C + \beta_1 FC + \beta_2 FL + \beta_3 CSR + \beta_4 CSR\_CF + \beta_5 LNS + \mu$

Model 3: $FC = C + \beta_1 CSR + \beta_2 LNS + \mu$

Model 4: $FL = C + \beta_3 CSR + \beta_4 LNS + \mu$

In these models, KZ represents the KZ index, CSR represents each enterprise's corporate responsibility score, FE represents financing efficiency, FC represents financing cost rate, FL represents financial leverage index, and CF represents cash flow ratio. LNS represents the size of the company.

α and β represent each variable's intercept and regression coefficients, respectively; ε represents the random error term.

We begin our univariate analysis by examining the descriptive statistics, as shown in Table 1 below.

Table 1. Description Statistics Data

	N	Minimum	Maximum	Mean	Std. Deviation
KZ	161	-86.7368	29.1037	.171397	11.4691381
FE	161	-1.7537	18.6450	3.501325	3.2368743
FC	161	-16.4411	100.4844	.111044	8.3763839
FL	161	.3400	8.8945	1.405005	.9583895
CSR	161	16.8900	69.6981	34.966766	10.1815406
CSR_CF	161	-.0848	3.0230	.451619	.4644884
LNS	161	20.6496	26.5472	22.854673	1.3376337

FE (Financial Efficiency), LNS (company size, measured by the natural logarithm of the total assets), CSR (Corporate Social Responsibility Score), FL (Financial Leverage), CSR_CF (Corporate Social Responsibility Cash flow), FC (Financial Cost rate). KZ index (a relative measurement of reliance on external financing).

As shown in Table 1, the average of KZ is 0.17 with a standard deviation of 11.46, a minimum of -89.74 and a maximum of 29.10, which shows that KZ differs a lot in the sample and financing constraints vary considerably. The mean CSR score is 34.97, the maximum and minimum being 16.89 and 69.69, respectively. The higher the score, the higher the engagement in CSR activities.

Correlation

Table 2 provides the correlation analysis results of model (1), while the results of correlation analysis of the model (2) are demonstrated in Table 3. Table 2 indicates a negative correlation between CSR score and KZ, implying that companies that engage in many CSR activities are likely to have fewer financial constraints on external funding. The results also indicate that large firms are more likely to engage in CSR activities than small firms.

Table 2. Model (1) Correlation Analysis Results

		KZ	CSR	LNS
KZ	Pearson Correlation	1		
	Sig. (2-tailed)			
CSR	Pearson Correlation	-.062	1	
	Sig. (2-tailed)	.438		
LNS	Pearson Correlation	.116	.309**	1
	Sig. (2-tailed)	.142	.000	

Note: **, * indicate the level of significance of 1 % and 5 %, respectively.
KZ index (a relative measurement of reliance on external financing), CSR (Corporate Social Responsibility score), LNS (company size, measured by the natural logarithm of the total assets),

The association between company size and the KZ index is 0.116, and the significance is 0.142. The result shows that large manufacturing firms will likely rely on external funding. However, the correlation is not significant.

Table 3 shows the correlation analysis results of model (2). The statistics show that the correlation coefficient between financing cost rate and financing efficiency is -0.082, and the significance is 0.303. The result indicates that the higher the funding costs, the lower the returns from the investment or yield. The correlation coefficient between financial leverage and financing efficiency is -0.262, and the significance is 0.001. This implies that the higher the external funding reliance, the lower the financing efficiency. As the correlation test is significant at 1 %, it indicates that reliance on external funding can be detrimental to performance because the costs of debts might be higher. Moreover, the correlation coefficient of corporate social responsibility score and financing efficiency is -0.069, and the significance is 0.386.

Table 3. Model (2) Correlation Analysis Results

		FE	FC	FL	CSR	CSR_CF	LNS
FE	Pearson Correlation	1					
	Sig. (2-tailed)						
FC	Pearson Correlation	-.082	1				
	Sig. (2-tailed)	.303					
FL	Pearson Correlation	-.262**	.042	1			
	Sig. (2-tailed)	.001	.596				
CSR	Pearson Correlation	-.069	-.125	-.168*	1		
	Sig. (2-tailed)	.386	.113	.033			
CSR_CF	Pearson Correlation	-.039	-.024	.071	.260**	1	
	Sig. (2-tailed)	.619	.763	.370	.001		
LNS	Pearson Correlation	-.054	-.070	-.157*	.309**	.050	1
	Sig. (2-tailed)	.496	.376	.047	.000	.530	

Note: **, * indicate the level of significance of 1 % and 5 %, respectively.
FE (Financial Efficiency), LNS (company size, measured by the natural logarithm of the total assets), CSR (Corporate Social Responsibility Score), FL (Financial Leverage), CSR_CF (Corporate Social Responsibility Cash flow).

