

Corporate Social Performance and Cost of Debt Capital* : Evidence from Private Firms

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〈Abstract〉

Using an extensive dataset on Korean private firms from 2009 to 2018 for 137,036 firm-year observations, we report several empirical results. First, we find that higher corporate social performance is negatively associated with firms' cost of debt capital. Hence creditors regarded high corporate social performance firms as positively and reduce cost of debt financing. Second, the negative association between corporate social performance and cost of debt capital is more pronounced in over-investment in corporate social performance firms. Finally, we conduct a variety of robustness analysis using alternative corporate social performance variable and to address various endogeneity issues using firm-fixed regressions, and our main results remain qualitatively unchanged. Therefore, the overall robustness tests support the main results in this study, which advocates for the risk mitigation perspective of corporate social performance in private firms.

〈Key words〉 Corporate social performance, Cost of debt capital, Creditors, Private firms, Risk mitigation perspective

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I. Introduction

The study examines the association between corporate social performance (CSP) and cost of debt (COD) capital and focuses on private firms in Korea. Asker et al.(2015) reported that approximately 99% of US firms are private. In 2010, private firms accounted for 68.7% of private sector employment. Extant studies demonstrate that private firms are fundamentally different from public firms in many aspects, such as ownership structure, capital market pressure, and investment and financing behaviors (Burgstahler et al. 2006 ; Ball and Shivakumar 2005 ; Brav 2009 ; Hwang et al. 2018). Especially, private firms in Korea are relatively small in size (Haw et al. 2014), and the majority of shareholders are founders or relatives of executives in the firm. The corporate donation activity of private firms entails little agency costs for the abovementioned reasons (controlling shareholders vs. minority shareholders and non-owner managers vs. controlling shareholders) compared with public firms (Hou et al. 2016). Therefore, the study investigated in the little agency costs setting with regard to corporate donation and its effect on COD capital with a focus on a sample of private firms. To the best of our knowledge, studies on the economic consequences of corporate donation among private firms are limited due to the lack of large-scale datasets on private firms.¹⁾

The study examines whether CSP, which pertains to a firm's corporate philanthropic giving, influences COD capital in private firms. Conversely, CSP can motivate insiders to be less involved in misbehavior, thus leading to less agency problems. Prior studies demonstrated that CSP enhances financial performance (Wang and Qian 2011), increases investment efficiency (Chen et al. 2018), and reduces stock price crash risk (Zhang et al. 2016).²⁾ Hence, if creditors regard CSP as an essential investment for the firm to satisfy various stakeholders based on stakeholder theory of corporate social responsibility (CSR), then it can reduce COD in firms with high CSP. This argument indicates a negative association between CSP and COD, which advocates the risk mitigation perspective.

In contrast, Petrovits(2006) suggested that CSP may be used as a tool for shielding insiders from monitoring by outsiders (i.e., to attain high levels of legitimacy). Trusted and highly reputable firms may enjoy relaxed external supervision and reduced government monitoring (Du 2015). This argument suggests a positive relationship between CSP and COD, which advocates

1) Korean government mandatorily disclose financial statement including corporate giving data which total asset of more than 10 billion South Korean won(about U.S. \$8 million) firms.

2) Moreove CSP exposes firms to a wide range of audiences(Porter 2002).

the managerial opportunism perspective. Furthermore, Goss and Roberts(2011) suggested that CSR investments can increase loan spreads for low-quality borrowers. In line with this research, CSP may be regarded as a cost to the firm. Therefore, if creditors regard CSP as an inefficient cost, then creditors increase COD according to the level of CSP. As such, whether CSP is positively or negatively associated with COD remains an open empirical question for private firms. In Korea, private firms rely on bank financing. The majority of short- and long-term debt and interest expenses as reported in the financial statements of private firms represent the amount of borrowings from commercial banks and other private lenders, which is associated with interest expenses(Kim et al. 2011). Furthermore, comprehensive data on firm/year donation expense for firms in the US are relatively scarce. However, a vast amount of such audited financial data could be obtained and used as a proxy for CSP from firms in Korea as the Korean government requires firms to disclose individual firm/year donation expense in an income statement.³⁾ Further, CSP is relatively free from sample selection bias because Korea mandatorily recognizes donation expense in audited financial statements, even for private firms.

