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Corporate Social Responsibility and Sustainable Employability: Empirical Evidence from Korea

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Abstract: A firm's corporate social responsibility (CSR) aids in social well-being, but it is costly. It is thus necessary to study whether a firm's CSR activities are valuable in terms of costs and benefits for shareholders' interest. Recent studies reported that firms' CSR activities help to develop the corporate environment and improve financial performance. In addition, prior studies explained that a firm's CSR activities can have a positive effect on financial performance by increasing employees' commitment to their firm. The purpose of this study research is to examine the effect of CSR activities on sustainable employability through empirical analysis. We measured the sustainable employability using the percentage of regular employees and then examined the effect of CSR activities on sustainable employability using 3802 firm-year data for Korean listed firms. From the empirical results, we found that firms engaging in CSR activities improve more in terms of sustainable employability than do firms who are not engaging in CSR activities. We also found that the companies engaging in a high CSR index score showed greater sustainable employability than did those with a low CSR index score. The results of this study suggested a way to increase sustainability in terms of employment by supporting a rational basis for companies to adopt CSR. These findings are expected to contribute to academia and the capital market by providing empirical evidence that a company's CSR activities have a positive impact on sustainable employability.

Keywords: corporate social responsibility; sustainable employability; regular employment; non-regular employment



Citation: Rhee, C.S.; Woo, S.; Yu, S.-J.; Rhee, H. Corporate Social Responsibility and Sustainable Employability: Empirical Evidence from Korea. *Sustainability* **2021**, *13*, 8114. <https://doi.org/10.3390/su13148114>

Academic Editors: Annet de Lange, Trude Furunes and Dorien Kooij

Received: 24 June 2021

Accepted: 16 July 2021

Published: 20 July 2021

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1. Introduction

This study investigates the effect of corporate social responsibility (CSR) on sustainable employability. CSR refers to the act of responding to the social obligations faced by a company, and the scope of CSR activities is expanding [1]. In the past, the CSR activities of companies were limited to the original mission of producing quality goods, paying taxes faithfully, and expanding employment through investment, but now they are expanding to helping local communities and engaging in social issues such as the environment and gender equality [2,3]. On the other hand, Friedman (1970) criticized CSR activities as an act of diverting the assets of a company that should be used for the benefit of its shareholders [4]. Despite the criticism of firms' CSR activities that continue to incur ongoing costs, most companies use CSR activities as a strategy to make a profit [5].

Prior studies on CSR reported that there is a positive association between firms' CSR activities and financial performance [6–9]. This is because firms' CSR activities may help develop a positive corporate image and reputation, which leads future financial performance [10]. Furthermore, recent studies suggested that CSR plays a significant role in

employee behavior [11–14]. Farrukh et al. (2019) explained that firms' CSR activities give a guideline to help employees achieve greater meaning at their workplace and provided empirical evidence that there is a significant positive impact of CSR perception on employee engagement [13]. Yoo et al. (2019) explained that employee commitment is a mechanism behind the effect of CSR on firms' financial performance, and suggested that firms' CSR activities increase employee commitment, which, in turn, leads to higher profit [14]. This means that a company's CSR activities can help improve employee productivity efficiently by improving the working environment. In the same vein, we assume that firms' CSR activities may have a significant effect on sustainable employability. To verify our hypothesis, we performed empirical tests of the association between firms' CSR activities and sustainable employability using Korean listed firm data.

In this study, sustainable employability is defined as the ability of the company to ensure long term, healthy, and happy work by providing employees with a sustainable working environment. HR-related prior studies reported that regular employees are more satisfied and committed to the company than non-regular employees [15–17]. In Korea, even if a non-regular employee performs well in his/her company, it is very difficult to switch to a regular employment contract, and in order to become a regular employee, he/she has to apply again for the same job as a new candidate. Compared to non-regular employees, regular employees are guaranteed work to retirement age and can work in a safer and better working environment. Therefore, we measured the rate of regular employees as an indicator of sustainable employability. Lee (2002) found that less than 1% of non-regular employees switch to being regular employees. This means that the employment contract type in the Korean labor market is strictly separated into regular and non-regular employees [18]. This working environment in Korea, where such differences between regular and non-regular employees are evident, is a good research setting to study the level of sustainable employability. In particular, the Korea Economic Justice Institute (KEJI) provides a credible CSR index for listed Korean companies, and it enables an empirical analysis.

