Management Overconfidence and CSR Activities in Korea with a Big Data Approach

Sun-A Kang [1] and Sang-Min Cho [2,*]

[1] Department of Business Administration, Chungnam National University, 99 Daehak-ro, Oncheon 2(i)-dong, Yuseong-gu, Daejeon 34134, Korea; sunakang@cnu.ac.kr

[2] Department of Accounting, Hannam University, 70 Hannam-ro, Ojeong-dong, Daedeok-gu, Daejeon 34430, Korea

* Correspondence: chosmcpa@hanmail.net

Abstract: We examined the relationship between management characteristics and corporate social responsibility (CSR) and this relationship was differentiated by the level of corporate governance. Our analysis was undertaken in firms listed on the Korean Stock Exchange (KSE) from 2006 to 2015. We employed Ordinary Least Square (OLS) regression after clustering the standard errors at the firm level in order to examine these relationships. The KEJI (Korea Economic Justice Institute) index was used as a proxy for CSR and a big data-based proxy estimated from multimedia was used as the level of advertising. We showed that there is a positive relationship between overconfident management and CSR activities. We then categorized the CSR activities as primary and social activities and found that overconfident management is more aggressive in primary CSR activities. In addition, overconfident management makes fewer CSR expenditures when the management is in a chaebol firm but promotes more CSR advertisement. This finding indicates that chaebol affiliation controls overinvestment in CSR activities but promotes CSR advertisements by overconfident managers. Similarly, we found consistent results with overconfident owner-managers. Prior literature on CSR activities focuses on the impact of CSR activities on firm performance. In this paper, we elucidated the determinants of CSR activities, so that this research contributes to firms' decision-making about sustainable management. Our estimation of CSR variables with big data approaches will also guide future research on this issue. We expect our study to be used as a reference for decision-making by relevant authorities and stakeholders.

Keywords: CEO; Overconfidence; Corporate Social Responsibility; Corporate Governance; big data

1. Introduction

Corporate social responsibility (CSR) helps a firm be socially responsible to itself, its stakeholders, and the public. By practicing CSR activities, firms can influence all aspects of society, including economic, social, and environmental. Therefore, CSR is a firm's duty to set policies, make decisions, and act in line with social goals or values [1]. In the past, companies were shareholder-oriented and pursued economic profit. They viewed CSR activities as expenses and were reluctant to make CSR expenditures [2]. However, as the overall social interest in environmental issues and the improvement of social welfare is gradually increasing, companies are seeking long-term survival strategies. In line with this trend, CSR activities are now becoming a necessary strategic element for companies. In other words, the perception is that a company is in need of a relationship with "all stakeholders" as well as shareholders for sustainable growth and development, and that it is possible to create profit continuously through the relationship between them.

Companies have legal, ethical, and charitable responsibilities in addition to their intrinsic economic responsibilities [3]. This fulfillment of responsibilities has a positive effect on the relationship with various stakeholders, making long-term survival possible as a sustainable

company. Therefore, companies recognize CSR activities as investments in intangible assets such as trust or reputation, which are essential for establishing relationships with stakeholders [4] and more investments that are active and diverse CSR activities [5,6].

On the other hand, management plays an important role in determining the company's value by presenting the company's long-term vision and strategy and establishing an investment and manpower supply and demand plan to achieve it. From a long-term perspective, companies set the direction to go forward, establish strategies, and determine the necessary Research and Development (R&D) investments, determine the capital investments necessary to implement the strategies, and draw up a financing plan. In general, management preferences, especially overconfidence, are known to have a negative impact on business activities [7,8]. Overconfidence means that managers are excessively assured in their abilities and status, and this is a psychological factor causing errors in corporate decision-making [9,10]. If managers are overconfident, there is a high possibility of subjectivity involved in decision-making, and this can negatively affect strategy selection or corporate performance.

In this paper, we empirically analyze the effect of managerial overconfidence on CSR activities, which are essential for corporate sustainability management. In particular, we subdivide CSR activities into primary CSR and social CSR to confirm the overconfident managements' perspective of CSR activities. On the other hand, the influence of characteristic variables such as the propensity of management towards CSR activities may differ depending on corporate governance. Therefore, we examine whether corporate governance moderates the effect of overconfident management on CSR activities. We use owner-manager and chaebol affiliation as our corporate governance measures.

As a result of firm-clustered Ordinary Least Square (OLS) regression for Korean companies listed on the Korean securities market from 2006 to 2015, we confirm that overconfident managers are more active in actual CSR activities and CSR advertisements. Among the actual CSR activities, they are more active in primary CSR activities that invest in direct stakeholder relationships.

We confirm that the relationship between managerial overconfidence and CSR activities tends to expand CSR advertisement, while chaebol affiliation reduces the excessive CSR investments. We also confirm that having an owner-manager reduces CSR overinvestments, and in particular reduces more social CSR activities as indirect stakeholders. We consider that the chaebol variable controls excessive CSR investment due to the manager's overconfidence, increases the promotion of CSR, and serves as a unique corporate governance variable in Korea. In addition, we interpret that the owner-manager also acts as a variable to restrain excessive CSR investment based on agent theory. In both cases with chaebol affiliation and owner-manager, we show that overconfident managers further increase CSR advertisement compared to actual CSR activities.

The results of this study are robust to the use of several proxy variables, compared to the inconsistent empirical results shown in a few previous studies. This study is particularly unique in that we estimate the CSR variables additionally with a big data approach. The relationship between managerial preference and CSR activities might be different depending on the circumstances, so this study expands the horizon of related research by confirming that these relationships are moderated through a contingency theory approach.

Through the big data methodology presented in this study, we reveal the direct results of the overconfident manager's approach to CSR activities, and we hope that various applications and approaches will be possible in subsequent studies. Lastly, we expect that it will be used as a reference for related decision-making by stakeholders as well as academia.

The remainder of the paper proceeds as follows. Section 2 contains a review of previous work undertaken in this area, together with some hypotheses. Section 3 contains the research design and sample selection procedure. We discuss the empirical results in Section 4 and sensitivity test results in Section 5. We present some conclusions and limitations in Section 6.

2. Previous Studies and Hypothesis Development

2.1. Prior Studies

Prior CSR literature has primarily focused on the effect of CSR activities on firm performance. The literature has identified that CSR activities result in the longer-term survival of firms. In addition to firm performance, recent studies have viewed CSR activities as an essential tool for corporate sustainability management. To find the determinants for CSR activities, these studies extended research areas and explored the factors affecting CSR activities. In this paper, we examine management characteristics and corporate governance. Management makes important decisions in day-to-day operations, so management characteristics will influence CSR decision-making. If management plays an imperative role in CSR activities, we think corporate governance moderates the role of management in CSR decision-making, as corporate governance is supposed to guide management and achieve outcomes that are more favorable for the shareholders.