Regression Results of the Module (1)

In order to assess the significance of the variables on the dependent variables on the models, this study uses the fixed effects estimation model. Using fixed effects

enables one to reduce selection bias in estimating causal effects in observational data by eliminating large portions of variation thought to contain confounding factors. In other words, fixed effects eliminate all between-unit variation, producing an estimate of a variable's average effect within units over time (Wooldridge, 2010).

Table 4. Fixed Effects Results of Regression Analysis of the Model (1).

$KZ = C + \beta_1 CSR + \beta_2 lns + \mu$

Variable	Coefficient (standard errors in parenthesis)	Prob.
C	-10.2718 (6.1147)	0.0934
CSR	-0.1213 (0.0308)	0.0011
LNS	1.2823 (0.2348)	0.0000
R-Squared	0.0330	
Adj. R-Squared	0.0168	
F-Statistic	3.5394	0.0000
Durbin Watson Stat	1.8618	
Obs	1449	

Dependent variable: KZ (measured as KZ index)
Independent variables: CSR (Corporate Social Responsibility index), LNS (company size, measured by the natural logarithm of the total assets).

Table 4 (above) indicates a negative relationship between the KZ and CSR indexes, significant at 5 %. This indicates that firms that engage more in CSR activities face fewer financial constraints, hence, a higher score. Hence we fail to reject hypothesis 1. In other words, firms with low CSR scores are more likely to experience financial distress due to more constraints in accessing external funding. Since larger firms have a better CSR score, as shown by a positive correlation between CSR and firm size (LNS) in Table 2 (above), large firms will have fewer capital constraints.

Regression Results of the Module (2)

$$FE = C + \beta_1 FC + \beta_2 FL + \beta_3 CSR + \beta_4 CSR\_CF + \beta_5 LNS + \mu$$

Table 5. Fixed Effects Regression Analysis Results of the Model

Variables	Coefficients (standard errors in parenthesis)	Prob.
C	10.0598 (1.4401)	0.0000
FC	-0.0340 (0.0098)	0.0005
FL	-0.9747 (0.0088)	0.0000
CSR	-0.0346 (0.0088)	0.0001
CSR_CF	-0.0755 (0.1827)	0.6795
LNS	-0.1755 (0.0644)	0.0065
S-Squared	0.21599	
Adj. R-Squared	0.2103	
F-Statistic	11.4192	0.0000
Durbin Watson Stat	1.34	
Obs	1449	

Dependent Variable: FE (Financial Efficiency)
Predictors: (Constant), LNS (company size, measured by the natural logarithm of the total assets), CSR (Corporate Social Responsibility Score), FL (Financial Leverage), CSR_CF (Corporate Social Responsibility Cash flow), FC (Financial Cost rate).

Table 5 shows a regression coefficient of -0.0340 significant at 1 % between financial efficiency and financial cost. That is financially efficient firms, the financial cost tends to be lower, and efficient firms find financial avenues with lower transaction and financing costs.

The results also indicate a regression coefficient of -0.9747 between financial leverage indexes and financing efficiency is significant at 1 %. Thus, for each percentage point of the financial leverage index increase, the financing efficiency decreases by -0.9747 percentage points, showing that the increase of the financial leverage has a negative impact on financing efficiency. Therefore, higher leverage may raise agency debt costs because of the conflict of interest between the shareholders and debtholders, resulting in a negative relationship between leverage and efficiency.

Table 5 also indicates that the regression coefficient of CSR scores and financing efficiency is -0.0346, and significant at 1 %. The result shows that for every one percentage point increase in CSR score, the financing efficiency will decrease by

-0.0346 %; the increase in corporate social responsibility score significantly inhibits financing efficiency.