We performed empirical tests using 3802 firm-year data for Korean listed firms from 2012 to 2017. From the empirical results, we found that firms engaging in CSR activities improve more in terms of sustainable employability than do firms not engaging in CSR activities. In addition, we found that there is a positive association between CSR index scores and the ratio of regular employment as a result of the separate verification of only the companies engaging in CSR activities. These findings mean that companies that carry out CSR activities have a high percentage of regular employment and consequently maintain a high level of sustainable employability.

This study contributes to the literature in several ways. To our knowledge, this is the first study to investigate the direct positive association between CSR and the regular employee ratio. Adding to the ongoing debate over the influence of firms' CSR activities, this study finds that firms engaging in CSR activities try to create a sustainable working environment by increasing the ratio of regular employees. We believe that our empirical evidence may create positive influences on firms' CSR activities in the capital market in terms of long-term labor sustainability.

The rest of this paper is organized as follows. Section 2 discusses the prior literature and develops our hypothesis. Section 3 provides sample selection criteria and research methodology. Section 4 reports the empirical and robustness test results. Section 5 concludes the study.

2. Prior Literature and Hypothesis Development

2.1. Corporate Social Responsibility

CSR is defined as the voluntary organizational actions and policies that seek social well-being, far beyond just the interests of firms and legislative requirements [19,20]. Since CSR activities are not mandatory in operating a company, many questions have been raised about whether costly CSR activities are conducive to business performance. Thus, there are

two opposing opinions about the association between CSR and financial performance [6]. As a negative opinion, it is argued that management should be careful in making decisions about CSR activities because of the ongoing costs of firms' CSR activities. On the other hand, as a positive opinion, it is argued that management should encourage firms' CSR activities because they can boost financial performance by increasing corporate vigor.

Most US or European studies have supported the positive opinion by documenting the results of a positive association between firms' CSR activities and financial performance [6–9]. Cochran and Wood (1984) improved their research model by adding control variables of asset turnover and asset age, and they found that CSR is positively correlated with financial performance [6]. McGuire et al. (1988) suggested that CSR can not only lower firms' risks, but it can also increase accounting-based financial performance [7]. Tsoutsoura (2004) investigated S&P 500 firms during the 1996–2000 period and suggested a result consistent with those of prior studies, reporting that CSR positively contributes to improving financial performance [8]. Orlitzky et al. (2003), conducting meta-analyses, reported that there is a positive association between corporate social performance and financial performance [9]. This means that an entity's CSR activities can have a positive impact on its performance. For recent studies, using various CSR engagement, market-based, and accounting-based performance measures, Blasi et al. (2018) suggested that CSR engagement is strongly positively associated with total stock returns, but accounting performance, shows difference depending on industry sectors [21]. Put differently, US tech firms with higher CSR spending are more likely to show greater financial performance, measured by ROA and ROE [22].

The result of a company's CSR activities having a positive impact on its financial performance has been reported in Korean studies as well [23–25]. Cho et al. [23] showed that, partly, CSR performance is positively associated with firm performance in terms of profitability, the growth rate of total assets, corporate soundness, and social contribution. Lee and Lee [24] found that the association between CSR performance and firm performance such as sustainable growth and valuation is non-linear, rather than a linear relationship. Lau et al. [25] examined the moderating effect of corporate governance between CSR performance and operational performance in Korea. Specifically, they investigated 209 Korean manufacturing companies and indicated that CSR is significantly associated with operational performance; this association is positively moderated by law enforcement and competition intensity. Chung et al. [26] supported the positive view between CSR and firm performance while assuming that firms engage in CSR activities not because of corporate image but because of strategic purposes. In addition, previous studies in the literature examined the effectiveness of CSR on a company's activities from many aspects, not only for performance, but for the company and society. Beaudoin (2008) and Chih et al. (2008) reported that CSR companies provide more ethical accounting information than do non-CSR companies and disclose news on time, even when they have bad news [27,28]. CSR activities are also positively associated with company charity [28]. Through this kind of action, a company can build a positive reputation among stakeholders and gives a signal to shareholders that the company engages in activities toward social welfare.