There are limited studies on managerial overconfidence and CSR activities. Due to scarce observations and inconsistent methodology, the literature reports inconsistent findings [11–14]. According to McCarthy, Oliver, Song [11], management considers CSR as a part of the risk management strategy and uses CSR to mitigate the risk. Overconfident management underestimates the risk surrounding the company and hedges the risk less. Their findings support this idea: overconfident management is less likely to invest in CSR activities. Moreover, overconfident management makes less expenditures for indirect CSR activities, such as social contribution, environmental management, and consumer protection.

However, there are studies that report that CSR activities are positively related with narcissistic management [12–14]. Narcissistic management is when management inflates positive self-view and consistently wants to draw attention from others [7,15,16]. Hubristic management is when management overvalues their ability, performance, or chance of success [17]. Following Cha and Park [13], we define managerial overconfidence as a combination of narcissism and hubris. Tang, Mack and Chen [12] found that narcissistic management consistently wants to draw attention and compliments from others. Using Standard and Poors (S&P) 1500 firms from 2003 to 2010, they examined how narcissistic management impacts CSR activities and unveiled the positive relationship between the two. Interestingly, they also found that the relationship is moderated by the peer firms' CSR behaviors. The positive relationship becomes stronger (weaker) when the peer firms are less (more) active in CSR activities, indicating narcissistic management takes the opposite strategy to the peer firms and tries to attract more attention in public. With 178 Korean firms in 2012, Cha and Park [13] similarly found a positive relationship between hubristic management and CSR activities. They assumed that management hubris can be measured by the level of success from the most recent employment. They estimated hubristic management using the firm size and market share of the most recent firm, together with the number of favorable articles about the management in the media. Consistent with hubristic behavior, hubristic management undertakes more social CSR activities, such as social contribution, environmental management, and consumer protection. The authors interpreted this result as indicating that hubristic management wants to show up and attract public attention with social CSR activities. For this reason, hubristic management emphasizes social CSR activities more, even though primary CSR activities are more closely related to firm performance.

There are studies on corporate governance and CSR activities. Jain and Jamali [18] reported that various levels of corporate governance, such as institutional, firm, group, and individual levels, affect CSR activities. They performed a meta-analysis with research articles published from 2000 to 2015. They summarized how each official/unofficial institutional mechanism affects the results of CSR activities at the individual level, such as the corporate level according to the corporate owner type, the group level such as the board structure or their network and the diversity of the board, and the characteristics of the CEO. Yook [14] examined the moderating effect of board composition on the association between narcissistic management and CSR activities. He employed the ESG (environmental, social, and governance) score related to the carbon emission sector using firms listed on the Korea exchange (KRX) from 2012 to 2014, and he reported that the psychological characteristics

of CEO, either dominate-oriented narcissistic CEO or acclaim-oriented narcissistic CEO, are associated with CSR activities in positive way. Ree and Rodionova [19] confirmed that family ownership negatively influences ESG, which is an extension from prior research showing that block holdings have a negative impact on CSR activities [19–21]. This finding implies that the owner has full controllability in management in family firms and significant power over decision-making [22–25]. The authors also evaluated the mediating effect of firm governance on these relationships, and how the national governance system influences family holdings and ESG [19]. The results show that the negative relationship between family ownership and ESG is much stronger in liberal market economies (LME) than in coordinated market economies (CME).

2.2. Hypotheses

We developed our hypotheses to examine the relationship between managerial overconfidence and CSR activities and the moderating role of corporate governance. In hypothesis 1, we analyze the impact of managerial overconfidence on CSR related activities.

Since overconfident management is too optimistic, an overconfident manager is more likely to make mistakes in investment decision-making. This eventually leads to negative firm performance [11]. This line of literature focuses on financial performance and underestimates the uniqueness of non-financial activities such as CSR.

In this study, we focus on the determinants of CSR-related activities, not the financial outcome of the CSR activities. We believe that CSR expenditures are different in nature from R&D or capital expenditures. The successful outcome of R&D or capital expenditures is more uncertain. However, CSR expenditures can draw more favorable outcomes, financially or non-financially. Therefore, we posit that overconfident managers have incentives to make more CSR investments. In other words, overconfident managers might understand the uniqueness of CSR activities and differentiate these expenditures from other expenditures (e.g., R&D and capital expenditures). Therefore, our first hypothesis is as follows.

Hypothesis 1a (H1a): *Ceteris paribus, overconfident management invests more in the firm's CSR activities than less overconfident management.*

Hypothesis 1b (H1b): *Ceteris paribus, overconfident management makes CSR advertisements more actively compared to the amount of CSR advertisements undertaken by less overconfident management.*

Firms in chaebol affiliation make ten times more R&D expenditures than non-chaebol affiliated firms for positive long-term performance [26–29]. Since CSR expenditures are related to long-term performance, strong corporate governance might increase CSR related expenditures. On the other hand, the owner-manager weakens corporate governance [19] and utilizes corporate resources for their own benefit [30], so agency theory suggests that management in this case might decrease CSR expenditures.

In the second hypothesis, we examine the moderating effect of corporate governance on the association between managerial overconfidence and CSR related activities. There could be an agency problem between management and the shareholders of the company in supporting CSR activities. If a short-term oriented management wants to improve short-term performance, management would not make the CSR expenditures [31]. If an overconfident management wants to build a public reputation, management might want to make more CSR expenditures regardless of shareholders' benefit [32]. Therefore, we assume that corporate governance will play a role in mitigating the agency problem and we examine this moderating effect of corporate governance. When management's interest is well aligned with the firm—if the management is the owner of the firm or if the firm is in a chaebol affiliation—management will be more likely to make long-term oriented CSR-related investments.

Hypothesis 2a (H2a): *Ceteris paribus, the chaebol affiliation has a moderating effect on the association between managerial overconfidence and CSR related activities.*

Hypothesis 2b (H2b): *Ceteris paribus, the presence of an owner-manager has a moderating effect on the association between managerial overconfidence and CSR related activities.*

Figure 1 shows the relationships between variables in this study.
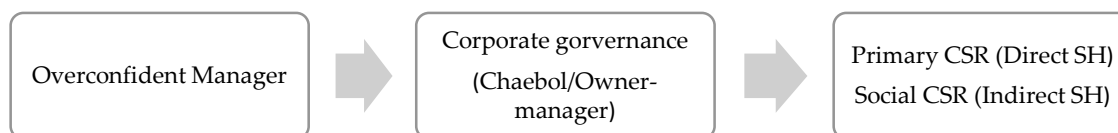
Figure 1. The associations between variables.

3. Research Design

3.1. Research Models

We examined how an overconfident CEO affects CSR activities in model 1. In model 2, we analyzed how the impact of an overconfident CEO varies when the CEO is in the chaebol firm or the owner of the firm.

