

미국기업의 CSR 활동에 애널리스트가 미치는 영향에 관한 연구*

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The Impact of Analyst Expectations and Coverage on CSR Engagement of U.S. Firms

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Abstract

Despite the numerous advantages that CSR engagement can potentially offer, top managers may not always be willing to invest in CSR as they are expected to meet expectations of external constituents in the short run. Given that financial analysts' expectations are important short-term performance targets that top managers are motivated to meet, this study examines how performance relative to earnings forecasts issued by analysts affect top managers' decisions about CSR engagement. Using a sample of publicly listed U.S. firms from 2000 to 2016, we find that top managers are more likely to reduce discretionary expenditure on CSR activities as performance falls below analyst forecasts to improve financial performance in the following fiscal year. As performance exceeds analyst forecasts, top managers are motivated to reduce CSR investments in order to meet higher expectations of analysts. As financial analysts closely monitor the firms that they follow in order to publish investment advice to market participants, we find that analyst coverage weakens top managers' incentive to reduce CSR engagement. Overall, this research sheds meaningful insight into the contextual background in which the top managers are situated in when they make decisions on CSR engagement.

Keywords: CSR, top managers, analyst forecasts, relative performance, analyst coverage

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I. Introduction

Engagement in corporate social responsibility (CSR) has increasingly been in the center of the attention as firms are now exhibiting greater social responsibility through adopting policies that go beyond what is required by law (McWilliams and Siegel, 2000; Shiu and Yang, 2017). The large volume of prior CSR literature from various disciplines such as environmental studies, strategy, organizational theory, OB, HRM, or marketing has sought out to understand outcomes of CSR engagement (Aguinis and Glavas, 2012). Although the direct effect of CSR on financial outcomes is less clear with mixed results (Peloza and Shang, 2011), CSR engagement has generally been found to contribute to enhancing firm value through a number of channels (Fatemi, Fooladi and Tehrani, 2015; Malik, 2015). For instance, CSR initiatives have been found to improve corporate reputation because consumers' evaluation of the company and its products becomes more positive (McWilliams and Siegel, 2000; Sen and Bhattacharya, 2001). Other studies find empirical evidence that firms engaging in CSR can not only better attract more desirable employees (Jones, Willness and Madey, 2014), but their employees also display higher job satisfaction (Brammer and Millington, 2005). CSR has also been found to play a signaling role; for example, Flammer (2018) finds that firms with higher CSR are able to receive more government procurement contracts because CSR signals trustworthiness. Similarly, a history of long-term commitment to CSR has been found to provide an "insurance-life effect during occurrences of negative events" that helps firms to lessen the loss of market value (Shiu and Yang, 2017) (p.455).

Despite the numerous advantages that CSR

engagement can potentially offer, not all firms engage equally in the voluntary practice and even fewer firms are willing to commit to CSR initiatives for a long time frame. This is surprising given that prior literature recognizes that firms have a better chance of exploiting the advantages of CSR engagement when they display a long-term commitment towards investing in socially responsible initiatives (Brammer and Millington, 2008; Shiu and Yang, 2017). A main cause could be that top managers may not always be willing to invest in CSR as its impact on short-term outcomes is often not clear (Zhang and Gimeno, 2016). Such misalignment in incentives towards CSR can be problematic because top managers play an important role in determining the level of firms' CSR engagement (Godos-Díez, Fernández-Gago and Martínez-Campillo, 2011). Even if investing in CSR initiatives will benefit the firm in the long run, top managers may be unwilling to make the necessary long-term commitment to do so.

In order to better understand top managers' CSR engagement decisions, it is thus crucial to consider the contextual background underlying top managers' CSR decisions. This paper suggests that top managers take into account the extent to which performance is either below or above analyst forecasts in making the decision about CSR engagement. Specifically, whether performance is below or above the earnings forecasts issued by financial analysis is an important factor that affects top managers' decision to invest in CSR. This is mainly because earnings forecasts issued by financial analysts—among many expectations of external constituents—are one of the most important targets that public firms and its top managers are expected to meet (Bartov, Givoly and Hayn, 2002; Puffer and Weintrop, 1991;

Westphal and Clement, 2008). At the same time, analyst coverage can influence the effect of performance gap relative to analyst forecasts on CSR engagement. Given that financial analysts closely monitor the firms that they follow in order to publish investment advice to market participants (Jensen and Meckling, 1976; Naqvi, Shahzad, Rehman, Qureshi and Laigue, 2021; Womack, 1996), top managers should have less incentives to reduce CSR investments as analyst coverage increases.