Recent CSR-related studies have been conducted on the association between CSR perception and employee behaviors [29–34]. Akremi (2018) and Jones (2010) argued that CSR enables employees to be positively committed to the organization [30,31]. Jones et al. (2014) reported that CSR can attract job seekers, in that job seekers tend to be hired by socially responsible firms [32]. Onkila (2015) and Zhou et al. (2018) reported that CSR activities can positively alter employee perceptions of a company and lead them to high commitment to firms [33,34]. Furthermore, some studies conducted since 2020 reflect the peculiarities of the pandemic era. Many of these studies have dealt with exploring the impact of CSR at a time when the stock market has crashed and many companies have suffered financially as a side effect of the pandemic. Qiu et al. (2021) investigated the effect of CSR activities in China on the stock price return of individual companies during the COVID-19 pandemic with data from China and showed that CSR activities have an effect

on the stock price return and positive impression on shareholders [35]. Albuquerque et al. (2020) analyzed the first quarter of the US stock market's 2020 data and found that higher CSR firms gained significantly positive gains in earnings, earnings volatility, and operating margin in the crisis period [36]. Overall, prior studies show that, as a business strategy, CSR activities play a positive role in corporate sustainability in terms of financial performance and the employment environment.

2.2. Regular Employment and Non-Regular Employment

This study defines sustainable employability as the ability of companies to provide their employees with a sustainable working environment that allows them to engage in long-term, healthy, and happy work. Each country has its own employment policies according to its political and social characteristics [37,38]. The terminology that distinguishes employment types vary with countries. For instance, the US widely uses the terms of permanent and non-permanent employees; Canada and New Zealand use standard employees and precarious employees [37]. Korea uses the terms regular employees and non-regular employees [38]. Hereafter, in this study, we decided to use the term regular and non-regular employees.

In the case of Korean companies, employees are classified as regular or non-regular depending on whether the retirement age is guaranteed. In general, regular employees in Korea can work stably until retirement age regardless of their work performance. On the other hand, for non-regular employees, it is very difficult to renew a contract when it expires, regardless of work performance. In addition, non-regular employees have few chances to get a promotion or switch to regular positions [39]. This indicates that in order to work in Korea in a stable, healthy, and happy manner, one should be hired as a regular employee rather than a non-regular employee. We consider that this working environment, where such differences between regular and non-regular employees are clear, is a good research setting to study sustainable employability.

The existing literature on human resources approaches various theoretical backgrounds such as internal labor market theory, resource-based theory, and real option theory, and it explains the provided reasons why firms employ non-regular employees [40]. The literature suggests that firms can increase labor flexibility to optimize their operation by hiring many non-regular employees. However, several studies have raised questions regarding the effectiveness of non-regular employees, meaning that the employment of non-regular employees may worsen firm performance in the long term given that the employment of non-regular employees and labor productivity have an inverse relation [41–45]. Because of disadvantages in terms of wages, vacation time, and job security between regular and non-regular employees, non-regular employees have low loyalty and satisfaction in their company, leading to a downgrade in quality control and firm performance [46]. In other words, firms basically hire non-regular employees in order to relax the high labor costs of hiring mostly regular employees; however, in doing so, they may also sacrifice employee loyalty, the degree of skill, and control against savings on labor costs and employment flexibility, meaning that such sacrifice outweighs the cost savings, with decreased labor productivity and increased negative effects on non-regular employees. Overall, recent studies have emphasized a higher proportion of regular employees compared to non-regular employees to enhance sustainable firm performance in the long term. That is, more non-regular employees may decrease firm performance.

2.3. Hypothesis Development

Companies can easily hire or fire non-regular employees depending on the economic conditions, allowing them to manage their profits by altering employee-related expenses. As a result, there is an incentive for companies to increase labor flexibility by hiring non-regular employees rather than regular employees.

However, non-regular employees have lower commitment and loyalty to companies than regular employees [46]. They may have anxiety regarding job insecurity, and they

will not put in extra effort for their firms. Ultimately, this job insecurity for non-regular employees may cause an overall unfavorable outcome for their firms' financial performance [47–50]. Prior studies reported that a firm's CSR activities can not only increase employee satisfaction but also reduce employee turnover [51–53]. Therefore, we predict that companies performing CSR activities are making more efforts to increase sustainable employability. Hence, we propose the following Hypothesis 1.

Hypothesis 1 (H1). *There is a significantly positive association between firms' CSR activity status and the level of sustainable employability.*

Additionally, we believe that companies with high CSR activity will provide better job security and a better working environment compared to those with low CSR activity. To investigate the link between CSR index scores and sustainable employability, we assumed that within a group of companies performing CSR activities, a company with higher CSR activities will have more sustainable employability than a company with lower CSR activities. Therefore, we propose the following Hypothesis 2.