(Model 1)

$$CSR_{ijt} = \alpha_0 + \beta_0 OC_{it} + \beta_1 SIZE_{it} + \beta_2 AGE_{it} + \beta_3 ROA_{it} + \beta_4 LEV_{it} + \beta_5 CASH_{it} + \beta_6 RnD_{it} + \beta_7 Advertising_{it} + \beta_8 CAPEX_{it} + \beta_9 SGE_{it} + \sum \beta IND\_DUM_t + \sum \beta YEAR\_DUM_t + \varepsilon_{it}. \tag{1}$$

(Model 2)

$$CSR_{ijt} = \alpha_0 + \beta_0 OC_{it} + \beta_1 CG_{it} + \beta_2 OC_{it} \times CG_{it} + \beta_3 SIZE_{it} + \beta_4 AGE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 CASH_{it} + \beta_8 RnD_{it} + \beta_9 Advertising_{it} + \beta_{10} CAPEX_{it} + \beta_{11} SGE_{it} + \sum \beta IND\_DUM_t + \sum \beta YEAR\_DUM_t + \varepsilon_{it}. \tag{2}$$

Dependent variables: CSR_{ijt}, CSR information of firm i at year t.

j = 1: *CSR_Index*, log of Korea Economic Justice Institute (KEJI) index from Citizen's Coalition for Economic Justice.

j = 2: *CSR_Adv*, log of number of CSR-related positive news articles.

j = 3: *FIT*, the difference between quintile rank of *CSR_Index* and quintile rank of *CSR_Adv*.

j = 4: *CSR_Tech*, primary CSR (Log of primary CSR activities, such as soundness, fairness, and employee satisfaction in KEJI index).

j = 5: *CSR_Social*, social CSR (Log of social CSR activities, such as social contribution, environmental management, and consumer protection in KEJI index)

Independent variable: *OC*, managerial overconfidence from [33]. We regressed asset growth rate on sales growth rate by industry-year and estimate the residuals from the regression. If the residual was larger than 0, OC equaled 1, and 0 otherwise.

Moderators:

CG1: *JB*, 1 if the firm is one of the top 30 chaebol companies, 0 otherwise.
CG2: *OwnerCEO*, 1 if the manager is the owner, 0 otherwise.

Control variables:

SIZE: Log of total assets.
AGE: Log of firm age.
ROA: Return on assets (operating income/total asset).
LEV: Leverage (total liabilities/total assets).
CASH: Cash holdings ((cash + cash equivalent)/total assets).

RnD: R&D expenditures ((R&D expenditures)/total assets).
Advertising: Advertising expenses (advertising expenses/total assets).
CAPEX: Capital expenditures (capital expenditures/total assets).
SGE: Selling and general expenses (selling and general expenses/total assets).
IND_DUM: Industry dummies.
YEAR_DUM: Year dummies.

Model 1 examined the relationship between managerial overconfidence and CSR activities. We utilize *CSR_Index*, *CSR_Adv*, *FIT*, *CSR_Tech*, and *CSR_Social* as our dependent variables. The relationship revealed in Model 1 can be affected by corporate governance, therefore, Model 2 analyzed how the relationship is impacted when the overconfident management is in a chaebol firm or is the owner of the firm. Based on our hypotheses, we expected a positive coefficient on β_0 in Models 1 and 2, implying that overconfident management more actively promotes CSR investment and makes public announcements for such activities. We also expected a negative coefficient on β_2 in Model 2. If the overconfident management is in a chaebol firm, management might be limited in making its own decisions for the CSR investment due to the monitoring within the chaebol group. If the overconfident management is the owner at the same time, they may be reluctant to make CSR investments as the owner-manager sees the CSR investments in the firm as his personal expenditures.

3.2. Definition of Variables

3.2.1. Dependent Variables (Corporate Social Responsibility, CSR)

The Citizen's Coalition for Economic Justice publishes the KEJI index every year in Korea. The KEJI index is estimated with 60 detailed evaluation indices covering seven topics, including corporate soundness, fairness, social contribution, environmental management, consumer protection, and employee satisfaction. In addition, the Citizen's Coalition for Economic Justice classifies CSR expenditures as primary and social activities. Primary CSR (*CSR_Tech*) activities are the expenditures for those who have a direct relationship with the firms (e.g., employees and customers). Social CSR (*CSR_Social*) activities, on the other hand, are the expenditures for the potential stakeholders who do not have a direct relationship with the companies' business (e.g., civic groups, local communities, and potential customers) [6].

In this paper, we defined CSR expenditures that build a healthy relationship with direct stakeholders for soundness, fairness, and employee satisfaction as primary CSR activities (*CSR_Tech*). More broadly, we defined the CSR expenditures that companies make to create a positive reputation with potential stakeholders for social contribution, environmental management, and consumer protection as social CSR activities (*CSR_Social*). Companies make CSR expenditures to improve their reputation and ultimately want to enhance customer loyalty. Once they build the loyalty, in return, they can sustainably manage their business.

Further, relative to actual CSR expenditures, how much a firm actively advertises their CSR activities makes a difference in building a positive public reputation. Thus, companies are more likely to advertise their CSR activities regardless of the amount of CSR expenditures. On the other hand, companies may be less likely to advertise since the advertisement itself involves additional costs, such as advertising expenses. Therefore, depending on the management style, there may be management who more (less) actively supports CSR activities but advertises less (more). To examine the impact of CSR advertisement, we estimated *CSR_Adv* from media citation and measured the number of news articles that were related to CSR activities. Lastly, we measured the variable *FIT* as the difference between *CSR_Index* and *CSR_Adv*. Management may show different patterns in CSR activities and CSR advertisement. We used the *FIT* variable as one of our independent variables in order to consider this different management style.

We estimated CSR advertisement, *CSR_Adv*, with a big data approach in order to capture public perceptions about the real CSR activities and using the following process. First, we gathered about 2,000,000 news articles from 2006 to 2015 in Korea Composite Stock Price Index (KOSPI) using the Web Crawler, a program that is based on an organized and automated method to explore the World

Wide Web, with keywords. Second, we categorized these articles as relating to soundness, fairness, social contribution, environmental protection, customer protection, and employees. In this process, we applied a text mining method using machine learning [27]. Machine learning is an artificial intelligence method and it is currently widely used for empirical research. It develops an algorithm and technology that enables the computer to learn by itself. Third, we created a basic dataset with data preprocessing, which was to quantify text data from news articles using text mining applying machine learning. We categorized 5000 random samples manually and used these as both learning and test datasets. This newly created learning dataset by the authors made two identifiers that were learned using Naïve Bayesian, and was the base of the final independent variable in this study, *CSR_Adv*.

3.2.2. Independent Variable (Overconfidence)

Prior studies measured overconfidence using the relative amount of capital expenditures in the industry [34], the amount of excessive investment [33], errors in management forecasts [35], and the stock option [36]. In this study, we regressed asset growth on sales growth by year and industry and took the residuals from the regression model following [33]. We defined management as overconfident if the residual was larger than 0, as the firm shows higher asset growth within the same industry in a given year. If the residual was less than 0, we assumed that management was not overconfident.