The U.S. has the world's largest capital market and its monetary policies effects the global economy. Especially the U.S. multinational corporations which are operating overseas and the affiliates of foreign corporations that are located in the U.S. share the cross-border trade and monetary policies. Recently the foreign sales, the foreign direct investment exploded by multinational corporations because of the globalization which increased the power and global spillovers from the multinational corporations (Detomasi, 2007; Byun, Zhuand Li, 2018). Moreover, international institutions such as Global Reporting Initiative (GRI) have promoted the CSR engagement in partnership with multinational corporations and the governments all over the world. Therefore, multinational corporations increasingly apply CSR strategies across the global affiliates engendered calls for the corporate social responsibility (CSR). Thus, in terms of the global spillovers from U.S. multinational corporations, it is important to examine the managers' behavior of CSR engagement in the U.S.

A sample of publicly listed U.S. firms from 2000 to 2016 is used to empirically test the proposed research model. We find that as performance falls below analyst forecasts, there is a negative relationship between performance gap relative to forecasts and CSR engagement in the following year.

Managers are more likely to reduce discretionary expenditure on CSR activities to improve financial performance to satisfy shareholder demands. As performance exceeds analyst forecasts, there is a similar negative relationship between the performance gap relative to forecasts and CSR engagement in the following year. Since strong performance leads financial analysts to issue more optimistic earnings forecasts in the following year, managers face heightened pressure to meet higher expectations next year which will motivate them to cut CSR investments accordingly. As for the moderating role of analyst coverage, we find that analyst coverage weakens the negative relationship between performance gap and CSR engagement in the following year. This implies that the extent of analyst coverage can serve to reduce agency problems associated with CSR engagement by serving as an external monitoring mechanism.

The paper is structured as follows. An overview of the existing literature on CSR and the managerial incentives to engage in CSR is provided. Hypotheses about the impact of performance relative to analyst forecasts on CSR engagement are developed. Hypotheses about the moderating role of analyst coverage are then introduced. After a section about methodology and empirical results, a discussion of main findings, limitations of the study and implications are discussed.

II. Literature Review and Hypothesis Development

1. Corporate Social Responsibility (CSR) and Managerial Incentives

CSR engagement has been found to be beneficial in various facets related to firm performance, such as operating efficiency

(Brammer and Millington, 2005; Porter and Kramer, 2002; Saiia, Carroll and Buchholtz, 2003), employee job satisfaction (Valentine and Fleischman, 2008), and earnings quality (Choi Bo-Bae, Lee Doo-Won and Park Young-Kyu, 2013; Kim Yong-Tae, Park Myung-Seok and Wier, 2012). Investing in CSR can also promote a socially responsible corporate image that allows firms to better attract desirable employees (Jones, Willness and Madey, 2014) or attract consumers who are willing to indirectly support a social cause through their purchase for the firms' products or services (McWilliams and Siegel, 2000). Such socially responsible corporate image elicit positive responses from stakeholders that can even provide an insurance-like effects in the face of negative events (Godfrey, 2005; Godfrey, Merrill and Hansen, 2009; Shiu and Yang, 2017). Overall, engaging in CSR seems to play an important role in enhancing firm value (Fatemi, Fooladi and Tehranian, 2015; Malik, 2015).

However, benefits arising from CSR activities take time to materialize (Brammer and Millington, 2008; Shiu and Yang, 2017). For instance, a number of studies find that the insurance-life effects of CSR engagement can only be exploited when a firm has demonstrated a long-term commitment and consistency in CSR expenditures (Shiu and Yang, 2017; Vanhamme and Grobbsen, 2009). Given that a socially responsible corporate image takes time to build up, firms that have only recently begun to engage in CSR can even trigger skepticism from stakeholders about the underlying motives and result in negative perceptions about the firm (Vanhamme and Grobbsen, 2009). CSR, thus, is essentially a long-term investment with less immediate outcomes in the short-run and a source of short-term costs (Barnett and Salomon, 2012; Minor and Morgan, 2011).

Since CSR is an additional investment that diverts scarce resources from managerial efforts to maximize profits, there are even concerns regarding the tradeoff between CSR expenditures and its short-run financial impact such as profitability (Barnett, 2007; Jensen and Meckling, 1976; McWilliams and Siegel, 2000). Relatedly, Barnett and Salomon (2012) argue that firms must invest in CSR for a longer time frame in order to have their CSR efforts translate to corporate financial performance (CFP).