Using an extensive dataset on private firms in Korea from 2009 to 2018 with 137,036 firm-year observations, the study reports several empirical results. First, the study finds that CSP is significantly and negatively associated with COD. Then, creditors positively regard firms with high CSP and consequently reduce COD capital. This empirical result supports the managerial opportunism perspective. Furthermore, the negative association between CSP and COD becomes more pronounced with the over-industry mean value of CSP groups. Finally, the study performs a variety of robustness analyses using CODSPREAD and alternative CSP measures, which exclude zero-donation firms, to address various endogeneity issues using firm-fixed effect regressions and lagged independent variables. The main results remain qualitatively unchanged. Therefore, the overall robustness tests support the main results of the study.

The paper makes several contributions to the literature on CSR. First, studies that investigated the direct association between CSP and COD for private firms are limited due to the lack of data on private firms in the U.S. Prior studies mainly focused on public firms in the US and investigated the associations between CSR and cost of equity capital (El ghoul et al. 2011) and between CSR and cost of bank loans (Ge and Liu 2015). In this regard, the current study extends

3) Comprehensive firm-year donation expense data are relatively scarce in U.S. or U.K. However, the Korean government requires public firms' disclosure of individual firm-year donation expense data (Kim et al. 2019), donation expense data are collected from audited financial statements for this study. Korean government mandatorily disclose total amount of each firms' corporate philanthropy in a income statement then this corporate philanthropy is audited financial numbers which is more reliable measure.

the literature with the proposal that firms with high CSP tend to reduce COD in private firms in Korea. The economic consequences or determinants of CSP may vary according to a country's informational environment and legal origin (El Ghouli et al. 2018). In contrast to developed countries, such as the U.S., CSP in Korea may be regarded as a tool for enhancing public scrutiny and enabling firms to develop favorable political connections or relationships with the Korean government. Therefore, further research is required regarding the economic consequences of CSP among relatively emerging countries, such as Korea.

Second, to the best of our knowledge, studies that examined the association between CSP and COD are limited. Therefore, the current study may be the first empirical endeavor to use data on qualified donation expenses in Korea to examine the direct association between CSP and COD, which indicates that ethical behaviors, such as CSP, may be one of the determining factors for reducing debt financing cost.

Third, the negative association between CSP and COD is more pronounced in over-investment in CSP groups. Awaysheh et al. (2020) demonstrated that firms are required to conduct CSR activities beyond industry peer CSR activities that focus on public firms. Using data on CSP, the study verified the negative association between CSP and COD, which becomes more pronounced in over-investment CSP among private firms. Hence, a peer-industry CSP should be considered, which may be a benchmark and a pertinent factor for reducing the debt financing costs of firms.

II. Literature Review and Hypothesis Development

1. Corporate Social Performance

CSP is regarded as the donation of a firms' resources to social areas with the aim of changing social conditions that cause social problems(Wang and Qian 2011 ; Masulis and Reza 2015). According to altruistic theory, CSP behavior is attributable to the ethical and discretionary responsibilities of firms(Caroll 1979 ; Choi and Wang 2007). In line with this research, Campbell and Slack(2006) asserted that firms opt to engage in charitable giving to achieve the dual objective of charitable benevolence and creation of firm value. Another stream of the literature indicates the economic consequences of CSP in firms. Wang and Qian(2011) illustrated that firms with high CSP may enhance financial performance, which enables them to attract positive responses from stakeholders. In line with this research, Godfrey et al.(2009) asserted that CSP can

enable firms to accumulate moral and reputational capital. Choi et al.(2009) suggested that, on average, corporate philanthropy enhances the firm value of public firms in Korea. Jeong and Kim (2019) used data from Korea and proposed that firms use corporate giving as a means to seek external legitimacy to reduce regulatory costs, whereas the internal efficiency condition can be an important contingency factor in determining legitimacy management costs. Chun(2019) utilized data from public firms in Korea and argued that high levels of corporate philanthropy are negatively associated with analyst earnings dispersion.

Alternatively, recent studies indicated that firms use CSP for various reasons, such as political influence, tax exemption, and fund tunneling (Bertrand et al. 2018 ; Kim et al. 2019). In particular, Bertrand et al.(2018) suggested that firms deploy charitable foundations as a form of tax-exempt influence-seeking. Wang et al.(2008) posited that corporate philanthropy and financial performance represented by an inverse U-shape vary with the level of corporate philanthropy. Petrovits(2006) suggested that corporate-sponsored private foundations enable firms to maintain stable levels of giving to charitable causes and to provide substantial discretion at the same time. Managers then strategically use such contributions to meet financial reporting objectives. Additionally, Judd and Lusch(2018) insisted that firms make large philanthropic donations to increase their cost of equity capital because philanthropy may be an allocation of shareholder returns to a third party(in this case, a non-profit organization) with uncertain returns. Kim et al.(2019) argued that business groups strategically coordinate the philanthropic decisions of affiliates to maximize the value of the business group as a whole or to tunnel business group resources to controlling shareholders.