3.2.3. Moderating Variables (Chaebol, Owner-manager)

In this study, we viewed corporate governance based on contingency theory. We measured corporate governance in terms of whether the firm had chaebol affiliation and whether the management was the owner of the firm. Using the list of mutual investment restrictions from the Fair Trade Commission, we defined *JB* as 1 if the firm was one of the top 30 chaebol companies, 0 otherwise. We also defined *OwnerCEO* as 1 if the manager was the owner, 0 otherwise.

We included the following variables to control the factors that affect CSR activities. These were firm size (*SIZE*), firm age (*AGE*), return on assets (*ROA*), leverage (*LEV*), cash holdings (*CASH*), R&D expenditures (*RnD*), advertising expenditures (*Advertising*), capital expenditures (*CAPEX*), and selling and administrative expenditures (*SGE*). We also added industry dummies and year dummies to control for industry- and year-specific factors [18,37,38].

4. Empirical Results

Table 1 shows the descriptive statistics. The CSR score is composed of six categories from 2012 and the average score was 61.82 out of 100. Until 2011, there were seven categories (soundness, fairness, social contribution, customer protection, environmental protection, employee satisfaction, economic development), and we adjusted to six categories. *CSR_Adv* was estimated using the big data collected from the news articles. We classified the news events as positive and negative and took the log of the difference between positive and negative articles. In our ten-year sample, we found that firms on average make positive CSR advertisements 76.04 times more than negative news, equivalent to about 7.6 times more positive CSR advertisements every year. *FIT* measured the difference between the quintile of *CSR_Index* and the quintile of *CSR_Adv*. Since the scales of *CSR_Index* and *CSR_Adv* were different, we transformed the CSR values into categorical variables. *FIT* represented the level of CSR investment compared with CSR advertisements. In this case, a large *FIT* means that the firm makes more CSR investments than the level of CSR advertisements.

Table 1. Descriptive statistics.

Variables	Mean	STD	p1	p25	Median	p75	p99
CSR_Index	4.12	0.07	3.95	4.08	4.13	4.17	4.26
CSR_Adv	2.45	1.81	0.00	0.70	2.30	3.76	6.85
FIT	0.00	1.83	−4.00	−1.00	0.00	1.00	4.00
CSR_Tech	3.75	0.08	3.57	3.70	3.75	3.81	3.94
CSR_Social	2.93	0.15	2.58	2.82	2.95	3.06	3.20
OC	0.57	0.50	0.00	0.00	1.00	1.00	1.00
JB	0.32	0.47	0.00	0.00	0.00	1.00	1.00
OwnerCEO	0.24	0.42	0.00	0.00	0.00	0.00	1.00
SIZE	20.29	1.48	17.69	19.21	20.00	21.16	23.96
AGE	3.48	0.64	1.39	3.37	3.66	3.87	4.26
ROA	0.05	0.06	−0.15	0.02	0.05	0.08	0.22
LEV	0.45	0.22	0.05	0.29	0.44	0.60	1.05
CASH	0.06	0.06	0.00	0.01	0.04	0.09	0.26
RnD	0.01	0.02	0.00	0.00	0.00	0.02	0.09
Advertising	0.01	0.02	0.00	0.00	0.00	0.01	0.09
CAPEX	0.05	0.05	0.00	0.013	0.03	0.07	0.25
SGE	0.16	0.15	0.01	0.05	0.10	0.21	0.64

Notes: *CSR_Index*: the log of KEJI (Korea Economic Justice Institute) index; *CSR_ADV*: the log of number of positive news items regarding CSR collected from multimedia; *FIT*: the difference between *CSR_Index* and *CSR_ADV*, Each variable was ranked by 5 (1–5) and the difference was calculated (*R_CSR_Index*− *R_CSR_ADV*); *OC*: CEO overconfidence, *JB*: an indicator variable that takes the value of 1 if company is one of the top 30 chaebol companies, and 0 otherwise; *OwnerCEO*: an indicator variable that takes the value of 1 if CEO is owner-manager, and 0 otherwise; *CSR_Tech*: primary CSR (Log of primary CSR activities, such as soundness, fairness, and employee satisfaction in the KEJI index); *CSR_Social*: social CSR (Log of social CSR activities, such as social contribution, environmental management, and consumer protection in KEJI index); *SIZE*: Log of total assets; *AGE*: Log of firm age; *ROA*: Return on Assets (Operating income/Total assets); *LEV*: Leverage (Total liabilities/Total assets); *CASH*: Cash holdings ((Cash + Cash equivalents)/Total assets); *RnD*: R&D expenditures ((R&D expenditures)/Total assets); *Advertising*: Advertising expenses (Advertising expenses/Total assets); *CAPEX*: Capital expenditures (Capital expenditures/Total assets); *SGE*: Selling and General expenses (Selling and General expenses/Total assets).

CSR_Tech was from primary CSR activities that are linked with direct stakeholders. These activities included soundness composed of corporate governance, investment, and soundness of finance; fairness consisting of concentration of economic power, violation of finance sector regulations, and transparency; and employee satisfaction such as payment, welfare, and industrial relationship.

CSR_Social was from social CSR activities that are linked with indirect stakeholders. These activities included social contribution (e.g., donations or equal employment), compliance with customer satisfaction related laws, customer protection with quality and safety certification, and environmental management (e.g., environmental improvement). In our sample, the average score for *CSR_Tech* was 43 out of 60, while for *CSR_Social* it was 19 out of 40.

Management is overconfident when the firm shows rapid asset growth compare to sales growth in the same industry [33]. We defined *OC* as 1 when the residual was larger than 0, and 0 otherwise. The average of *OC* was 0.57, meaning that 56.9% of firms in the study had overconfident management. Since the average value of *JB* was 0.32, 32% of the observations in our sample came from the chaebol firms. We also had 23% owner-managers (*OwnerCEO*). The mean (median) of return

on assets (*ROA*) was 0.05 (0.05). It was reported that 32% of the sample belonged to chaebols (*JB*) in this study, and capital expenditure on assets (*CAPEX*) was 4.8% on average.

Table 2 shows the correlation coefficients of the variables. The upper part shows Pearson correlation and lower part shows Spearman correlation. *OC* and CSR variables (*CSR_Index* and *CSR_Adv*) were significantly positive at the 99% level. Chaebol firms (*JB*) and CSR variables were also significantly positive, implying that chaebol firms are more active in CSR investments and CSR advertisements. *CSR_Adv* and *CSR_Tech* did not show a significant relationship, however, *CSR_Adv* and *CSR_Social* showed a positively significant relationship. This indicates that firms are more likely to advertise their social CSR investments for indirect stakeholders, as these activities are more helpful in developing a favorable public reputation. Since *CSR_Adv* was significantly positively correlated with advertising expenses and selling expenses, we considered that *CSR_Adv* was reasonably estimated with our big data approach.

Table 2. Correlations.