As a result, managerial incentives to make investments in CSR may not be necessarily aligned with such a long-term commitment that CSR requires. Prior literature suggests that managers play a key role in deciding whether and to what extent CSR is implemented in firms (Godos-Díez, Fernández-Gago and Martínez-Campillo, 2011). Managers, however, may be motivated to prioritize short-term outcomes over long-term ones given that they are likely to pursue their self-interests even at the expense of shareholder wealth (Jensen and Meckling, 1976). In fact, managers have been found to forgo a project that has positive net present value in order to avoid falling short of the short-term analyst earnings forecast (Bhojraj et al., 2009; Graham, Harvey and Rajgopal, 2005). In the context of CSR, managers may have similar incentives to avoid investing in CSR initiatives because its short-term benefits are not as clear. Thus, it is important to pay attention to the contextual background in which managers make the decision to either engage in CSR or not.

Top managers face pressure to meet various earnings benchmarks, among which is externally generated: the expectations of financial analysts (Farrell and Whidbee, 2003). Financial analysts regularly publish earnings forecasts for firms that they follow,

which serves as an important “externally generated short-term performance targets” for top managers (Gentry and Shen, 2013) (p.121). Since investors pay attention to the buy/sell recommendations and earnings forecasts that analysts publish, analysts’ opinions influence the firms’ stock prices and volume of stock traded in the market (Womack, 1996). For top managers, failing to meet financial analysts’ expectations has a number of implications for their employment security and personal wealth (Gentry and Shen, 2013). For instance, missing an externally generated earnings benchmark has been found to have an adverse effect on the level of CEOs’ managerial compensation (e.g., annual cash bonus) (Matsunaga and Park Chul-W, 2001). Thus, top managers consider the earnings forecasts issued by financial analysts.

2. Performance Below Analyst Forecasts and CSR Engagement

When performance falls below analyst forecasts, managers are likely to feel heightened pressure to make a turnaround in order to meet analyst forecasts. Under the circumstances, discretionary investments in CSR are likely to be cut in managers’ efforts to satisfy shareholder demands for improving performance because diverting resources to CSR initiatives can increase the risk of performing below analyst forecasts. Given that CSR is a type of discretionary expenditure that top managers have control over, they are likely to reduce expenses on CSR and use the resources on the pursuit of solutions to fix firms’ poor performance (Cyert and March, 1963). By avoiding the allocation of scarce resources on CSR,

managers can enhance the chance of meeting market expectations. Therefore, the lack of mandatory nature of CSR leads to a decline in managers’ perceived need to makes CSR investments.

CSR investments made during times when performance is below analyst forecasts can even invite unnecessary skepticism from stakeholders and destroy shareholder wealth (Ioannou and Serafeim, 2015). In times of underperformance, CSR engagement may not be perceived to be in the best interests of shareholders (Jensen and Meckling, 1976). If CSR is perceived as a way to sugarcoat underperformance or to materialize on its insurance-like effects (Shiu and Yang, 2017), it would become more difficult to obtain benefits from CSR investments. Even worse, stakeholders may discount CSR engagement simply as managers’ insincere attempts to restore firm reputation that may have been negatively impacted by underperformance.

Based on the above reasoning, we suggest that the further performances miss analysts’ forecasts, the more CSR investments that managers are likely to cut. Managers should be motivated to decrease investment in CSR activities in order to increase the probability that they are able to improve performance—and hopefully meet analyst forecasts—in the next fiscal year. In other words, top managers’ incentives to prioritize short-term outcomes over long-term ones are greater as performance decreases below analyst forecasts. Thus, as performance falls below analyst forecasts, we hypothesize that CSR engagement will be lower in the following year.

Hypothesis 1. *When performance falls below analyst forecasts, CSR engagement will decrease in the following year.*

3. Performance Above Analyst Forecasts and CSR Engagement

When firm performance exceeds the target set by financial analysts, firms should be able to accumulate financial slack that can allow firms to allocate resources to CSR (Symeou, Zygliopoulos, and Gardberg, 2019). Given that firms performing above externally generated aspirations are also perceived favorably in the stock market (Kasznik and McNichols, 2002), CSR engagement should face lower risk of being scrutinized for diverting resources from core activities aimed at improving performance. These factors may facilitate top managers' willingness to make CSR investments.

However, managers in these firms do not necessarily face less pressure to satisfy shareholders' expectations about performance. In fact, previous studies have found that high levels of current performance create greater pressure and expectations about future performance (Derfus et al., 2008; Kasznik and McNichols, 2002; Mishina et al., 2010). Stakeholders will have even stronger expectations that high relative performance is sustained (Adler and Adler, 1989; Mishina et al., 2010). Strong current performance also leads financial analysts to be more optimistic about the firms' future performance, which will lead them to issue higher earnings forecasts in the following year (De Bondt and Thaler, 1990; Rajan and Servaes, 1997). Thus, managers are more likely to face higher expectations in the following year as the firm performance exceeds analyst forecasts in the current fiscal year (Kasznik and McNichols, 2002).