2. Corporate Social Responsibility and Cost of Debt Capital

Using a sample of 3,996 loans in the US, Goss and Roberts(2011) demonstrated that low-quality borrowers engaging in discretionary CSR spending face high loan spreads and short maturities, whereas lenders are indifferent to CSR investments by high-quality borrowers. Therefore, the authors suggested that creditors regard CSR investment as an inefficient investment for low-quality borrowers. Hence, Suto and Takehahra(2017) used data from Japan and argued that debtors perceive CSR performance as an adverse information-mitigating factor for the COD perspective. Therefore, the empirical result indicates that CSR investment does not always reduce COD capital from the creditor's perspective. On the contrary, Attig et al.(2013) suggested that credit rating agencies tend to award relatively high ratings to US firms with positive CSR performance. Therefore, the authors considered that CSR performance conveys important non-

financial information that rating agencies are likely to use in their evaluation of the credit-worthiness of firms.

Furthermore, Ge and Liu(2015) proposed that better CSR performance is closely related to lower yield spreads based on data on new bond issuance in the US. However, credit ratings absorb several of these effects. In addition, they separately examined CSR strengths and CSR concerns and found that high scores for CSR strength (concern) are associated with low (high) yield spreads. Furthermore, Yeh et al.(2020) focused on CSR data from China and concluded that high levels of CSR performance can rapidly reduce COD capital. The majority of studies on CSR and COD in the US or China focus on CSR using public firms. Furthermore, the majority of studies on CSR and CSP mainly discuss public, not private firms. Therefore, the current study aims to bridge this research gap and establish the direct empirical association between CSP and COD among private firms.

3. Hypothesis Development

Several studies on CSP elucidated positive economic consequences for public firms(Wang and Qian 2011 ; Chen et al. 2018). Typically, firms with high CSP receive increased attention from the public and are more likely to be positively evaluated by stakeholders. Furthermore, this corporate giving process enables firms to accumulate more reputational capital. As a result, creditors positively regard high CSP behavior. Therefore, the current study expects a negative association between CSP and COD, thus supporting the risk mitigation perspective.

On the contrary, Judd and Lusch(2018) suggested that large philanthropic donations increase the cost of equity capital among firms in the US. As such, these studies interpret philanthropy as a possible allocation of shareholder returns to a third party with uncertain returns, which directly increases the business risk of firms. Recent studies reported that CSP is used for various reasons, such as political influence, tax exemptions, and fund tunneling(Bertrand et al. 2018 ; Kim et al. 2019). In addition, managers in firms may abuse corporate philanthropy to establish their political connections at the cost of shareholders. If corporate philanthropy can be used for window-dressing designed to mitigate negative effects, then it can be used to strengthen the political connections of top managers at the cost of shareholders. As such, a positive association is expected between CSP and COD, which advocates the managerial opportunism perspective. Furthermore, Goss and Roberts(2011) demonstrated that inefficient CSR investment may lead to high loan spreads for low-quality borrowing firms.

In summary, if firms use CSP as a credible mechanism for maintaining a positive public reputation, whereas CSP activities generate a form of goodwill or moral capital for firms and function as “insurance-like” protection with the occurrence of negative events (Godfrey et al. 2009), then the current study expects a negative association between CSP and COD, which advocates the risk mitigation perspective. Furthermore, the study hypothesizes that if CSP activities are beneficial to the firm, then creditors should favorably view such a positive effect. Furthermore, active CSP engagement fosters positive relationships with the government and thereby mitigates the risk of litigation and government regulatory costs. In contrast, if CSP is used to mask wrongdoings or regarded as inefficient costs to the firm, then a positive association between CSP and COD is expected, which advocates the managerial opportunism perspective. However, studies on CSP and its impact on COD in private firms are limited. Against this background, the previous discussion leads to the following competing alternative hypotheses against the null hypothesis that no relationship exists between CSP and COD financing.

H1A : A positive relationship exists between COD capital and level of CSP (managerial opportunism perspective).