Regression Results of Model (3)

Table 6. Fixed Effects Regression Analysis Results of the Model (3) $FC=a+\beta_1 CSC+\beta_2 LNS+\varepsilon$

Variables	Coefficients (standard errors in parenthesis)	Prob.
C	8.3977 (4.6097)	0.0262
CSR	-0.0944 (0.0276)	0.0007
LNS	-0.2182 (0.2104)	0.2052
R-Squared	0.0168	
Adj. R-Squared	0.0148	
F-Statistic	2.4636	0.0064
Durbin-Watson	2.0226	
Obs	1449	

Dependent variable: FC (Financial Cost rate)
Independent variables: CSR (Corporate Social Responsibility Score) and LNS (company size, measured by the natural logarithm of the total assets).

It can be seen that the regression coefficient between CSR and financial cost rate is -0.0944, significant at 1 %., hence failing to reject hypothesis 3. This implies that, for a 1 % increase in CSR, there will be a 0.0944 decrease in the financing cost rate. In other words, the more the company engages in CSR activities, the less the financing costs. This implies that environmentally responsive or eco-friendly firms receive more favourable loan contracts than firms with lower CSR scores. Therefore, we fail to reject our hypothesis 3. Therefore, socially responsible investors are not likely to invest in firms with questionable environmental policies, as they have higher risks. Other studies have also indicated that firms with better CSR scores exhibit cheaper equity financing (El Ghoul et al. (2011). This is especially true for companies that improve their responsible employee relations, environmental policies and product strategies

Regression Results of Model (4)

Table 7. Fixed Effects Regression Analysis of the Model (4)

$FL = \alpha + \beta_1 CSR + \beta_2 LNS + \varepsilon$

Variable	Coefficients (standard errors in parenthesis)	Prob.
C	3.7407 (0.4264)	0.0000
CSR	-0.0124 (0.0026)	0.0001
LNS	0.0832 (0.0195)	0.0005
R-Squared	0.0404	
Adj. R-Squared	0.0333	
F-statistic	6.0455	0.0000
Durbin-Watson	1.9507	
Obs	1449	

Dependent variable: FL (Financial Leverage)
Independent variables: CSR (Corporate Social Responsibility Score) and LNS (company size, measured by the natural logarithm of the total assets).

It can be seen from the model that improvement in CSR score leads to a decrease in the leverage level of the firms. Hence, we reject hypothesis 2. This implies that firms that engage in CSR activities tend to attract equity investors and lower leveraged. Similarly, the larger the firm, the higher the leverage. A positive significance shows this at 1 % coefficients. This confirms Lee and Faff's (2009) study that firms with higher CSR scores present lower idiosyncratic risks or lower levels of firm idiosyncratic volatility. In other words, socially responsible firms may be considered to be less risky. A higher CSR score has a halo effect that increases the trust between the firm and different categories of stakeholders.

Robustness check

The results presented in Tables 4 to 7 may suffer from endogeneity issues, especially if there is a reverse causality between CSR score and financial access. Hence the coefficients may be biased. To overcome this potential reverse causality issue, we subsample the analysis based on the level of access to finance. The rationale is that firms with higher access to finance may devote significant resources to CSR activities. In contrast, those with limited access may struggle to devote resources to CSR activities, especially when those expenses are seen as non-obligatory financial demand. We assign one where access to finance is equal to or greater than one or otherwise 0 to indicate the level of access. We then rerun the four models. The results are summarised in the table below.

Table 8. Fixed Effect on Low and High Access Samples

	Low Access		High Access	
Dependent variable	Independent variables	Significance	Independent variables	Significance
KZ	C	-10.2716 (18.5184)	C	-50.8092*** (4.8737)
	CSR	-0.0484*** (0.1174)	CSR	-0.3549*** (0.0278)
	LNS	0.1929** (0.8481)	LNS	3.0277*** (0.2213)
FE	C	10.1581*** (1.5052)	C	6.2087* (3.6034)
	FC	-0.1777*** (0.0311)	FC	-0.0121 (0.0105)
	CSR	-0.1037*** (0.0096)	CSR	-0.1016*** (0.0179)
	CSR_CF	1.2147*** (0.2918)	CSR_CF	0.4042 (0.2527)
	FL	-2.3504*** (0..2343)	FL	-0.7052*** (0.1035)
	LNS	-0.1777** (0.0311)	LNS	-0.2324 (0.5581)
FC	C	0.1621 (1.2844)	C	45.6367** (11.7855)
	CSR	-0.0145* (0.0081)	CSR	-0.2853*** (0.0673)
	LNS	-0.0131 (0.0588)	LNS	-1.5218** (0.5351)
FL	C	2.4069*** (0.1707)	C	10.8408*** (1.2411)
	CSR	-0.0046*** (0.0011)	CSR	-0.0202*** (0.0071)
	LNS	0.0467*** (0.0077)	LNS	-0.3667** (0.0563)

FE (Financial Efficiency), LNS (company size, measured by the natural logarithm of the total assets), CSR (Corporate Social Responsibility Score), FL (Financial Leverage), CSR_CF (Corporate Social Responsibility Cash flow).