Under the circumstances, top managers should have greater incentives to focus on ensuring that performance exceeds analyst forecasts in the subsequent fiscal year for a

number of reasons. First, higher expectations on the part of financial analysts imply that it may be more difficult for managers to meet these external targets in the subsequent years following the one during which they met expectations. Firms may even need to perform better "just to maintain the status quo" (Mishina et al., 2010) (p.704); this phenomenon is referred to as the "Red Queen effect" in competitive strategy (Derfus et al., 2008). Second, managers with a history of high performance should perceive the inability to meet analysts' expectations about performance to be particularly damaging to their personal reputation and employment stakes (Mishina et al., 2010). Thirds, managers should have the incentives to extend the period of high performance. In fact, Kasznik and McNichols (2002) find that market premium is greater for firms that have met analysts' expectations consistently for three years. As such, making an effort to meet analyst expectations is a rational decision for managers.

In order to meet external expectations in the following year, managers—even if they have successfully met analyst forecasts in the current fiscal year—should be motivated to use reductions in CSR investments as a means to reduce costs. By reducing discretionary expenditure on CSR, managers should have a higher probability of meeting earnings forecasts in the following year. Because performance inevitably cannot increase indefinitely (Mishina et al., 2010), managers must make strategic decisions to assure that the probability of meeting market expectations is maximized.

In summation, the further performance exceeds analysts' forecasts, the more CSR investments that managers will likely to be cut. Managers will be able to increase the possibility of meeting analyst forecast in the

following year by committing less resources to CSR. Thus, as performance exceeds analyst forecasts, we hypothesize that less investments in CSR will be made in the following year.

Hypothesis 2. *When performance exceeds analyst forecasts, CSR engagement will decrease in the following year.*

4. The Moderating Effect of Analyst Coverage

Analyst following can influence CSR engagement decisions because higher level of analyst coverage means that the firm and its top managers are more closely monitored (Gentry and Shen, 2013). Financial analysts are recognized to be “experts who constantly collect, analyze, and disseminate information about the future prospects of publicly listed firms” (Brauer and Wiersema, 2018) (p.218). As visible experts, analysts play a key role as information intermediaries by fulfilling a monitoring role in the broader financial markets (Jensen and Meckling, 1976; Womack, 1996). While the extent of analyst coverage for each firm may vary, broader coverage by financial analysts thereby contributes to reducing information asymmetry that exists between managers and the market (Chang, Dasgupta and Hilary, 2006).

Under the circumstances, managers are likely to be less aggressive in cutting costs by reducing CSR investments when the firm has a broader analyst coverage. Analysts’ investment advice (e.g., earnings forecasts, buy or sell recommendations) not only increases investor awareness, but also influences a firm’s stock prices as well (Benner and Ranganathan, 2012). What is more, analyst stock recommendations serve

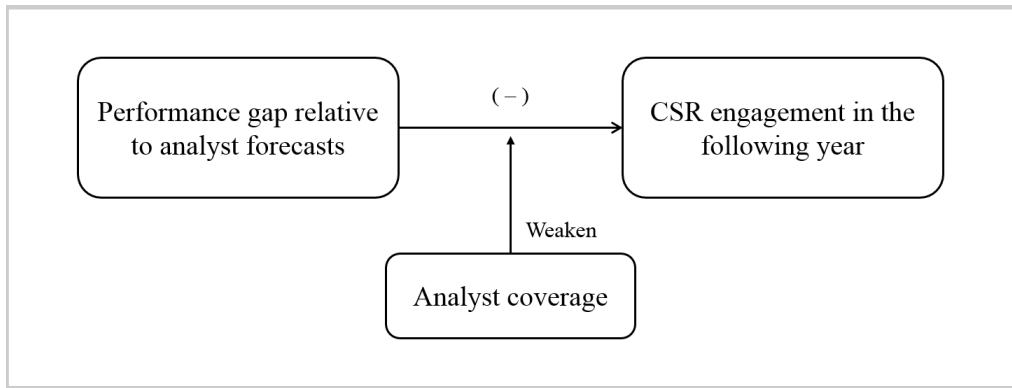
as a legitimate “third-party certification of the CEO’s ability and performance” (Wiersema and Zhang, 2011) (p.1178). As such, managers should have less incentives to behave opportunistically when they are closely monitored by a larger number of analysts.