H1B : A negative relationship exists between COD capital and level of CSP (risk mitigation perspective).

With increased intra- and inter-industry firm interactions, peer effects have been found as the most important determinants of firm behavior. According to Leary and Roberts (2014), peer effects are the most important considerations for capital structure decisions. In addition, such peer effects are found in corporate precautionary cash holdings (Hoberg et al. 2014). In line with the understanding of peer effects on economic activity, Awaysheh et al. (2020) illustrated that over-investment in CSR compared to industry peer CSR activity may enhance the financial performance of public firms in the US. Therefore, the authors concluded that if industry peer firms conduct more active CSR activities, then the value of market participants will exceed the CSR activities of firms compared with industry peers.

Lastly, Cao et al. (2019) mentioned that firms do not operate in isolation, such that their corporate policies may be outcomes of their interaction with other firms in the same industry. Therefore, exploring the influence of peer firms may enhance the understanding of the dynamics of the CSR activities of a firm. Hence, the current study posits that the negative association between CSP and its COD capital is more pronounced during over-investment in CSP compared to the industry mean value of CSP in private firms. The majority of studies on the peer effects

of CSR activities focus on public firms due to data unavailability. However, the current study recognizes the need to examine industry peer effects on CSP and its economic consequences, such as debt financing. Based on this discussion, the study presents the second hypothesis as follows.

Hypotheses 2. The association between CSP and COD capital differs according to the magnitude of CSP among industry peers.

III. Research Methods

1. Empirical Model

We test the hypothesis using equation (1). The dependent variable in equation (1) is the proxy of the COD(Cost of Debt Capital) as well as CODSPREAD and the independent variable is CSP(Corporate Social Performance). We perform multiple regression analyses on equation (1) as our baseline regression.

$$\begin{aligned} COD_{i,t+1}(CODSPREAD_{i,t+1}) = & \beta_0 + \beta_1CSP_{i,t} + \beta_2LEV_{i,t} + \beta_3ROA_{i,t} + \beta_4INTCOV_{i,t} \\ & + \beta_5LNSIZE_{i,t} + \beta_6CRATIO_{i,t} + \beta_7OCF_{i,t} \\ & + Firm \ \& \ Year \ Fixed \ Effects + \varepsilon \end{aligned} \quad (1)$$

<Appendix> includes a more detailed definition of all of the variables.

We measured the CSP of individual firms—the main variable of interest in this study—using the natural logarithm of donation expense. Prior CSP papers using donation expense as a proxy for firms' corporate social performance (Zhang et al. 2015). It is hard to evaluate private firm' CSR activity because there is no unifying indicators such as KEJI index or ESG(Environment, Social, Governance) index, also private firms' most of CSR activity is consist of corporate philanthropy activity due to short of CSR related staffs (2015 corporate giving report) then we label private firms' corporate philanthropy as corporate social performance of the firm following prior papers (Zhang et al. 2015). If the magnitude of COD decreases(increase) as CSP increases, the coefficient of CSP will have a negative (positive) value.

This model includes several control variables related to COD : leverage(LEV), Profitability (ROA), Interest coverage ratio(INTCOV), natural log of total assets (LNSIZE), Current ratio (CRATIO) and operating cash flow ratio(OCF) following prior papers (Pitman and Fortin 2004 ; Bharath et al. 2008 ; Park et al. 2013 ; Park and Roh 2014 ; Park and Kim 2014). Leverage(LEV)

would be positive association between COD, and Profitability(ROA), Interest coverage ratio (INTCOV), Current ratio(Cratio), operating cash flow ratio(OCF) would be negative association between COD. Natural log of total assets (LNSIZE) would be positive association between COD if creditors perceive bigger firms tend to conduct riskier projects to go on a public firms, on the contrary there would be negative association between COD if bigger firms have more better information environments for private firms. Finally, we included year dummy variables as control variables. We conduct firm-fixed effect model for our main regression that this method alleviates the omitted variable problem and reduce endogeneity concern. Hence we use dependent variable COD as well as CODSPREAD in year $t+1$ for the time lag then this empirical design might partly reduce reverse causality concern. Also, for the robustness tests, we employ CSP2 which is donation expense divided by total sales as our alternative measure of CSP.

2. Sample Selection Process

Our empirical analysis is based on a sample of Korean private firms from 2009 to 2018. We include those firms never went public.⁴⁾ We extract accounting data from the Kis-Value database. We select companies that satisfy the following criteria :

- (1) Financial statement data and donation expense data are available ;
- (2) Fiscal year ended December 31 ;
- (3) Non-financial industry ;

This process yield a final sample of 137,036 firm-year observations from 2009 to 2018.