	CSR_Index	CSR_ADV	FIT	OC	JB	OwnerCEO	CSR_Tech	CSR_Social	SIZE	AGE	ROA	LEV	CASH	RnD	Advertising	CAPEX
CSR_Index	1	**0.14**	**0.59**	**0.14**	**0.14**	−0.03	**0.73**	**0.52**	**0.28**	−0.01	**0.18**	**−0.19**	**0.13**	**0.30**	**0.22**	**0.10**
CSR_ADV	**0.14**	1	**−0.65**	**0.08**	**0.36**	0.03	0.02	**0.19**	**0.47**	−0.05	0.03	0.05	**−0.12**	0.07	**0.13**	0.03
FIT	**0.62**	**−0.64**	1	0.02	**−0.17**	−0.04	**0.50**	**0.22**	**−0.16**	0.02	**0.11**	**−0.2**	**0.17**	**0.18**	0.06	0.05
OC	**0.14**	**0.09**	0.01	1	**0.09**	−0.05	**0.10**	**0.08**	**0.12**	**−0.08**	**0.14**	0.05	−0.07	0.08	**0.10**	**0.57**
JB	**0.13**	**0.35**	**−0.17**	**0.09**	1	**−0.08**	0.05	**0.16**	**0.69**	**−0.06**	0.01	**0.16**	−0.07	**−0.11**	**−0.13**	0.06
OwnerCEO	−0.04	0.02	**−0.05**	**−0.05**	**−0.08**	1	**−0.10**	0.08	**−0.07**	0.03	−0.02	**−0.15**	−0.04	0.02	−0.05	**−0.12**
CSR_Tech	**0.72**	0.01	**0.51**	**0.09**	0.04	**−0.10**	1	**−0.19**	**0.12**	**−0.03**	**0.24**	**−0.17**	**0.13**	**0.31**	**0.3**	**0.14**
CSR_Social	**0.50**	**0.19**	**0.21**	**0.08**	**0.15**	**0.08**	**−0.19**	1	**0.27**	0.02	−0.04	**−0.06**	0.02	0.06	−0.06	−0.02
SIZE	**0.23**	**0.42**	**−0.16**	**0.13**	**0.66**	−0.07	**0.09**	**0.26**	1	**−0.01**	0.06	**0.17**	−0.08	**−0.08**	**−0.10**	**0.12**
AGE	−0.02	0.02	**−0.03**	**−0.08**	**−0.09**	**0.08**	**−0.07**	0.06	0.03	1	**−0.12**	**−0.04**	−0.01	0	**−0.09**	−0.01
ROA	**0.20**	0.04	**0.10**	**0.16**	0.03	−0.04	**0.28**	−0.06	**0.08**	**−0.16**	1	**−0.27**	**0.25**	0.05	**0.13**	**0.20**
LEV	**−0.20**	0.07	**−0.21**	0.06	**0.16**	**−0.14**	**−0.19**	**−0.07**	**0.16**	**−0.08**	**−0.29**	1	**−0.17**	**−0.09**	**−0.14**	**0.15**
CASH	**0.13**	**−0.09**	**0.14**	**−0.06**	**−0.03**	−0.07	**0.14**	0.01	**−0.02**	**−0.07**	**0.26**	**−0.18**	1	**−0.02**	0.01	**−0.11**

RnD	**0.31**	**0.08**	**0.18**	**0.1**	**−0.15**	0.01	**0.30**	0.07	**−0.16**	0.02	0.05	−0.05	0.05	1	**0.29**	0.09
Advertising	**0.28**	**0.26**	0.00	**0.12**	**−0.08**	−0.03	**0.31**	−0.02	−0.02	−0.03	**0.15**	**−0.08**	−0.02	**0.33**	1	0.06
CAPEX	**0.17**	0.04	**0.07**	**0.73**	0.08	**−0.15**	**0.18**	0.01	**0.13**	−0.06	**0.25**	**0.12**	−0.07	**0.14**	**0.10**	1
SGE	**0.22**	**0.08**	**0.10**	**0.16**	**−0.18**	−0.04	**0.28**	−0.08	**−0.26**	**−0.13**	**0.17**	**−0.08**	0.07	**0.40**	**0.77**	**0.16**

Notes: (1) Upper part shows Pearson correlation and lower part shows Spearman correlation. (2) Bold indicates the 1% level of significance in two-tailed tests.

Table 3 shows the results for our univariate analysis. In the first column, we find that firms with overconfident managers had significantly higher scores on CSR compared to their peers with non-overconfident managers. When we categorized our observations with chaebol and non-chaebol firms, we found that chaebol firms undertake more CSR activities except for FIT. The smaller FIT value for chaebol firms indicates that chaebol firms are advertising more actively compare to undertaking actual CSR activities. Then, we grouped the observations with *OwnerCEO*. In this case, we found inconsistent patterns among the CSR variables. In particular, *CSR_Tech* was lower and *CSR_Social* was higher in owner-manager firms.

Table 3. T-test results (Univariate analysis).

Variable	Overconfidence (*OC*)			Chaebol (*JB*)			Owner CEO (*OwnerCEO*)		
	OC	Non-OC	Diff (t-Value)	JB	Non-JB	Diff (t-Value)	Owner	Non-Owner	Diff (t-Value)
CSR_Index	4.13	4.11	0.02 (4.90 ***)	4.14	4.11	0.03 (6.80 ***)	4.11	4.12	−0.01 (0.77)
CSR_Tech	3.76	3.74	0.02 (3.71 ***)	3.76	3.75	0.01 (1.73 *)	3.75	3.77	−0.02 (−3.02 ***)
CSR_Social	2.94	2.92	0.02 (3.04 ***)	2.97	2.92	0.05 (5.60 ***)	2.92	2.89	0.03 (2.30 **)
CSR_ADV	2.57	2.23	0.34 (3.04 ***)	3.41	1.92	1.50 (13.87 ***)	2.53	2.40	0.13 (1.06)
FIT	−0.02	−0.10	0.08 (0.15)	−0.44	0.15	−0.58 (−5.03 ***)	−0.19	−0.01	−0.18 (−1.34)

Notes: (1) See Table 2 for the definition of the other variables. (2) *, ** and *** indicate the 10%, 5%, and 1% level of significance, respectively.

Table 4 shows the firm-clustered OLS regression results. We employed an unbalanced panel data set and OLS standard errors were likely biased because the residuals may be correlated across firms. We estimated standard errors that were clustered on firms for addressing this issue. To control the impact of the prior year's CSR activities, we added a lagged variable of the CSR activities (CSR_Index_{t-1} and CSR_Adv_{t-1}) in the models. Panel A shows the analysis between *OC* and CSR related activities. In columns 1, 2, and 4, we found that *OC* was positively significant with the CSR activities. We found that the overconfident managers were more actively involved in CSR investment, primary CSR investment, and CSR advertisement. Consistent with the correlation results, we confirmed that overconfident managers are more active in *CSR_Adv*. Our findings here are consistent with prior literature [6] in that management narcissism is reflected in managerial overconfidence. When overconfident management wants to be continuously exposed to the public, management tends to be more active in CSR advertisements. Therefore, we concluded that our first hypothesis was supported from Panel A.