Table 8 shows that a high CSR score leads to low financial constraints by dividing the data into low access and high access. In other words, those firms that engage more in CSR activities will have high financial access. We can also see that a high CSR score in both samples has a negative coefficient with a financial cost. Overall, the results from Table 8 are not different regarding the sign of the coefficients from Table 4 to 7. Hence, all our inferences still hold.

Conclusion

This study extends the study on the consequences of CSR Performance of firms by examining the evident link between CSR scores and the financial constraint. In this regard, the study investigates whether those firms that perform well socially face fewer financial constraints from a debt and equity perspective. Using the fixed effects model, the results show that CSR performance significantly correlates negatively with the KZ index. The enterprises' financing constraints are reduced as corporate social responsibility activities or score increases. This can imply that firms that perform very well in CSR scores are likely to have a good reputation and, hence, can reduce the financing constraints. Similarly, the higher the CSR score, the more access to debt financing.

The results demonstrated the downside of highly leveraged firms. The higher the leverage, the less financially efficient the firm is. Thus, for each percentage point of the financial leverage index increase, the financing efficiency decreases by 0.3012 %.

Limitations

It is worth noting that there are certain limitations in this article. This article only selects 23 listed companies with complete CSR reports. Therefore, the conclusions drawn from the data results do not represent all Chinese listed companies. At the same time, the data of Chinese listed companies often have some deviations, which may affect the final result of the analysis in this paper.

Policy implications

Chinese manufacturing companies can safely and corporately improve corporate social responsibility, reducing corporate financing constraints. The improvement of corporate social responsibility will lead to the financing efficiency of enterprises to be decreased slightly. However, the financing cost of enterprises will also decrease with the improvement of corporate social responsibility, so enterprises should increase their corporate social responsibility. The government should also increase the improvement of the corporate social responsibility reporting system as well. The Chinese government should encourage enterprises to develop CSR as China's current CSR development level still has a particular gap with other developed countries.

References

Akpinar, A., Jiang, Y., Gomes-Mejia, L.R., Berrone, P. and Walls, J.L. (2008), "Strategic use of CSR as a signal for good management", IE Business School Working Paper, WP08–25

Almeida, H., Campello, M., and Weisbach, M. S. (2004). The cash flow sensitivity of cash. *Journal of finance*, 59, 1777–1804.

Baker, M., Stein, J. C., and Wurgler, J. (2003). When does the market matter? Stock prices and the investment of equity-dependent firms. *The Quarterly Journal of Economics* 118: 969–1005

Baron, D.P., Harjoto, M.A. and Jo, H. (2009), "The economics and politics of corporate social performance", Stanford University Graduate School of Business Research Paper No. 1993, Stanford, CA, available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1202390 (accessed January 18, 2020).

Bayoud, N., Kavanagh, M.and Slaugther, G. (2012). Corporate Social Responsibility Disclosure and Employee Commitment: Evidence from Libya. SSRN Electronic Journal.

Benabou, R. and Tirole, J. (2010), "Individual and corporate social responsibility", Economica, 77(305), 1–19.

Bryman, A. and Bell, E. (2007) Business Research Methods, 2nd Ed, Oxford, Oxford University Press

Butt, I. 2016. Corporate social responsibility and consumer buying behavior in emerging market: A mixed method study. *International Journal of Business and Management* 11(7):211.

Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32(3), 946–967.

Cao, Y., Liu, J. and Wang, J. (2013). Corporate social responsibility and financing efficiency. Soft Science.

Castaldo, S., Perrini, F., Misani, N. and Tencati, A. (2008). The Missing Link Between Corporate Social Responsibility and Consumer Trust: The Case of Fair-Trade Products. *Journal of Business Ethics,* 84(1),1–15.