IV. Empirical Results

1. Descriptive statistics

Table 1 provides descriptive statistics for the main variables used in this study. Mean value of the COD and CODSPREAD is 0.070(0.044) respectively. The mean (median) value of CSP1 is 0.008(0.011) and this amount is 35,583 dollars per the firms' average donation expense. The

4) To alleviate potential outlier problems, we winsorize all continuous variables at the 5 percent and 95 percent level following Pitman and Fortin(2004). We winsorize this process due to cost of debt capital.

mean (median) value of LNSIZE is 23.957(23.751), LEV is 4.251(2.064), ROA is 0.03(0.022), INTCOV is 8.847(3.098), CRATIO is 1.299(1.042) and OCF is 0.042(0.036) which are similar distribution to those with prior papers(Kim et al. 2011). Private firms in Korea tends to less profitable and high leverage ratio on average.

〈Table 1〉 Descriptive statistics

Variable	N. of Obs.	Mean	Std.	Min	Median	Max
COD_{t+1}	137,036	0.07	0.041	0.017	0.06	0.172
COD $SPREAD_{t+1}$	137,036	0.044	0.041	-0.012	0.035	0.145
DOV (\$)	137,036	35,583	635,000	0.000	42	84,166,667
$CSP1$	137,036	0.008	0.008	0.000	0.011	0.018
$CSP2$	137,036	0.004	0.008	0.000	0.000	0.030
$ABDOV$	137,036	0	7.734	-14.768	2.517	14.801
$LNSIZE$	137,036	23.957	0.788	22.974	23.751	25.816
LEV	137,036	4.251	5.758	0.284	2.064	23.293
ROA	137,036	0.03	0.061	-0.095	0.022	0.165
$INTCOV$	137,036	8.847	16.136	-4.485	3.098	65.029
$CRATIO$	137,036	1.299	1.04	0.097	1.042	4.257
OCF	137,036	0.042	0.096	-0.155	0.036	0.242

2. Univariate analysis

Table 2 reports the Pearson' correlation coefficients for the main variables used in the empirical analysis of this study. The CSP, which is the main variable of interest in this study, showed a significant negative correlation with COD as well as CODSPREAD at the 1% level significance. CSP is positively and significantly associated with LNSIZE, ROA, INTCOV, CRATIO and OCF and negatively and significantly associated with LEV. Further, COD is positively and significantly associated with LNSIZE, LEV and negatively and significantly associated with ROA, INTCOV, CRATIO and OCF. Therefore, this univariate test suggests that creditors reduces high CSP firms' debt financing for private firms. However, the implication of the univariate result is limited. Therefore, we perform multivariate regression analyses to examine the overall association between CSP and COD with control variables.

〈Table 2〉 Pearson correlation among main variables

	COD_{t+1}	COD $SPREAD_{t+1}$	$CSP1$	$LNSIZE$	LEV	ROA	$INTCOV$	$CRATIO$
COD $SPREAD_{t+1}$	0.979							
$CSP1$	-0.023	-0.023						
$LNSIZE$	0.012	0.013	0.236					
LEV	0.074	0.075	-0.220	-0.138				
ROA	-0.082	-0.087	0.125	0.039	-0.274			
$INTCOV$	-0.154	-0.158	0.134	0.068	-0.228	0.561		
$CRATIO$	-0.040	-0.042	0.075	0.024	-0.236	0.262	0.387	
OCF	-0.057	-0.057	0.103	0.018	-0.151	0.406	0.302	0.054

3. Multivariate analysis

Table 3 analyze the impact of CSP on the extent of COD. The sample used in this study is a form of panel data. Column (1) shows the Pooled OLS regression between CSP and COD. And there is negative and significantly associated with CSP and COD(t -value=-3.999) in our sample.