In Panel B, we analyzed the moderating effects of chaebol firms (*JB*). Our variable of interest was the coefficient from *OC × JB*. In columns 1 and 4, we found significant coefficients: we had −0.74 in column 1 and 1.12 in column 4. The results show that chaebol firms refrain from making the actual CSR expenditures when the overconfident managers try to spend more than necessary. Interestingly, when the overconfident managers are advertising more their CSR activities, chaebol firms are encouraging those advertisements.

Thus, it was confirmed that overconfident managers are more active in both CSR investment and advertising from Panel A, and this association is moderated by whether they are affiliated with chaebols. A positive relationship between overconfidence and CSR activities is reduced when the firm belongs to a chaebol group, because the chaebol controls the overconfident manager's overinvestment of CSR. However, the association between overconfidence and CSR advertising is strengthened when the firm belongs to a chaebol group. We reconfirmed those relationships using *CSR_FIT*, which represents the gap between CSR investment and advertising. Our findings are somewhat different from other chaebol related studies that mostly reported the negative aspects. Our results suggest the chaebol's positive role that controls the overconfident CEO's aggressive investment of CSR, and it works as a form of corporate governance within firms.

In Panel C, we examined the moderating effects of the presence of an owner-manager (*OwnerCEO*). From the correlation table, we found a negative relationship between *OC* and *OwnerCEO*, meaning the owner-manager tends to be less overconfident. *OwnerCEO* had a negative

relationship with *CSR_Tech* and a positive relationship with *CSR_Adv*. With the correlation relationships, our results provide the following findings. In column 1, even the overconfident owner-manager is less likely to make CSR expenditures (*CSR_Index*) from the negative coefficient of *OC ×OwnerCEO* (−0.93). Our results are consistent with prior work done by Ree and Rodionova (2015), in which they reported family ownership negatively influences CSR activities. In columns 2 and 3, overconfident owner-managers do not affect primary CSR expenditures and, rather, they make fewer social CSR expenditures.

Table 4. Ordinary Least Square **(**OLS) results. PANEL A: The association between CEO Overconfidence and CSR (OLS regression). PANEL B: Moderating effect of Chaebol (*JB*). PANEL C: Moderating effect of Ownership (*OwnerCEO*).

	PANEL A									
Variable.	*CSR_Index*		*CSR_Tech*		*CSR_Social*		*CSR_ADV*		*FIT*	
	Coeff.	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**
Intercept	−44.76	−15.25 ***	47.77	9.32 ***	10.78	4.28 ***	0.41	0.66	7.02	1.87 *
OC	0.26	2.17 **	1.08	2.44 **	0.46	1.52	0.21	2.82 ***	0.38	1.05
CSR_Index$_{t-1}$	11.09	13.33 ***								
CSR_ADV$_{t-1}$							0.63	26.08 ***		
SIZE	0.12	2.65 ***	−0.41	−1.70 *	0.49	3.87 ***	0.07	2.24 **	−0.40	−2.56 **
AGE	−0.20	−2.17 **	−0.07	−0.14	0.31	1.41	0.01	0.14	−0.18	−0.38
ROA	−1.44	−1.80 *	8.19	1.79 *	−6.74	−2.63 **	−0.51	−0.74	3.13	0.74
LEV	−0.74	−2.72 ***	−1.76	−1.32	−1.59	−2.22 **	0.01	0.05	−0.95	−1.02
CASH	1.61	1.66 *	3.47	0.89	4.32	1.76 *	−0.05	−0.08	3.37	1.19
RnD	5.55	1.84 *	15.02	1.42	3.08	0.32	1.46	0.75	1.62	0.21
Advertising	−0.02	−0.01	−10.67	−0.71	−16.29	−1.70 *	−0.84	−0.36	−16.79	−1.41
CAPEX	−0.73	−0.59	−6.49	−1.27	2.07	0.64	−1.03	−1.17	−1.27	−0.35
SGE	0.94	1.48	3.37	1.27	0.76	0.53	0.22	0.62	0.39	0.21
IND_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
YEAR_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
Adj.R *	0.50		0.26		0.56		0.70		0.23	
N	1425		1425		1425		1425		1425	
	PANEL B									
Variable	*CSR_Index*		*CSR_Tech*		*CSR_Social*		*CSR_ADV*		*FIT*	
	Coeff.	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**	**Coeff.**	**t-Value**
Intercept	−32.02	−4.35 ***	44.56	7.09 ***	6.81	1.98 *	−21.93	−3.02 ***	6.21	1.54
OC	0.85	2.89 ***	1.14	2.16 **	0.58	1.76 *	−0.02	−0.05	0.67	1.50
JB	−0.10	−0.25	−0.60	−0.61	−0.58	−0.83	−1.53	−2.79 ***	0.67	1.13
OC × JB	−0.74	−1.73 *	−0.11	−0.13	−0.35	−0.59	1.12	1.99 **	−1.15	−1.72 *
CSR_Index$_{t-1}$	8.02	4.83 ***								
CSR_ADV$_{t-1}$							3.19	1.89 *		
SIZE	0.16	1.36	−0.23	−0.75	0.71	3.57 ***	0.66	4.01 ***	−0.36	−1.84 *
AGE	−0.22	−1.19	−0.10	−0.19	0.29	1.37	0.00	0.00	−0.12	−0.27
ROA	−1.70	−0.88	8.16	1.72 *	−6.95	−2.73 ***	−0.92	−0.33	2.24	0.52
LEV	−1.75	−2.72 ***	−1.88	−1.38	−1.78	−2.40 **	−0.41	−0.51	−1.24	−1.26
CASH	1.18	0.65	3.61	0.93	4.45	1.83 *	−1.97	−0.81	3.18	1.17

Variable	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value
RnD	−1.47	−0.29	13.09	1.27	0.53	0.06	0.24	0.03	0.32	0.04
Advertising	−15.85	−2.01 **	−13.00	−0.89	−19.80	−2.05 **	14.59	1.35	−20.62	−1.73 *
CAPEX	−2.77	−1.12	−6.43	−1.26	2.08	0.69	−1.18	−0.52	−1.57	−0.44
SGE	1.37	1.14	3.62	1.40	1.06	0.80	1.34	1.02	0.42	0.22
IND_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
YEAR_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
Adj.R *	0.34		0.30		0.56		0.39		0.23	
N	1425		1425		1425		1425		1425	