A reduction in CSR investments following low relative performance, if discovered by analysts, can have a negative impact on firm value (Gentry and Shen, 2013). Given that CSR engagement has been found to serve as a signal of “non-opportunistic behavior and long-term orientation” (Flammer, 2018) (p.1303), top managers investing in CSR initiatives should be perceived to be committed to the long run rather than prioritizing short-term performance (Eccles, Ioannou and Serafeim, 2014). If a firm is under strong monitoring from financial analysts, top managers should feel the pressure to sustain such a long-term orientation. Thus, analyst coverage will weaken managers’ incentives to lower CSR investments in the following year. In sum, we hypothesize that the extent of analyst coverage can serve to reduce agency problems associated with CSR engagement by serving as an external monitoring mechanism.

Hypothesis 3. *When performance falls below analyst forecasts, analyst coverage will weaken the impact of performance gap relative to analyst forecasts on CSR engagement in the following year.*

Hypothesis 4. *When performance exceeds analyst forecasts, analyst coverage will weaken the impact of performance gap relative to analyst forecasts on CSR engagement in the following year.*

Fig. 1. Research Model



III. Methodology

1. Sample

Our empirical analysis is based on a sample of publicly listed U.S. firms from 2000 to 2016. We extract financial data from the COMPUSTAT North America database, analysts' earnings forecasts from the I/B/E/S database and stock prices from the CRSP database. CSR data is obtained from KLD STATS (KLD), which is offered by KLD Research and Analytics, Inc. We include firm-year observations that satisfy the following criteria: (1) observations without missing values or negative total assets, book value, (2) observations with values for CSR engagement from the KLD database, and analysts' forecast accuracy, and (3) observations for non-financial or non-utility firms. The data collection process yields a final sample of 6,750 annual firm-year observations. All of the variables are winsorized at the extreme 1% and 99% to remove the effect of outliers.

2. Variable Operationalization

2.1 Dependent Variable

We measure the extent of each firms' CSR engagement using KLD's CSR data. The KLD database is widely used to proxy for CSR engagement of a firm (Baron, Harjoto and Jo, 2011; Husted, Jamali and Saffar, 2016). KLD researchers rate the CSR engagement of large firms by reviewing the publicly disclosed documents such as annual reports, sustainability reporting, company website, and various data resources. KLD covers approximately 3,000 U.S. companies based on market capitalization. The dependent variable of the study, CSR, is the CSR strengths score from KLD, which we use to measure the level of CSR engagement of each firm. Given that engagement in CSR initiatives presumes to advance some social benefit, these activities match CSR strengths (Husted, Jamali and Saffar, 2016). CSR strengths score includes seven categories: Community Activities, Corporate Governance, Employee Relations, Diversity, Environmental Record, Product, and Human Rights. KLD allocates a score of 1 when a firm has a potential strength, and 0 otherwise.

2.2 Explanatory Variables

Following Dhaliwal et al. (Dhaliwal, Li, Tsang and Yang, 2011), we use analysts forecast error (*LABSFERR*) as the inverse estimate of analysts' forecast accuracy. We measure analyst forecast error as the 12 month average of analyst forecast errors, which is defined as actual earnings minus the mean analyst forecast deflated by the price at the beginning of the year. Actual EPS is the actual earnings per share, obtained from the I/B/E/S database. We use the absolute value to solve the problem of interpretation when the analyst's forecast is negative.

$$\text{Absolute Value of Analyst Forecast Error}_{it} = |(actualEPS_{it} - EPS_{forecastit}) / Price_{it}| \quad (1)$$

The moderating variable (*LNUMEST*) is the level of analyst coverage for each firm. Analyst coverage is the number of financial analysts that follows a firm in the previous year.

2.3 Control Variable

LLEV: Jo and Harjoto (Jo and Harjoto, 2012) find that low leverage firms are more likely to engage in corporate social activities. Therefore, we predict a negative association between CSR engagement with leverage.

LROA: Following Dhaliwal et al. (Dhaliwal et al., 2011), return on assets (ROA) is used as control variable to measure profitability. As a firm with better performance tends to be engaged in CSR. In this paper, we expect a positive association between ROA and CSR engagement.

LEDISP: Jo and Harjoto (Harjoto and Jo, 2015) estimate that the greater information asymmetry will lead the greater dispersion among analysts' earnings forecast. They find a negative relation between the standard-deviation of analysts' earnings forecasts and

CSR engagement. In this paper, we expect a negative relationship between the dispersion of earnings forecasts and CSR engagement.

LDIVA and *LCASHA*: According to Baker, Stein and Wurgler (Baker, Stein and Wurgler, 2003), we controlled the financial constraint proxies which include leverage, dividend, cash balances. Firms need external equity due to financial friction. Those equity dependent firms tend to be negatively associated with the leverage, positively related to dividend and cash balances. Prior studies find that a high corporate social performance is related with low probability of financial distress. Less financially constrained firms can spend more on corporate social activities because they have better financial performance, and can invest more on corporate goodness (Hong, Kubik and Scheinkman, 2012). So, we expect a positive relation between CSR engagement and dividend and cash balances.