Cerbioni, F. and Parbonetti, A. (2007), "Exploring the effects of corporate governance on intellectual capital disclosure: an analysis of European biotechnology companies", *European Accounting Review*, 16(4). 791–826.

CIBA (2006), "Report on CSR in China", The Chinese Institute of Business Administration, China Financial and Economic Publishing House, Beijing

Chan, C. Y., Chou, D. W., and Lo, H. C. (2017). Do financial constraints matter when firms engage in CSR? *The North American Journal of Economics and Finance*, 39, 241–259.

Cheng, B., Ioannou, I. and Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal*, 35(1),1–23.

Christmann, P. and Taylor, G. (2006). Firm self-regulation through international certifiable standards: determinants of symbolic versus substantive implementation. *Journal of International Business Studies,* 37, 863–878

Chih, HL, Chih, HH and Chen, T.-Y. (2wwwww010), "On the determinants of corporate responsibility: international evidence on the financial industry", *Journal of Business Ethics*, Vol. 93 No. 1, pp. 115–135

Cleary,S. (1999). "The Relationship between Firm Investment and Financial Status", *Journal of Finance*, 54(2): 673—692.

Cleary, S., Povel P., Raith M. (2007). "The U-shaped Investment Curve: Theory and Evidence", *Journal of Financial and Quantitative Analysis*,42(1): 1—40.

Cohen, J. R., and Simnett, R. (2014). CSR and assurance services: A research agenda. Auditing: A Journal of Practice & Theory, 34(1), 59–74.

Cooke, T. E. 1992. The impact of size, stock market, and industry type on disclosure in the annual reports of Japanese listed corporations. *Accounting and Business Research*, 22: 229–237

Dhaliwal, D., Li, O. Z., Tsang, A. and Yang, Y. G. (2014). Corporate social responsibility disclosure and the cost of equity capital: The roles of stakeholder orientation and financial transparency. *Journal of Accounting and Public Policy*, 33(4), 328- 355

Dhaliwal, D., Li, O.Z., Tsang, A.H. and Yang, Y.G. (2011), "Voluntary non-financial disclosure and the cost of equity capital: the case of corporate social responsibility reporting", *The Accounting Review*, 86(1), 59–100.

Di Domenico, M., Haugh, H., and Tracey, P. (2010). Social Bricolage: Theorizing Social Value Creation in Social Enterprises. Entrepreneurship Theory and Practice. 681 – 703.

El Ghoul, S., Guedhami, O., Kwok, C.C. and Mishra, D.R., (2011). Does corporate social responsibility affect the cost of capital? *Journal of Banking & Finance*, 35(9), 2388–2406.

Exter, N., Cunha, S. and Turner, C. (2011) The Business Case for being a Responsible Business. Cranfield: Doughty Centre Corporate Social Responsibility, Cranfield University

Fleming, P. and Jones, T. M. (2013). The End of Corporate Social Responsibility, Crisis & Critique. England: Sage publications Limited.

Feldman, J., Soyka, P. and Ameer, P. (1997), "Does improving a firm's environmental management system and environmental performance result in a higher stock price?", *The Journal of Investing*, 6 (4), 87–97.

Gazzola, P(2014a). "Corporate Social Responsibility And Companies' Reputation," Network Intelligence Studies, Romanian Foundation for Business Intelligence, Editorial Department, 3, 74–84,

Ge, J. and Zhao, W. (2017). Institutional Linkages with the State and Organizational Practices in Corporate Social Responsibility: Evidence from China. *Management and Organization Review*, 13(3), 539–573.

Goetz, M. R., (2018). Financial Constraints and Corporate Environmental Responsibility. SAFE Working Paper No. 241. Available at SSRN: https://ssrn.com/abstract=3230344 or http://dx.doi.org/10.2139/ssrn.3230344 Accessed on 12 Jan 2019.

Goss, A., and Roberts, G. S. (2011). The impact of corporate social responsibility on the cost of bank loans. *Journal of banking and finance*, 35, 1794–1810.

Gugler, P. and Shi, J. Y. J. (2009). Corporate social responsibility for developing country multinational corporations: Lost war in pertaining global competitiveness*? Journal of Business Ethics*, 87, 3–24

Hartojo, M. A. and Jo, H. (2015). Legal vs. normative CSR: Differential impact on analyst dispersion, stock return volatility, cost of capital, and firm value. *Journal of Business Ethics, 128*(1), 1- 20.