PANEL C

Variable	CSR_Index		CSR_Tech		CSR_Social		CSR_ADV		FIT	
	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value	Coeff.	t-Value
Intercept	−33.03	−4.16 ***	51.00	7.74 ***	6.74	1.67 *	−1.02	−0.56	9.98	2.19 **
OC	0.77	2.28 **	0.93	1.44	0.74	1.65	−0.06	−0.22	0.89	1.88 *
OwnerCEO	0.30	0.70	−0.89	−0.86	0.97	1.47	0.01	0.04	0.85	1.71 *
OC×OwnerCEO	−0.93	−1.76 *	0.33	0.27	−1.42	−1.90 *	0.27	0.77	−1.87	−3.06 ***
CSR_Index$_{t-1}$	9.55	5.21 ***								
CSR_ADV$_{t-1}$							0.68	13.10 ***		
SIZE	−0.08	−0.58	−0.52	−1.74 *	0.59	3.06 ***	0.17	1.98 *	−0.54	−3.01 ***
AGE	−0.53	−2.37 **	−0.29	−0.48	0.58	1.64	−0.18	−1.52	−0.43	−0.75
ROA	−1.15	−0.52	9.59	1.76 *	−5.60	−2.00 **	0.13	0.05	4.25	0.88
LEV	−0.76	−1.03	−1.81	−1.07	−0.55	−0.62	0.01	0.03	−0.15	−0.14
CASH	−2.44	−1.19	2.32	0.48	3.40	1.16	0.51	0.28	1.81	0.58
RnD	2.50	0.45	16.89	1.49	5.45	0.53	2.79	0.69	3.21	0.38
Advertising	−16.94	−2.07 **	−17.22	−0.98	−18.17	−1.46	−3.81	−0.75	−12.32	−0.89
CAPEX	−4.48	−1.34	−9.42	−1.71 *	−1.34	−0.32	1.45	0.61	−3.35	−0.88
SGE	2.55	1.90 *	4.11	1.41	2.64	1.45	−0.03	−0.03	0.86	0.39
IND_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
YEAR_DUM	Inc.		Inc.		Inc.		Inc.		Inc.	
Adj.R *	0.34		0.30		0.56		0.71		0.25	
N	1425		1425		1425		1425		1425	

Notes: (1) *Over* (*Under*) investment: an excess (shortage) of a firm's actual investment compared with the normal level of investment. (2) See Table 1 for the definition of the other variables. (3) *, ** and *** indicate the 10%, 5%, and 1% level of significance, respectively.

5. Sensitivity Test

In this part, we performed sensitivity tests to demonstrate the robustness of our findings. First, there were CSR studies that use the environmental, social, and governance (ESG) index reported from the Korea Corporate Governance Service (KCGS) as the proxy for CSR activities. The ESG index has seven ratings: S, A+, A, B+, B, C, and D. We repeated our analyses with the ESG index and found qualitatively similar results. Second, since managerial overconfidence might have a non−linear relationship with CSR activities, we modified our regression to Model 2−1.

(Model 2−1):

$CSR_{ijt} = \alpha_0 + \beta_0 OC_{it} + \beta_1 sqrOC_{it} + \beta_2 CG_{it} + \beta_3 OC_{it} \times CG_{it} + \beta_4 sqrOC \times CG_{it} +$
$\quad\quad \beta_5 SIZE_{it} + \beta_6 AGE_{it} + \beta_7 ROA_{it} + \beta_8 LEV_{it} + \beta_9 CASH_{it} + \beta_{10} RnD_{it} +$
$\quad\quad \beta_{11} Advertising_{it} + \beta_{12} CAPEX_{it} + \beta_{13} SGE_{it} + \sum \beta IND\_DUM_t +$
$\quad\quad \sum \beta YEAR\_DUM_t + \varepsilon_{it},$

(3)

where, $sqrOC_{it}$: square term of OC_{it}

Our results confirmed that managerial overconfidence does not have a non−linear relationship with CSR activities. Lastly, we used different proxies of managerial overconfidence to see if our results were driven by a specific measure. We measured the overconfidence with (1) the ratio of asset growth over sales growth [39], assuming the manager is overconfident if the firm is making more investments in assets relative to sales growth and (2) the amount of capital expenditures [34,40], assuming that the overconfident manager is making more expenditures than other similar firms. Our findings with the alternative measures of managerial overconfidence reaffirmed and supported our hypotheses.

6. Discussion and Conclusions

In this study, we examined the relationship between management overconfidence and CSR activities. In addition, we also explored the moderating impact of chaebol firms or the presence of an owner−manager. Our sample covered the non-financial firms listed in KOSPI from 2006 to 2015 for a ten-year period. We used the KEJI index as a proxy of CSR investment and media-oriented variable with a big data approach as CSR-related advertising in order to examine those relationships.

Our findings revealed that managerial overconfidence is positively related to CSR activities and CSR advertisements. The positive relationship implies that overconfident management actively makes CSR expenditures, which is consistent with prior studies [12,13], and promotes such activities to the public, which is new and empirically supports that narcissistic managers want to draw attention to the public [7,15,16]. When we categorized the CSR activities as primary and social activities, we found that overconfident management undertakes more CSR activities for direct stakeholders compared to indirect stakeholders. This implies that overconfidence makes managers focus on the short0term perspective with direct related parties, rather than with indirect people, which is good for the long-term perspective. Our findings support prior arguments that overconfident management underestimates the risks and hedges the risks less, where other managers regard CSR activities as mitigating the risk [11].

When we used corporate governance as a moderating effect, we found that overconfident management in chaebol affiliation does not actively make CSR expenditures, but actively encourages CSR advertisements. The findings in this context indicate that the chaebol environment mitigates overly excessive CSR expenditures by overconfident management. Since managers in affiliated firms are controlled by the top owner of chaebol, over CSR activities are monitored and restricted by those systems. On the other hand, the chaebol affiliation occupies a privileged position in the market and sometimes they are criticized with a negative view. This environment fosters more CSR advertisements and tries to build public reputation. In our owner−manager analyses, the overconfident owner−manager makes fewer CSR expenditures, especially social CSR expenditures. This result is in the same line with prior reports [19–21] and means overconfident owner−managers are reluctant to make indirect CSR expenditures, since the interests of indirect stakeholders and the owner−manager are not well−aligned in this case. In other words, when interests are well−aligned with the direct stakeholders, the owner−manager who is overconfident tends to make more CSR expenditures (*CSR_Tech*), but when interests are not aligned with the indirect stakeholders, the overconfident owner−manager makes fewer CSR expenditures (*CSR_Social*). Taken together, we interpret this as suggesting that the chaebol firms and the presence of an owner−manager play a moderating role, which is a new empirical finding from the Korean market.

Our results contribute to the literature in two ways. First, we found that managerial overconfidence influences CSR-related activities and the impact of such overconfidence varies with corporate governance. Prior literature mostly focused on the impact or the results of CSR activities;

we examined the determinants of CSR activities. Practitioners and firms that strategically plan to increase CSR activities and steer corporate sustainability management will benefit from our findings. Second, we introduced a new empirical methodology to accounting research, as we estimated our measures using a big data approach. We expect more researchers to use this methodology and broaden our understanding in the field of accounting.

Our study is not free from bias as the measures for the managerial overconfidence and CSR indices. Therefore, our results should be interpreted with caution and we expect future researchers to focus on developing more rigorous proxies for both measures.