3. Regression Model

To test our main hypothesis regarding the impact of analyst forecast error on CSR engagement, we regress CSR engagement on analysts' forecast error and the interaction term between the proxy for analysts' forecast error and the number of analysts following in the previous year, with control variables as follows:

$$\begin{aligned} CSR = & \beta_0 + \beta_1 LABSFERR + \beta_2 LNUMEST \\ & + \beta_3 LABSFERR \times LNUMEST + \beta_4 LLEV \\ & + \beta_5 LROA + \beta_6 \\ & \leq DISP + \beta_7 LDIVA + \beta_8 LCASHA \\ & + \epsilon_{industryDummies} + \epsilon_{YearDummies} + \epsilon \end{aligned} \quad (2)$$

Where:**Dependent Variable**

CSR = Quality of sustainability reporting from KLD. CSR is the CSR strengths score from KLD, which we use to measure firms' CSR engagement.

Explanatory Variables

LABSFERR = The absolute value of 12 month average of analyst forecast errors defined as actual earnings minus the mean analyst forecast, deflated by the price at the beginning of the year.

LNUMEST = The number of financial analysts that follows a firm in the previous year.

Control Variables

LLEV = The book leverage, the total debt scaled by the summation of total debt and the book equity from previous year.

LROA = Income before extraordinary items divided by total assets from previous year.

LEDISP = Standard-deviation of analysts' earnings forecasts, scaled by absolute value mean earnings forecasts from previous year.

LDIVA = Cash dividends divided by lagged assets.

LCASHA = Cash balance scaled by the book assets at the beginning of the period.

Table 1. Descriptive Statistics

Variables	No. of Observations	Mean	Std. Dev.	10%	25%	50%	75	90%
CSR	6750	2.570	3.273	0.000	0.000	1.000	4.000	7.000
LABSFERR	6750	0.013	0.025	0.001	0.002	0.005	0.014	0.029
LLEV	6750	0.247	0.149	0.054	0.142	0.234	0.334	0.445
LROA	6750	0.048	0.296	0.008	0.037	0.068	0.105	0.147
LEDISP	6750	0.088	0.238	0.009	0.015	0.030	0.071	0.167
DIVA	6750	0.000	0.001	0.000	0.000	0.000	0.000	0.001
CASHA	6750	0.102	0.107	0.011	0.028	0.067	0.142	0.240
LNUMEST	6750	9.112	6.393	2.000	4.000	8.000	13.000	18.000

Notes: This table presents the descriptive statistics of main variables used in this study. CSR is the level of each firms' CSR engagement from KLD. LABSFERR is the absolute value of 12 month average of analyst forecast errors defined as actual earnings minus the mean analyst forecast, deflated by the price at the beginning of the year. LNUMEST is the number of firms which an analyst follows from previous year. LLEV is the book leverage, the total debt scaled by the summation of total debt and the book equity from previous year. LROA is income before extraordinary items divided by total assets from previous year. LEDISP is standard-deviation of analysts' earnings forecasts, scaled by absolute value mean earnings forecasts from previous year. LDIVA is cash dividends divided by lagged assets. LCASHA is cash balance scaled by the book assets at the beginning of the period.

Table 2. Descriptive Statistics

	CSR	LABSFERR	LLEV	LROA	LEDISP	DIVA	CASHA	LNUMEST
CSR	1.000							
LABSFERR	-0.063***	1.000						
LLEV	-0.013	0.0831***	1.000					
LROA	0.0387***	-0.0391***	-0.0759***	1.000				
LEDISP	-0.0553***	0.2797***	0.0833***	-0.0705***	1.000			
DIVA	0.2177***	-0.1038***	0.0832***	0.0461***	-0.0938***	1.000		
CASHA	0.6428***	-0.0401***	-0.0844***	0.021	-0.0410***	0.2057***	1.000	
LNUMEST	0.4669***	-0.0836***	-0.022	0.0426***	-0.0481***	0.1262***	0.5662***	1.000
No. of observations	6750	6750	6750	6750	6750	6750	6750	6750

Notes: This table presents the Pearson correlations among key variables. ***, **, * indicate, respectively, the significance level at the 1%, 5%, and 10% level or better. Please see the note of Table 1 for the definitions of variables.

IV. EMPIRICAL RESULT

1. Descriptive Statistics

Table 1 provides the descriptive statistics for the variables employed for empirical analysis. The mean (median) of the average of *CSR* is 2,570 (1,000), the mean (median) of the absolute value of performance gap relative to analysts' forecast and analysts' coverage are 0.013 (0.005) and 9.112 (8,000) respectively. The mean (median) and distribution of control variables (*LLEV*, *LROA*, *LEDISP*, *LDIVA*, *LCASHA*) are generally consistent with prior evidence (Hong et al., 2012; Jo and Harjoto, 2011).