Harvey, B. (1999). Graceful merchants: A contemporary view of Chinese business ethics. *Journal of Business Ethics*, 20, 85–92.

Haque, F. (2017). The effects of board characteristics and sustainable compensation policy on carbon performance of UK firms. *The British Accounting Review*, 49(3), 347–364.

Ho, C. A. and Williams, S. M. (2003). International comparative analysis of the association between board structure and the efficiency of value added by a firm from its physical capital and intellectual capital resources. *International Journal of Accounting*, 38 (4) (2003), 465–491

Hussain, N., Rigoni, U., and Cavezzali, E. (2018). Does it pay to be sustainable? Looking inside the black box of the relationship between sustainability performance and financial performance. *Corporate Social Responsibility and Environmental Management*, 25, 1198–1211. https://doi.org/10.1002/csr.1631

Husted, B. and Allen, D. (2000). 'Is it ethical to use ethics as strategy?' *Journal of Business Ethics*, 27 (1), 21-31.

Kaplan, S. and Zingales, L. (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints? *The Quarterly Journal of Economics*, 112(1), 169–215.

Kaplan, S. and Zingales, L. (2000). Investment-Cash Flow Sensitivities Are Not Valid Measures of Financing Constraints. *The Quarterly Journal of Economics*, 115(2), 707–712.

KPMG (2011). KPMG international survey of corporate responsibility reporting 2011. Amsterdam: KPMG Climate Change & Sustainability.

Kim, H., Lee, M., Lee, H. and Kim, N. (2010). Corporate social responsibility and employee–company identification. *Journal of Business Ethics* 95: 557–569.

Ioannou, I. and Serafeim, G. (2015), "The impact of corporate social responsibility on investment recommendations: analysts' perceptions and shifting institutional logics", *Strategic Management Journal*, 36(7), 1053–1081.

Lamberti, L. and Lettieri, E. (2009). CSR Practices and Corporate Strategy: Evidence from a Longitudinal Case Study. *Journal of Business Ethics*, 87(2), 153–168.

Lamont, Owen; Polk, Christopher and Sa´a-Requejo, Jesus. (2001). "Financial constraints and stock returns." *Review of Financial Studies*, 529–554.

Lantos, G. P. (2001). The Boundaries of Strategic Corporate Social Responsibility. *Journal of Consumer Marketing*, 18(7), 595–630.

Lee, D. and Faffi, R. (2009). Corporate sustainability performance and idiosyncratic risk: a global perspective. *Financial Review*, vol. 44, 213–237.

Li, L., Guo, H. and Zou, B. (2004), CSR in China, Economic Science Press, Beijing

Liang, Hao, and Luc Renneboog. (2017). On the Foundations of Corporate Social

Responsibility. *Journal of Finance*, 72(2), 853–910.

Liesen, A., Figge, F., Hoepner, A., and Patten, D. M. (2017). Climate change and asset prices: Are corporate carbon disclosure and performance priced appropriately? *Journal of Business Finance & Accounting*, 44(1–2), 35–62. https://doi.org/10.1111/jbfa.12217

Lins, K., Servaes, H. and Tamayo, A. (2017), "Social capital, trust, and firm performance: the value of corporate social responsibility during the financial crisis", The Journal of Finance, 72(4), 1785–1824

Liu, Y., Feng, T. and Li, S. (2015). Stakeholder Influences and Organisation Responses: A Case Study of Corporate Social Responsibility Suspension. *Management and Organization Review*, 11(3), 469–491. doi:10.1017/mor.2015.4

Lin, C-S., Chang, R-Y. and Dang, V.T. (2015). An Integrated model to explain how Corporate Social Responsibility Affects Corporate Financial Performance. *Sustainability*, 7, 8292–8311.

Margolis, J.D., Elfenbein, H.A. and Walsh, J.P. (2009), "Does it pay to be good…and does it matter? A meta-analysis of the relationship between corporate social and financial performance", available at: http://dx.doi.org/10.2139/ssrn.1866371 (accessed December 12, 2019).

Marquis, C., Yin, J. and Yang, D. (2017). State-Mediated Globalisation Processes and the Adoption of Corporate Social Responsibility Reporting in China. *Management and Organization Review,* 13(1), 167–191. doi:10.1017/mor.2016.55

Matten, D. and Moon, J. (2008). "Implicit" and "explicit" CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2), 404–424

McElhaney, K., (2009). A strategic approach to corporate social responsibility. Lead. Lead. 52, 30–36.