$LNSIZE$ is positively associated with COD which advocate that if creditors percieve bigger firms tend to conduct riskier projects to go on a public firms in Korean private firms. However $CRATIO$ is positively associated with COD in OLS regression but in firm fixed effect model $CRATIO$ is negatively associated with COD. Column (2) shows that CSP and COD with firm level clustering regression then CSP and COD is negative and significantly associated with COD (t -value=-2.663). In addition, we conducted a firm and year fixed effect analysis most of empirical analysis. In this test, CSP is statistically and negatively associated with COD(t -value=-4.180) for firm-year fixed effect model and COD(t -value=-3.664) for firm-year fixed effect model with firm clustering analyses. Therefore, the regression results suggest that creditors regarded high CSP firms as affirmatively then reduce firms' cost of debt capital even in private firms. Considering the CSR literature on debt financing in the U.S.,this paper advocates for the CSR literature from the risk mitigation perspective, which is a consistent result when using CSP in a relatively less developed country and private firms such as Korea.

〈Table 3〉 Corporate social performance and cost of debt capital

VARIABLES	(1) COD_{t+1}	(2) COD_{t+1}	(3) COD_{t+1}	(4) COD_{t+1}
	OLS	OLS	Fixed	Fixed
<i>CSP1</i>	-0.056*** [-3.999]	-0.056*** [-2.663]	-0.077*** [-4.180]	-0.077*** [-3.664]
<i>LEV</i>	0.000*** [16.237]	0.000*** [10.389]	0.000*** [12.767]	0.000*** [9.890]
<i>ROA</i>	0.002 [0.940]	0.002 [0.684]	-0.001 [-0.536]	-0.001 [-0.433]
<i>INTCOV</i>	-0.000*** [-45.274]	-0.000*** [-30.367]	-0.000*** [-22.828]	-0.000*** [-16.330]
<i>LNSIZE</i>	0.002*** [11.269]	0.002*** [6.195]	0.005*** [13.263]	0.005*** [8.864]
<i>CRATIO</i>	0.001*** [6.329]	0.001*** [3.882]	-0.002*** [-15.359]	-0.002*** [-11.147]
<i>OCF</i>	-0.003*** [-2.872]	-0.003** [-2.370]	-0.001 [-1.190]	-0.001 [-1.024]
Constant	0.046*** [12.607]	0.046*** [7.211]	-0.027*** [-3.015]	-0.027** [-2.018]
Industry dummy included	Yes	Yes	No	No
Year dummy included	Yes	Yes	Yes	Yes
Firm dummy included	No	No	Yes	Yes
Cluster by Firm	No	Yes	No	Yes
Observations	137,036	137,036	137,036	137,036
R-squared	0.120	0.120	0.112	0.112
Number of Stocks			29,797	29,797

In Table 4, we split our sample into two groups by the firms' CSP is over or under investment in CSP compare to the mean value of industry CSP.

In line of this research, Alwaysheh et al.(2020) suggest that above industry peer CSR performance might enhance each firms' financial performance due to investors have great expectation if the same industry peer firms conduct high quality CSR. Hence, they focus on that firms invest CSR above the industry mean value is pertinent for the higher financial performance of the firms' CSR. This paper also uses mean value of industry CSP as our benchmark for the firms' CSP strategy. Table 4 shows that in over-investment in CSP compare to the industry mean

value of CSP group, CSP is negative and significantly associated with COD(t -value = -3.375). However, in under-investment in CSP compare to the industry mean value of CSP group, CSP is not statistically significant with COD. This empirical result shows that creditors compare each firms' CSP activity with industry peer then perceive positively regarding CSP if each firms' CSP exceed industry peer CSP then they reduce cost of debt capital. Then we interpret this result that most of industry peer effect toward on CSR is conducted in public firms due to data unavailability, this paper gives new empirical result that creditors perceive firms' CSP affirmatively when firms' CSP strategy satisfy industry benchmark.

〈Table 4〉 Corporate social performance and cost of debt capital
(Over or Under-investment in CSP)

VARIABLES	(1) COD_{t+1}	(2) COD_{t+1}
	Over investment in CSP	Under investment in CSP
<i>CSP1</i>	-0.358^{***} $[-3.375]$	0.014 $[0.026]$
<i>LEV</i>	0.000^{***} $[8.205]$	0.000^{***} $[9.604]$
<i>ROA</i>	-0.006^* $[-1.904]$	0.002 $[0.749]$
<i>INTCOV</i>	-0.000^{***} $[-17.182]$	-0.000^{***} $[-12.684]$
<i>LNSIZE</i>	0.004^{***} $[7.497]$	0.007^{***} $[11.948]$
<i>CRATIO</i>	-0.002^{***} $[-9.553]$	-0.002^{***} $[-10.310]$
<i>OCF</i>	0.000 $[0.192]$	-0.004^{**} $[-2.308]$
Constant	-0.006 $[-0.476]$	-0.071^{***} $[-5.272]$
Year dummy included	Yes	Yes
Firm dummy included	Yes	Yes
Observations	70,237	66,799
R-squared	0.120	0.100
Number of Stocks	17,958	21,348