2. Univariate Analysis

Table 2 presents the pair-wise Correlations between key variables. The association between *CSR* engagement (*CSR*) and the performance gap relative to analysts' forecast

(*LABSFERR*) is significantly negative at the 1% significance level. This result indicates that the management does not invest in corporate social activities if the actual earnings are much higher or lower than the analyst's earnings forecast. The significant correlations between *CSR* engagement (*CSR*) and control variables indicate that we need to conduct multivariate analyses, which will be presented in next section.

3. Multivariate Analysis

Table 3 reports the results of multivariate regressions of *CSR* engagement (*CSR*) on the performance gap relative to analysts' forecast. Results show that *CSR* engagement (*CSR*) is generally negatively associated with performance gap relative to analysts' forecast (*LABSFERR*). The t-statistics range from 1.90 to 3.03.

Column (1) of Table 3 shows the main results for the subsample in which the actual

Table 3. Corporate Social Performance and Performance Gap Relative to Analysts' Forecast

	Dependent Variable: CSR			
	Below the Analysts' Forecast		Meet or Exceed the Analysts' Forecast	
	(1)	(2)	(3)	(4)
	CSR	CSR	CSR	CSR
LBSFERR	-3.1564 ** [-2.141]	-6.4965 *** [-2.738]	-3.9785 * [-1.902]	-10.3884 *** [-3.027]
LNUMEST		0.1046 *** [11.639]		0.1015 *** [9.264]
LBSFERR×LNUMEST		0.8115 *** [2.604]		0.7950 *** [2.759]
LLEV	0.5427 * [1.835]	0.3428 [1.193]	0.6959 * [1.870]	0.5247 [1.435]
LROA	0.2327 * [1.878]	0.2005 * [1.666]	0.0272 [0.187]	0.0114 [0.080]
LEDISP	-0.2111 [-1.350]	-0.0519 [-0.341]	-0.3244 [-1.615]	-0.1231 [-0.621]
DIVA	3.8629 *** [5.970]	3.7202 *** [5.905]	4.5211 *** [5.715]	4.3975 *** [5.662]
CASHA	0.0144 *** [34.678]	0.0117 *** [25.674]	0.0170 *** [36.361]	0.0144 *** [27.519]
Constant	1.2042 *** [5.214]	-0.6508 ** [-2.476]	1.9773 *** [6.996]	0.4573 [1.449]
Industry, and Year Dummy	Included	Included	Included	Included
Observations	3,495	3,495	3,255	3,255
R-squared	0.587	0.611	0.634	0.647
Adj R-squared	0.547	0.573	0.596	0.611
F-test	14.76 ***	16.19 ***	17.10 ***	18.01 ***

Notes: 1. This table presents the regressions of corporate social performance on the analyst forecast error.

2. R2 is the R2 for the regressions. Adj R2 is the Adjusted R2 for the regressions.

3. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.001$. *, **, and *** indicate, respectively, the 10%, 5%, and 1% significance levels.

4. t-statistics are reported in bracket.

earnings missed analyst earnings forecasts. The coefficient for LBSFERR is significantly negative, supporting Hypothesis 1. This implies that top managers are more likely to reduce discretionary expenditure on CSR activities to improve financial performance to satisfy shareholder demands. By improving

the chance of improving financial performance, top managers can potentially avoid market disappointment that can lead to stock price crash or decreased credibility due to failure to meet market expectations (Payne, 2008).

Column (3) of Table 3 provides the results for the subsample in which the actual

earnings meet or exceed analysts' earnings forecasts. The coefficient for LABSFERR is significantly negative, supporting Hypothesis 2. This means that when actual earnings are higher than analysts' earnings forecast, top managers may have the incentives to use their discretion to alter actual reported earnings by reducing the current earnings to the analysts' forecasted level to reserve accrual amount for the future. As financial analysts are likely to issue more optimistic forecasts for the year following high relative performance, top managers often face the pressure to meet higher expectations. Therefore, managers are motivated to reduce CSR investments to meet market expectations in the following year.

Given that financial analysts closely monitor the firms that they follow in order to publish valuable investment advice to market participants, we examine if analyst coverage mitigates the effect of performance relative to analyst forecasts and CSR. In column (2) of Table 3, the coefficient for the interaction term with the number of analyst following is positive, thereby providing support for Hypothesis 3. In column (4) of Table 3, the coefficient for the interaction term with analyst following is positive, thereby supporting Hypothesis 4. This implies that financial analysts affect top managers' investments in CSR by monitoring managers' opportunistic behavior of reducing investment in CSR engagement.