Hypothesis 2 (H2). *There is a significantly positive association between CSR index score and the level of sustainable employability.*

3. Research Methodology

3.1. Sample Selection

The analysis in this study is based on a sample of listed firms in Korea from the 2012 to 2017 fiscal years, which meet the following selection criteria: (1) companies must have financial statement information, which are required to compute the main variables, (2) they must be non-financial firms, and (3) the fiscal year-end must be December. We obtained financial statement information from the KisValue database and employment data from the TS2000 database. This process yielded a final sample of 3802 firm-year observations from KOSPI listed companies. Tables 1 and 2 are the sample distribution by fiscal year and industry, respectively. Table 1 shows that a total of 3802 firm-year observations are distributed almost evenly, approximately 600 or more from 2012 to 2017. The number of firm-year samples of firms engaging in CSR increased from 2012 to 2015 before declining in 2016 and 2017. The sample distribution by industry in Table 2 is consistent with those commonly reported in Korean preceding studies.

Table 1. Sample distribution by Fiscal Year.

Year	# of Firms Engaging in CSR	# of Firms not Engaging in CSR	Total
2012	157	455	612
2013	180	436	616
2014	184	440	624
2015	188	448	636
2016	177	478	655
2017	96	573	669

3.2. Measures of CSR and Employment Sustainability

3.2.1. CSR Measure

We set two types of CSR activity measures for empirical tests. The first CSR measure is the dummy variable to indicate whether a firm engages in CSR activities or not. If a firm reports any CSR activity in its fiscal year, we consider the firm to be a CSR firm. On the other hand, if a firm reports no CSR activity in its fiscal year, we consider the firm to be a non-CSR firm. The next CSR measure is the KEJI (Korea Economic Justice Institute) index. Most CSR studies in Korea have used the KEJI index to measure firms' CSR activity [54–56]. The KEJI index is provided by The Economic Justice Institute in the Citizens Coalition of

Economic Justice in Korea and is widely known as the most appropriate proxy for firms' CSR activity [57]. The institution evaluates firms' CSR performance based on six items: soundness, fairness, social contribution, consumer protection, environmental management, and employee satisfaction. The maximum score of the KEJI index is 100 [58]. Table 3 describes the six items of the KEJI index. We can compare firms' CSR performance levels based on the KEJI index. In this study, we first extracted the CSR firms and then tested the effect of the level of CSR activity on employment sustainability.

Table 2. Sample distribution by Industry.

Industry	# of Firms Engaging in CSR	# of Firms not Engaging in CSR	Total
Agriculture, forestry, fishing, mining, and quarrying	3	21	24
Food and tobacco products	35	169	204
Manufacture of textiles, apparel, leather, luggage, and footwear	35	109	144
Manufacture of wood, pulp, paper, and printing	31	91	122
Manufacture of coke, briquettes, refined petroleum products, chemicals products, and rubber and plastics products	186	319	505
Manufacture of other non-metallic mineral products	36	67	103
Manufacture of basic metals and fabricated metal products	78	224	302
Manufacture of electronic components, computer, medical, precision and optical instruments, electrical equipment, motor vehicles, trailers and semitrailers, and other transport equipment	331	640	971
Manufacture of furniture and other manufacturing	11	37	48
Electricity, gas, and water supply	6	42	48
Construction	15	155	170
Wholesale and retail trade	56	262	318
Service	135	586	721
Others	24	98	122
Total	982	2820	3802

3.2.2. Sustainable Employability

Employment patterns in Korea are largely divided into regular and non-regular employees. Regular employees are in a permanent form of employment, guaranteeing work to retirement age. On the other hand, non-regular workers are not guaranteed a retirement age, and employment contracts last a short period in accordance with the firm's employment contract policy. In Korea, it is very rare for non-regular employees to renew their contracts continuously for a long period of time. In this study, regular employment with a guaranteed retirement age was judged to be sustainable employability. Therefore, we measured the level of sustainable employability by the number of regular employees out of the total number of employees.

$$\text{Sustainable employability (SE)} = \frac{\text{Number of regular employees}}{\text{Total number of employees}} \quad (1)$$

Table 3. Description of KEJI index items.