4. Robustness analysis

Table 5, we conducted a variety of robustness tests. In Column 1, we use alternative cost of debt capital measure such as CODSPREAD following Kim et al.(2011), which is calculated by cost of debt capital minus three-year government bond yield in a given year.⁵⁾

<Table 5> Robustness tests : Using Alternative Corporate social performance variable and alterative cost of debt capital variable and Exclude Zero donation firms

VARIABLES	(1) <i>CODSPREAD_{t+1}</i>	(2) <i>COD_{t+1}</i>	(3) <i>COD_{t+1}</i>
	Full	Full	Exclude Zero donation firms
<i>CSP1</i>	−0.074*** [−4.069]		−0.342*** [−3.240]
<i>CSP2</i>		−0.078*** [−4.508]	
<i>LEV</i>	0.000*** [12.410]	0.000*** [12.822]	0.000*** [8.141]
<i>ROA</i>	−0.001 [−0.524]	−0.002 [−0.677]	−0.006* [−1.929]
<i>INTCOV</i>	−0.000*** [−23.142]	−0.000*** [−22.864]	−0.000*** [−17.164]
<i>LNSIZE</i>	0.005*** [13.946]	0.005*** [12.987]	0.004*** [7.504]
<i>CRATIO</i>	−0.002*** [−15.662]	−0.002*** [−15.275]	−0.002*** [−9.615]
<i>OCF</i>	−0.001 [−1.289]	−0.001 [−1.297]	0.000 [0.198]
Constant	−0.066*** [−7.425]	−0.024*** [−2.714]	−0.007 [−0.496]
Year dummy included	Yes	Yes	Yes
Firm dummy included	Yes	Yes	Yes
Observations	137,036	137,036	70,312
R-squared	0.124	0.112	0.120
Number of stock1	29,797	29,797	17,982

5) If the CODSPREAD variable is used, it is possible to present additional analysis results that can

Further CSP is negatively and significantly associated with CODSPREAD in 1% level (t -value = -4.069). Also following Zhang et al. (2016), we calculate alternative CSP variable by corporate giving divided by total sales then multiply by 10. So we create the variable CSP2, then as we shown in Column 2, CSP2 is negatively and significantly associated with COD in 1% level (t -value = -4.508). In Column 3, we exclude zero donation private firms then conduct analyses then there is consistent result with main result. Hence this empirical result is consistent with main results even we use various alternative CSP variables as well as cost of debt capital variables.

V. Conclusions

In this paper, we examine the association between CSP and COD focusing on private firms. Especially we examine how a firm's CSP strategy affects firms' cost of debt capital using a sample of 137,036 firm-year observations during 2009–2018. We find that CSP is negatively associated with firms' cost of debt capital using private firms. This tendency is more pronounced in over-investment in CSP group. We conduct a variety of robustness tests, including the firm-year fixed effect model, using alternative CSP measure, using alternative COD measure, exclude zero donation firms and find consistent results. Therefore, in Korea, CSP reduce firms' cost of debt capital, which supports the risk mitigation perspective using private firms. Then creditors perceive firms' CSP as a necessary investment to fulfil firms' pertinent responsibility for a variety of stakeholders.

Further, this paper compliments prior papers that this paper investigates the association between CSP and cost of debt capital for private firms. Prior papers report that public firms and private firms have different characteristics, and different motives to give charitable donations. Especially comparing to public firms, private firms tend to have less managerial opportunism related to agency cost of corporate giving (Majority shareholder vs minority shareholder), from this study we show that creditors perceive positively related to firms' corporate philanthropy in a debt financing process which advocate risk mitigation perspective in a more clean setting in agency cost perspective. From this perspective, this paper has contribution toward related literatures that even in private firms, corporate social performance decrease firms' cost of debt capital using

supplement the possibility that this empirical result is derived because the interest rate has continuously decreased since 2008. Thank you reviewers' who give me another aspect why using CODSPREAD is important alternative measure in this study.

unique private firm data. Further and more importantly, creditors value CSP in over-investment in CSP group then peer effect might be the essential factor to determine the firms' CSP activity. So when we consider private firms' CSP activity, we need to consider more about the industry peers' CSP activity which is closely related to peer pressure or market competition.