V. CONCLUSION

1. Discussion and Theoretical Contributions

Our study examines the impact of top managers' incentives to meet earnings

forecasts issued by financial analysts on the level of CSR engagement. We find that when performance misses analyst forecasts, there is a negative relationship between the performance gap relative to forecasts and CSR engagement in the following year. This implies that top managers are more likely to reduce discretionary expenditure on socially responsible activities to improve financial performance in the short run in order to enhance the possibility of satisfying stakeholder demands. When top managers decide to invest scarce corporate resources to CSR initiatives, they incur costs that can be used in other channels that can result in more immediate returns. As CSR is largely a voluntary decision (Friedman, 1970), top managers can adjust the level of CSR engagement in response to the relative performance that they observe with respect to analyst forecasts. On the other hand, when performance meets analyst forecasts, we find evidence that there is a negative relationship between performance gap relative to forecasts and CSR engagement in the following year. This suggests that strong financial performance in the current fiscal year may lead financial analysts to issue more optimistic forecasts in terms of earnings in the following year. As a result, top managers should face pressure to meet higher expectations next year. In order to meet market expectations in the following year, top managers are motivated to reduce CSR investments. Moreover, we find that analyst coverage weakens the relationship between performance gap and CSR engagement in the following year. This means that financial analysts can influence top managers' investments in CSR by monitoring their opportunistic behavior of reducing costs through engaging less in CSR.

This research offers the following

theoretical contributions. First, to the best of our knowledge, this is the first study to investigate the relationship between the performance gap relative to analyst forecasts and CSR engagement in a large scale. Our empirical results suggest that top managers are not always willing to make discretionary investments in CSR despite of its benefits. Rather, top managers pay attention to expectations of an external constituent (i.e., financial analysts) that they consider to be important. Second, our findings highlight that analyst coverage can serve as a meaningful external monitoring mechanism that encourages top managers to engage in CSR. This suggests that top managers are probably aware of the fact that stakeholders value CSR; however, they do not necessarily have sufficient incentives to allocate scarce resources into socially responsible initiatives unless they are monitored.

2. Practical Implications

This study provides several managerial implications that managers, corporate decisions makers, and stakeholders (e.g., shareholders) can take into account. First, managers should be given additional incentives to make consistent investments in CSR. Our findings suggest that top managers may not make active and consistent investments in CSR because relative performance compared to analyst forecasts is a critical factor that they cannot ignore. As the contextual background in which top managers are situated should be a meaningful factor that determines the firms' level of CSR engagement, firms should be careful in designing executive compensation packages and carefully consider the criteria that their top managers are assessed upon.

One way to push top managers to pursue ESG goals is by using KPI (Key Performance Indicators) so that assessments incorporate CSR engagement as one of its criteria. Second, our findings suggest that managers should prioritize CSR as an important goal through which firm value can be enhanced. Although the extent of CSR engagement is affected by the performance gap relative to analyst forecasts, analyst coverage was found to lessen managers' incentives to decrease CSR engagement regardless of the level of performance relative to earnings forecasts issued by financial analysts. In fact, CSR engagement is recognized to be a valuable strategic decision that has the potential to strengthen customer loyalty and to enhance firm reputation among stakeholders, especially under adverse shocks such as the COVID-19 crisis. The adoption of ESG management system is further accelerated by current trends characterized by multiple social pressures and regulatory changes. Moreover, institutional investors are encouraging top management to disclose standardized frameworks of CSR engagement and to concentrate on ESG issues.

3. Limitations and Suggestions for Future Research

In spite of the contributions of our analysis, our research has several limitations that can be addressed by future research. First, even though the KLD database is widely used to measure CSR engagement of a firm, it potentially suffers from lack of information. According to Chatterji, Levine and Toffel (Chatterji, Levine and Toffel, 2009), they show that KLD environmental score may not accurately predict the magnitude of pollution. Second, due to the limited

availability of data from databases such as COMPUSTAT U.S. and CRSP etc., our sample is limited in terms of the number of observations. Third, although we find the relationship between the CSR engagement and the performance gap relative to forecast, we could not show the direct channel of how managers affect such CSR activities. We suggest that future study should make an attempt to clarify such direct channel that impacts the relationship between CSR

activities and performance gap relative to analyst forecasts. Lastly, while this study extends the literature of the understanding of CSR in the U.S., it is unclear whether the results of the U.S. study can be generalized to the other developing countries under different investor protection, institutional environments. Thus, additional study should answer that question by investigating the association between performance gap and CSR scores across countries.

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