Items	Details	Allocated Scores
Soundness	Corporate Governance	11.0
	Investment	6.0
Fairness	Corporate Finance	8.0
	Fairness	14.0
	Transparency	6.0
Social contribution	Employment Equality	7.0
	Social Contribution Activity	6.0
	Contribution to Nation	2.0
Consumer Protection	Consumer Rights	7.0
	Consumer Law	5.0
	Consumer Safety	3.0
Environmental Management	Environment Improvement Efforts	5.0
	Environmental Friendliness	2.0
	Observance of Environmental Regulations	3.0
Employee Satisfaction	Workplace Health and Safety	3.5
	Human Resource Development	2.0
	Salary and Benefits	2.5
	Labor-management Relationship	7.0
Total	KEJI Index	100.0

3.3. Regression Mode

To examine the association between CSR and the level of sustainable employability, we set up the following regression models. Table 4 provides variable definitions of model 1 and 2 below.

Table 4. Variable definitions.

Variables	Definition
Dependent Variables	
SE	Level of sustainable employability
Independent Variable	
CSR	A dummy variable equal to 1 if a firm involves CSR activity and 0 otherwise
CSI	The score of CSR index
Control Variables	
SIZE	The natural log of total assets
LOSS	A dummy variable for firms reporting a loss
LEV	Leverage, measured as liabilities deflated by total assets
ROA	Return on assets, measured as net income divided by total assets
RND	R&D expenses, measured as R&D expenses divided by net sales
GROW	Sales growth, (Salest-Salest-1)/Salest-1
EXIST	Number of years of existence
EDT	Education and Training expenses, measured as Education and Training expenses divided by net sales
BNF	Benefits expenses, measured as Benefits expenses divided by net sales.

[Model 1]

$$SE = \beta_0 + \beta_1 CSR + \beta_2 SIZE + \beta_3 LOSS + \beta_4 LEV + \beta_5 ROA + \beta_6 RND + \beta_7 GROW + \beta_8 EXIST + \beta_9 EDT + \beta_{10} BNF + \text{Industry Dummy} + \text{Year Dummy} + \varepsilon$$

[Model 2]

$$SE = \beta_0 + \beta_1 CSI + \beta_2 SIZE + \beta_3 LOSS + \beta_4 LEV + \beta_5 ROA + \beta_6 RND + \beta_7 GROW + \beta_8 EXIST + \beta_9 EDT + \beta_{10} BNF + \text{Industry Dummy} + \text{Year Dummy} + \varepsilon$$

The level of sustainable employability may be affected by various firm-specific factors such as firm size, firm performance, and other variables. Previous studies reported that firm size and firm performance have effects on human capital [59–62]. To control the firm-specific factors and examine the effect of CSR on the level of employment sustainability, we included the control variables of *SIZE*, *LOSS*, *LEV*, *ROA*, *RND*, *GROW*, and *EXIT*. Lee (2002) reported that education and training costs and benefits for employees are very important to improving the ability and sustainability of employees in the regular employee market [18]. These costs can influence the level of employment sustainability. Therefore, *EDT* and *BNF* were included in the model as control variables.

4. Empirical Results

4.1. Descriptive Statistics

Table 5 presents descriptive statistics for the variables used in this study. The minimum and mean values of the level of sustainable employability (*SE*) are 0.586 and 0.948, respectively, which indicates that Korean companies hire 94.8 percent of all employees as regular employees on average and maintain at least 58.6 percent regular employees. The mean *CSR* is 0.258, meaning that 25.8% of all firms performed CSR activity. Therefore, the number of CSR index scores (*CSI*) is reported for 982 firms only, 25.8% of the total of 3802 firms. The mean CSR index score (*CSI*) is 63.95 out of 100. The descriptive values of the other control variables are generally consistent with those found in prior studies in Korea. As the variables in the descriptive statistics do not report extreme mean and median values considering standard deviations, we believe that it is reasonable to assume a normal distribution for empirical analysis.

Table 5. Descriptive statistics.

Variables	Mean	Std.	Min.	25th	Median	75th	Max.
<i>ES</i>	0.948	0.079	0.586	0.932	0.998	1.000	1.000
<i>CSR</i>	0.258	0.438	0.000	0.000	0.000	1.000	1.000
<i>CSI</i>	63.950	2.118	59.190	62.600	63.699	65.270	72.160
<i>SIZE</i>	19.950	1.485	17.088	18.952	19.717	20.720	24.189
<i>LOSS</i>	0.232	0.422	0.000	0.000	0.000	0.000	1.000
<i>LEV</i>	18.862	1.781	14.450	17.747	18.701	19.854	23.498
<i>ROA</i>	0.020	0.168	−1.515	0.002	0.025	0.052	5.013
<i>RND</i>	0.009	0.022	0.000	0.000	0.000	0.007	0.132
<i>GROW</i>	0.043	0.289	−0.626	−0.064	0.016	0.098	1.874
<i>EXIST</i>	3.512	0.697	0.693	3.367	3.738	3.951	4.796
<i>EDT</i>	0.001	0.002	0.000	0.000	0.000	0.001	0.016
<i>BNF</i>	0.008	0.011	0.000	0.002	0.004	0.009	0.075

Notes: See Table 4 for the explanation of the variables.