Modigliani, F.; Miller, M. (1958). "The Cost of Capital, Corporation Finance and the Theory of Investment". *American Economic Review*. 48 (3): 261–297.

Myers S. C.,Majluf N. S. (1984). "Corporate Financing and Investment Decisions when Firms Have Information that Investors do not Have". *Journal of Financial Economics*,13(2): 187—221.

Naomi A. G., Stelios C. Z., Pavlos C. S. and Donald H. S. (2019) The Impact of Corporate Philanthropy on Reputation for Corporate Social Performance. *Business & Society*, Vol. 58(6) 1177–1208

Nurn, C. W. and Tan, Y. W. G. (2010) "Obtaining Intangible And Tangible Benefits from Corporate Social

Responsibility", International Review of Business Research Papers, Vol. 6, no. 4, pp. 360–371.

O'Dwyer, B. (2002). Managerial perceptions of corporate social disclosure: An Irish story. *Accounting, Auditing & Accountability Journal,* 15(3), 406–436. https://doi.org/10.1108/09513570210435898

Palmer, K., Oates, W. E., and Portney, P. R. (1995). Tightening environmental standards: the benefit-cost or the no-cost paradigm? *Journal of Economic Perspectives*, 9(4), 119–132. https://doi.org/10.1257/jep.9.4.119

Peloza, J. (2009), "The challenge of measuring financial impacts from investments in corporate social performance", *Journal of Management*, Vol. 35 No. 6, pp. 1518–1541

Pomering, A. and Dolnicar, S. 2009. Assessing the prerequisite of successful CSR implementation: Are consumers aware of CSR initiatives? Journal of Business Ethics 85(2),285–301

Porter, M. and Kramer, M. (2006), "Strategy and society: the link between competitive advantage and corporate social responsibility", *Harvard Business Review*, Vol. 84 No. 12, pp. 78–92.

Pijourlet, G. (2013). Corporate Social Responsibility and Financing Decisions. In European Financial Management Association, 2013 Annual Meetings.

Philippe, L., Alex, S. and Bart, B. (2013) Financial Efficiency and Social Impact of Microfinance Institutions Using Self-Organising Maps. *World development*, 46, 197–210.

Qiu, Y., Shaukat, A., and Tharyan, R. (2016). Environmental and social disclosures: Link with corporate financial performance. *The British Accounting Review*, 48(1), 102–116. https://doi.org/10.1016/j.bar.2014.10.007

Rahim, R.A., Jalaludin, F.W. and Tajuddin, K. 2011. The importance of corporate social responsibilities on consumer behavior in Malaysia. *Asian Academy of Management Journal* 16(1): 119–139.

Rupley, K. H., Brown, D., and Marshall, R. S. (2012). Governance, media and the quality of environmental disclosure. *Journal of Accounting and Public Policy*, 31(6), 610–640. https://doi.org/10.1016/j.jaccpubpol.2012.09.002

Sharfman, M. P., and Fernando, C. S. (2008). Environmental risk management and cost of capital. *Strategic management journal*, 29, 569–592.

Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355–374.

United Nations Economic and Social Commission for Asia and Pacific (UNESCAP) (2010). Creating business and social value: The Asian way to integrate CSR into business strategies. Studies in Trade and Investments # 68. New York: United Nations

UNSD (United Nations Statistics Division) (2018). United Nations Commodity Trade Statistics (Comtrade). Available at: https://comtrade.un.org/data/ Accessed 12 December 2019.

Werther, W. B., and Chandler, D. (2011). Strategic corporate social responsibility: Stakeholders in a global environment. London: Sage Publications.

Wang, L. and Juslin, H. (2009), "The impact of Chinese culture on corporate social responsibility: the harmony approach", *Journal of Business Ethics*, Vol. 88 No. 3, pp. 433–451, doi: 10.1007/s10551-

009–0306–7

Wooldridge, J. M. (2003). Further results on instrumental variables estimation of average treatment effects in the correlated random coefficients model. *Economics letter*, Elservier, 79(2), 185–191.

Xia, E. (2008). Research on the Financing Efficiency of Private SMEs in Anhui Province. Master.

Yang, X. (2005). Research on the financing efficiency of listed companies.