References

1. Bowen, H.R. *Social Responsibility of the Businessman*; Harper & Row: New York, NY, USA, 1953.
2. Kim, D.J.; Shim, J.G. An empirical study on the relationship between corporate governance and corporate social responsibility. *J.Knowl. Stud.* **2011**, *9*, 129–157 [printed in Korean].
3. Carroll, A.B. A three-dimensional conceptual model of corporate performance. *Acad. Manag. Rev.* **1979**, *4*, 497–505.
4. Hur, W.; Kim, H.; Jeong, W. How CSR leads to corporate brand equity: Mediating mechanisms of corporate brand credibility and reputation. *J. Bus. Ethics.* **2014**, *125*, 75–86.
5. Donaldson, T.; Preston, L. The stakeholder theory of the corporation: Concepts, evidence and implications. *Acad. Manag. Rev.* **1995**, *20*, 65–91.
6. Hillman, A.J.; Keim, G.D. Shareholder value, stakeholder management, and social issues: What is the bottom line? *Strateg. Manag. J.* **2001**, *22*, 125–139.
7. Hayward, M.L.; Hambrick, D.C. Explaining the premiums paid for large acquisitions: Evidence of CEO hubris. *Adm. Sci. Q.* **1997**, *42*, 103–127.
8. Malmendier, U.; Tate, G. CEO overconfidence and corporate investment. *J. Financ.* **2005**, *60*, 2661–2700.
9. Simon, M.; Houghton, S.M. The relationship between overconfidence and the introduction of risky products: Evidence from a field study. *Acad. Manag. J.* **2003**, *46*, 139–149.
10. Li, J.; Tang, Y. CEO hubris and firm risk taking in China: The moderating role of managerial discretion. *Acad. Manag. J.* **2010**, *53*, 45–68.
11. McCarthy, S.; Oliver, B.; Song, S. Corporate social responsibility and CEO confidence. *J. Bank. Financ.* **2017**, *75*, 280–291.
12. Tang, Y.; Mack, D.Z.; Chen, G. The differential effects of CEO narcissism and hubris on corporate social responsibility. *Strateg. Manag. J.* **2018**, *39*, 1370–1387.
13. Cha, S.J.; Park, C.S. Corporate social responsibility as a tool for satisfying the narcissistic needs of a hubristic CEO. *Korean Manag. Rev.* **2018**, *47*, 451–479.
14. Yook, J.H. The effect of CEO narcissism on the CSR performance: Mediating role of board composition. *J. Ind. Econ. Bus.* **2018**, *31*, 2131–2159 [printed in Korean].
15. Campbell, W.K. Narcissism and romantic attraction. *J. Personal. Soc. Psychol.* **1999**, *77*, 1254–1270.
16. Raskin, R.; Terry, H. A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *J. Personal. Soc. Psychol.* **1988**, *54*, 890–902.
17. Moore, D.A.; Healy, P.J. The trouble with overconfidence. *Psychol. Rev.* **2008**, *115*, 502–517.
18. Jain, T.; Jamali, D. Looking inside the black box: The effect of corporate governance on corporate social responsibility. *Corp. Gov. Int. Rev.* **2016**, *24*, 253–273.

19. Rees, W.; Rodionova, T. The influence of family ownership on corporate social responsibility: An international analysis of publicly listed companies. *Corp. Gov. Int. Rev.* **2015**, *23*, 184–202.

20. Barnea, A.; Rubin, A. Corporate social responsibility as a conflict between shareholders. *J. Bus. Ethics.* **2010**, *97*, 71–86.

21. Mackenzie, C.; Rees, W.; Rodionova, T. Do responsible investment indices improve corporate social responsibility? FTSE4Good's Impact on Environmental Management. *Corp. Gov. Int. Rev.* **2013**, *21*, 495–512.

22. Faccio, M.; Lang, L.H.P. The ultimate shareholdership of Western European corporations. *J. Financ. Econ.* **2002**, *65*, 365–395.

23. La Porta, R.; Lopez-de-Silanes, F.; Shleifer, A.; Vishny, R. Legal determinants of external finance. *J. Financ.* **1997**, *52*, 1131–1150.

24. Le Breton-Miller, I.; Miller, D. Why do some family businesses out-compete? Governance, long-term orientations, and sustainable capability. *Entrep. Theory Pract.* **2006**, *30*, 731–746.

25. Silva, F.; Majluf, N. Does family ownership shape peformance outcomes? *J. Bus. Res.* **2008**, *61*, 609–614.

26. Shin, H.; Park, Y. Financing constraints and internal capital markets: Evidence from Korean Chaebols. *J. Corp. Financ.* **1999**, *5*, 169–191.

27. Lee, S.; Park, K.; Shin, H. Disappearing internal capital markets: Evidence from diversified business groups in Korea. *J. Bank. Financ.* **2009**, *33*, 326–334.

28. Kim, C.S. Internal capital markets and chaebol investments. *Korean J. Financ. Stud.* **2010**, *39*, 611–641 [printed in Korean].

29. Kim, D.W. The effects of the dynamics of insider ownership on firm value: Evidence from Korean Chaebol. *Korean J. Financ. Eng.* **2012**, *11*, 91–115 [printed in Korean].

30. Shleifer, A.; Vishny, R.W. Large shareholders and corporate control. *J. Political Econ.* **1986**, *94*, 461–488.

31. Kook, C.P.; Kang, Y.S. Corporate social responsibility, corporate governance and firm value. *Korean J. Financ. Stud.* **2011**, *40*, 713–748 [printed in Korean].

32. Stulz, R.M. Managerial discretion and optimal financing policies. *J. Financ. Econ.* **1990**, *26*, 3–27.

33. Schrand, C.M.; Zechman, S. Executive overconfidence and the slippery slope to financial misreporting. *J. Account. Econ.* **2012**, *53*, 311–329.

34. Ahmed, A.S.; Duellman, S. Managerial overconfidence and accounting conservatism. *J. Account. Res.* **2013**, *51*, 1–30.

35. Lin, Y.; Hu, S.; Chen, M. Managerial optimism and corporate investment: Some empirical evidence from Taiwan. *Pac. Basin Financ. J.* **2005**, *13*, 523–546.

36. Malmendier, U.; Tate, G. Who makes acquisitions? CEO overconfidence and the market's reaction. *J. Financ. Econ.* **2008**, *89*, 20–43.

37. Chang, Y.; Oh, W.; Park, J.; Jang, M. Exploring the relationship between board characteristics and CSR: Empirical evidence from Korea. *J. Bus. Ethics.* **2017**, *140*, 225–242.

38. Chatjuthamatd, P.; Jiraporn, P.; Tong, S.; Singh, M. Managerial Talent and Corporate Social Responsibility (CSR): How Do Talented Managers View Corporate Social Responsibility? *Int. Rev. Financ.* **2016**, *16*, 265–276.

39. Hwang, K.J.; Cha, M.K. 2015. The study on the relationship between managerial overconfidence and earnings management. In *The Korean Academic Society of Business Administration Conference Proceedings*; Inspiring Insight in Business Society: Seoul, Korea, 2015 [printed in Korean].

40. Ryu, H.Y.; Kim, S. Managerial overconfidence and accounting conservatism. *Korean Account. Rev.* **2015**, *40*, 41–80 [printed in Korean].