4.2. Univariate Analysis

Table 6 shows the results of Pearson correlation tests to determine how effectively a linear sample data association models the population association. In Table 6, there is a significantly positive association between the firms' CSR activity status (*CSR*) and their level of sustainable employability (*SE*). This positive association between *CSR* and *SE* suggests that the firms performing CSR activities maintain a more sustainable employment environment than do the firms that do not carry out CSR activities. *SIZE*, *LEV*, and *RND* show significant negative correlations with *SE*. This means that if the firm size, leverage ratio, and R&D expenditure are large, the proportion of non-regular employees increases. However, as the implications of the univariate result appear to be limited, we performed multivariate analyses to examine the overall association between independent and dependent variables, detailed the in Section 4.3.

Table 6. Correlation matrix.

Var.	CSR	SIZE	LOSS	LEV	ROA	RND	GROW	EXIST	EDT	BNF
SE	0.110 (0.000)	−0.093 (0.000)	−0.023 (0.150)	−0.127 (0.000)	0.027 (0.102)	0.094 (0.000)	−0.002 (0.905)	−0.026 (0.108)	−0.004 (0.793)	0.005 (0.773)
CSR		−0.016 (0.321)	−0.196 (0.000)	−0.040 (0.013)	0.093 (0.000)	0.098 (0.000)	−0.036 (0.026)	0.020 (0.220)	0.008 (0.620)	−0.035 (0.033)
SIZE			−0.121 (0.000)	0.904 (0.000)	0.092 (0.000)	0.023 (0.152)	−0.009 (0.576)	−0.023 (0.151)	0.046 (0.004)	−0.151 (0.000)
LOSS				−0.004 (0.823)	−0.384 (0.000)	0.010 (0.532)	−0.159 (0.000)	0.022 (0.177)	−0.071 (0.000)	0.030 (0.066)
LEV					0.006 (0.704)	0.006 (0.700)	−0.036 (0.025)	−0.013 (0.437)	−0.027 (0.095)	−0.228 (0.000)
ROA						−0.014 (0.379)	0.158 (0.000)	−0.007 (0.665)	0.119 (0.000)	0.062 (0.000)
RND							0.006 (0.732)	−0.025 (0.126)	0.255 (0.000)	0.166 (0.000)
GROW								−0.092 (0.000)	0.015 (0.364)	0.011 (0.486)
EXIST									−0.064 (0.000)	−0.036 (0.026)
EDT										0.514 (0.000)

Notes: Parentheses indicate *p*-value.

4.3. Multivariate Analyses

The regression result for the first hypothesis is presented in Table 7. The adjusted R-squared value of 0.2459 indicates the goodness of fit of the model for the empirical test. Consistent with the first hypothesis, the coefficient of *CSR* is 0.007 ($t = 2.49$), which is significant at a 1% level with *SE*. This means that firms engaging in *CSR* activities have a 0.7% higher proportion of regular employees than do those not engaging in *CSR* activities. These results indicate that firms carrying out *CSR* activities are more interested in creating a sustainable employment environment and will try to maintain a high percentage of regular employees. The association between the control variables and *CSR* is generally consistent with our prediction. Firm size (*SIZE*), leverage (*LEV*), and R&D expenditure (*RND*) are significantly associated with firms' *CSR* activity status (*CSR*). The coefficients of *SIZE* and *RND* are 0.008 ($t = 4.10$) and 0.166 (2.92), which are significant at a 1% level with *SE*. This can be interpreted as indicating that with a larger firm size and greater R&D expenditure, firms have a high percentage of regular employees to improve job security and a satisfactory work environment that effects sustainability within the company. The coefficient of *LEV* is -0.009 ($t = -5.41$), significantly negative associated with *SE* at a 1% level, implying that higher-leverage firms have fewer regular employees because those firms recognize that the salary of regular employees are fixed costs and want to improve the flexibility of salary costs by reducing the number of regular employees. In the model, the effects of industry and year are controlled by including industry dummy (*ID*) and year dummy (*YD*) variables.