This paper has several limitations. First, corporate giving data is only disclosed total donation amount, there might be cash or in kind donation or both then it is hard to distinguish its separate effect toward on cost of debt capital. So government needs to mandatorily disclose more specific donation item in footnote. Second, corporate governance or CEO ownership data is undisclosed then it is impossible to control such variable in our model then we try to conduct firm-fixed effect model to reduce omitted variable problem, however there might be some possibility that omitted variable such as corporate governance variable might distort our empirical results.

Notwithstanding there is limited empirical study regarding the CSP and cost of debt capital then creditors such as bank or financial institutions needs to value high CSP firms in their valuation process. At the same time, private firms in Korea use corporate donations to attract residents in the local community and improve corporate image that will generate affirmative economic outcomes such as lower debt financing. So good relationship with residents in the local community or various stakeholders might be the intangible assets then from this study, we can quantify it by real borrowing rate which is pertinent factor for the private firms' sustainable growth. Therefore Korean creditors can perceive that Korean firms are engaged in philanthropical donations to elevate their images to the public and accumulate more reputational capital and thereby reduce regulatory costs. So we can learn from this process that private firms are consist of majority portion in the economy, however it is hard to investigate this issue due to data unavailability, this paper might give the cornerstone for the economic consequence of CSP regarding private firms. Further future research would suggest that what is the determinants of private firms' CSP behavior and if private firms' CSP behavior might enhance the reputational capital or reinforce the relationship with government owned bank by using qualitatively method such as survey method. Besides the results of this paper, the findings herein can assist academics and regulators in understanding the economic consequences of CSP in private firms.

<Appendix : Variable definitions>

Variables	Explanation
COD_{t+1}	Aggregate interest expenses in year t+1 divided by the average of short and-long term debt at the beginning and end of each fiscal year
$COD\ SPREAD_{t+1}$	Cost of Debt Capital (COD) minus the three-year government bond yield in year t+1
$CSP1$	Natural logarithm value of the firms' donation expense, which divided by 1,000 for the economic significance.
$CSP2$	Donation expense divided by total sales multiply 10 following Zhang et al.(2016)
$LNSIZE$	Natural logarithm value of total assets
LEV	Total debt divided by total equity
ROA	Net income divided by total assets
$INTCOV$	(Operating income+interest expenses)/interest expenses
$CRATIO$	Current assets divided by current liabilities
OCF	Operating cash flow divided by total assets

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기업의 사회적 성과가 타인자본비용에 미치는 영향*

: 비상장 기업을 중심으로

전홍민**

〈요 약〉

본 연구는 한국의 비상장 기업을 대상으로 2009년부터 2018년까지 137,036 기업/연도 자료를 활용하여 실증분석을 실시하였다. 실증분석 결과, 비상장 기업의 기부금 지출은 차기의 타인자본비용을 유의하게 감소시키는 것으로 나타났다. 따라서 채권자들은 높은 기부금 지출에 대해서 이를 다양한 이해관계자를 만족시킬 수 있다는 위험감소관점에서 이를 긍정적으로 인식하여 차기의 차입이자율을 유의하게 감소시키는 것으로 나타나, 기업의 사회적 성과에 대한 긍정적 관점이 한국의 비상장기업에서 관찰됨을 알 수 있었다. 추가로 이러한 긍정적인 감소효과는 산업평균 대비 높은 기부금 지출을 실시한 기업에서 보다 유의하게 관찰되어, 산업평균 대비 높은 기부금 지출을 수행하는 것이 차입이자율을 감소시키는 데에 있어, 보다 유리할 수 있음을 알 수 있었다. 본 연구는 강건성 분석을 다양하게 활용하였고, 기업고정 효과모형, 기부금 지출이 없는 기업을 제외한 분석, 기업별 군집효과 분석 등에서도 일관된 실증결과를 나타내었다. 따라서 이러한 실증결과를 기반으로 하여, 판단해 볼 때, 한국의 비상장 기업에서 기부금 지출로 대변되는 사회적 성과가 높은 기업에 대해서 해당 기업이 보다 윤리적으로 운영될 가능성이 크고, 이를 긍정적으로 채권에 대한 가치평가과정에 반영하여 차기의 타인자본비용이 유의하게 감소하는 것으로 결론지을 수 있었다.

〈주제어〉 기업의 사회적 성과, 타인자본비용, 채권자, 비상장 기업, 위험 감소관점

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