Table 8 presents the result of multivariate regression analysis only for firms engaging in *CSR* activities. In this table, we investigate the association between the *CSR* index score and the level of sustainable employability for the second hypothesis. The adjusted R-squared value of 17.32% indicates the goodness of fit of the model for the empirical test. The coefficient of *CSI* is 0.004 ($t = 3.43$), which is statistically significant at the 1% level in the level of employment. This means that when a firm's *CSR* index score increases by 1 point, the percentage of regular employees increases by 0.4%. This result indicates that companies with higher *CSR* index scores provide better a sustainable employment environment by maintaining a high percentage of regular employees, supporting the second hypothesis.

Table 7. Regression results for Hypothesis 1.

Variables	Dependent Variable: <i>SE</i>	
	Coefficient	t-Value
<i>CSR</i>	0.007 **	2.49
<i>SIZE</i>	0.008 ***	4.10
<i>LOSS</i>	0.004	1.36
<i>LEV</i>	−0.009 ***	−5.41
<i>ROA</i>	0.006	0.83
<i>RND</i>	0.166 ***	2.92
<i>GROW</i>	0.004	0.92
<i>EXIST</i>	0.000	0.03
<i>EDT</i>	−0.639	−1.05
<i>BNF</i>	−0.031	−0.26
Constant	0.931 ***	48.00
Industry Dummy (ID)	Included	
Year Dummy (YD)	Included	
Adjusted R-squared	24.59%	
Number of Observations	3802	

Note: ***, **, and * indicate the significance level at the 1%, 5%, and 10% level or better, respectively.

Table 8. Regression results for Hypothesis 2.

Variables	Dependent Variable: <i>SE</i>	
	Coefficient	t-Value
<i>CSI</i>	0.004 ***	3.43
<i>SIZE</i>	−0.001	−0.18
<i>LOSS</i>	0.007	1.06
<i>LEV</i>	−0.004	−1.23
<i>ROA</i>	−0.004	−0.28
<i>RND</i>	0.187 **	2.28
<i>GROW</i>	0.004	0.32
<i>EXIST</i>	0.004	1.39
<i>EDT</i>	0.595	0.57
<i>BNF</i>	−0.717 ***	−3.04
Constant	0.787 ***	11.21
Industry Dummy (ID)	Included	
Year Dummy (YD)	Included	
Adjusted R-squared	17.32%	
Number of Observations	982	

Note: ***, **, and * indicate the significance level at the 1%, 5%, and 10% level or better, respectively.

4.4. Robustness Test

Because of the possibility of endogeneity and a selection bias between CSR and the level of sustainable employability (*SE*), we perform a robustness test to ensure the reliability of our results. To obtain unbiased results on the effects on CSR, we used the two-stage least squares (2SLS) model. Table 9 shows the results of the 2SLS regression on CSR and *SE*. In Column 1, the first stage includes the instrument variable, lagged CSR. The coefficient of lagged CSR (*LCSR*) is 1.235, and it is statistically significant at the 1% level regarding the level of sustainable employability. *ROA* and *RND* are positively related to the level of sustainable employability. However, *LOSS* and *GROW* are negatively related to *SE*. In Column 2, after we controlled for endogeneity issues, the main result is that the coefficient of estimated CSR (*PCSR*) is 0.016 ($t = 1.75$), showing a significantly positive relation with *SE*. That means that a firm's CSR activity is more concerned with a stable working environment by maintaining a high percentage of regular employees to influence the sustainable employability of the firm. This result supports our main hypothesis even after controlling endogeneity issues. Similar to our main results, high-leverage firms hire more non-regular employees rather than regular employees. Because of the inflexible labor

market in Korea, firms cannot easily hire or dismiss regular employees, so keeping a low ratio of regular employees is one way to increase cost flexibility.

Table 9. Robustness test results (two-stage least squares model).

Variables	1st Stage		2nd Stage	
	Coefficient	Wald Chi-Square	Coefficient	t-Value
<i>LCSR</i>	1.235 ***	211.08		
<i>PCSR</i>			0.016 *	1.75
<i>SIZE</i>	0.037	0.26	0.007 ***	3.78
<i>LOSS</i>	−1.208 ***	82.31	0.006 *	1.69
<i>LEV</i>	−0.087	2.01	−0.008 ***	−5.04
<i>ROA</i>	0.624 **	5.89	0.005	0.65
<i>RND</i>	5.884 ***	8.98	0.148 **	2.53
<i>GROW</i>	−0.578 ***	11.42	0.004	0.93
<i>EXIST</i>	0.037	0.36	0.000	−0.17
<i>EDT</i>	−7.930	0.12	−0.549	−0.9
<i>BNF</i>	−4.711	0.93	−0.033	−0.27
<i>Constant</i>	−1.499 **	4.30	0.939 ***	48.44
Industry Dummy	Included		Included	
Year Dummy	Included		Included	
Adjusted R-squared	15.82%		24.27%	
Number of Observations	3802		3802	

Note: ***, **, and * indicate the significance level at the 1%, 5%, and 10% level or better, respectively.

5. Conclusions and Discussions

We examined the relation between firms' CSR activities and the level of sustainable employability in this study. Recent studies on CSR and human resources reported that there is a significant positive impact of CSR perception on employee engagement, and regular employees are more satisfied and committed to their company than non-regular employees [11–17]. In the same vein, we predicted that companies performing CSR activities make greater efforts to provide a sustainable working environment. Ultimately, we proposed that firms engaging in CSR activities can improve sustainable employability by increasing the ratio of regular employees.

We empirically analyzed the relation between firms' CSR activities and sustainable employability using Korean listed firm data. We considered that the Korean labor market, where the differences between regular and non-regular employees are evident, is a good research setting to verify our hypotheses. Our empirical test results are as follows. First, we found that firms engaging in CSR activities improve more in terms of sustainable employability than do firms not engaging in CSR activities by increasing the ratio of regular employment. Second, we found a positive association between CSR index scores and the ratio of regular employment as a result of separate verification of only the companies engaging in CSR activities. These findings support the argument that the CSR activities of companies can improve sustainable employability by increasing the regular employee ratio.

The limitation of our study is as follows. The recent COVID-19 pandemic outbreak has dramatically changed work structures and methods and has made it more challenging. The sample period of our study is from 2012 to 2017, not covering the pandemic period. Recent studies found that job crafting significantly impacts on the sustainable employability of firms during the pandemic while COVID-19 increases career uncertainty, helping individuals within organizations improve individuals' and organizations' resilience, change current uncertain work cultures, and so forth [63,64]. Although there is a need of exploring the association between CSR and sustainable employability after the pandemic, little is known yet in the literature. Thus, we suggest this topic as one for future research.

This study contributes to the literature in several ways. To our knowledge, this is the first study to investigate the direct positive association between CSR and sustainable employability empirically. Adding to the ongoing debate over the influence of firms' CSR activities, this study finds that firms engaging in CSR activities try to create a sustainable working environment by increasing the ratio of regular employees. We believe that our empirical evidence may create positive influences of firms' CSR activities in the capital market in terms of sustainable employability.

In this study, we tried to find a way to increase sustainable employability. Sustainable employment can increase job satisfaction by providing a stable atmosphere for employees, which in turn can bring benefits to the company. However, in many Korean companies, the types of employment are divided into regular and non-regular employees. Hiring non-regular employees is inevitable due to the economic conditions of the company. However, since non-regular employees have anxiety about employment, work efficiency may decrease. Ultimately, the anxiety of non-regular employees can affect the overall work environment negatively. We believe that we can find a way to alleviate this vicious cycle through CSR activities. Therefore, we analyzed corporate data to determine whether CSR activities have a real impact on sustainable employability, and as a result, meaningful results were obtained. Through these results, we believe that no matter what form of CSR activity a company carries out, this activity gives meaning to employees beyond a livelihood activity.

Author Contributions: Conceptualization, C.S.R., S.W., S.-J.Y. and H.R.; methodology, C.S.R. and S.W.; software, S.W.; validation, C.S.R. and S.-J.Y.; formal analysis, S.W. and S.-J.Y.; investigation, H.R.; data curation, S.-J.Y.; writing—original draft preparation, S.W. and H.R.; writing—review and editing, C.S.R. and S.-J.Y.; supervision, H.R.; project administration, C.S.R. and H.R. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: In this study, we collected financial statement information from the KisValue database, employment data from the TS2000 database, and CSR data from the KEJI index.

Acknowledgments: The authors are grateful to the anonymous reviewers, who have provided constructive ideas and insightful comments for this study.

Conflicts of Interest: The authors declare no conflict of interest.

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