"Corporate governance report compliance rate and accounting conservatism:
New evidence from Korea"

AUTHORS	Hyoung Seok Choo (iD)
	Sun-ae Cho (iD)
	Jeongeun Emilia Lee (iD)

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
32	0	11

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Hyoung Seok Choo, Ph.D. Candidate,
School of Business, Yonsei University,
South Korea.

Sun-ae Cho, Ph.D. Candidate, School
of Business, Yonsei University, South
Korea. (Corresponding author)

Jeongeun Emilia Lee, Ph.D. Candidate,
School of Business, Yonsei University,
South Korea.

Hyoung Seok Choo (South Korea), **Sun-ae Cho** (South Korea),
Jeongeun Emilia Lee (South Korea)

CORPORATE GOVERNANCE REPORT COMPLIANCE RATE AND ACCOUNTING CONSERVATISM: NEW EVIDENCE FROM KOREA

Abstract

This study investigates the relationship between the corporate governance report (CGR) compliance rate and a company's accounting conservatism, utilizing the CGR compliance rate as a novel method to evaluate the effectiveness of corporate governance practices. Given the challenges of applying global indices to measure corporate governance in the Korean market, this study focuses on the CGR compliance rate as a key indicator. Utilizing the ordinary least squares (OLS) regression model, specifically the Ball and Shivakumar (2005) model widely employed in previous studies to assess accounting conservatism, this paper conducts empirical analyses based on 784 observations from Korean listed firms between 2018 and 2021. The main analysis reveals a positive association between the CGR compliance rates (coef = –2.416, p-value < 0.01) and accounting conservatism. A fixed-effect model and a propensity score matching (PSM) model also show a positive association between the CGR compliance rates, respectively (coef = –2.507, p-value < 0.01; coef = –3.118, p-value < 0.1) and accounting conservatism. This study proves that firms with high CGR compliance rates tend to promptly recognize financial losses in financial reporting, thereby safeguarding investors. This suggests that investors should consider the CGR compliance rates when evaluating potential investments. Overall, these findings contribute to validating the CGR compliance rates as a valuable proxy for assessing corporate governance practices in Korean firms.

Keywords	corporate governance, compliance, accounting conservatism, losses recognition, investors protection
JEL Classification	M48, M41, G38

INTRODUCTION

Financial reporting plays a vital role in offering stakeholders crucial insights into how a company operates and performs. Theoretically, the core tenet of good financial reporting revolves around providing impartial and precise information. Nonetheless, many studies demonstrate that conservative accounting yields enhanced financial information for stakeholders (Watts, 2003, 2006; Ahmed & Duellman, 2007; Nguyen et al., 2020; Oleh, 2021). Accounting conservatism is the propensity to promptly reflect negative news compared to positive news (Basu, 1997), thereby reducing anticipated losses for investors operating under asymmetrical loss functions.

The research exploring the connection between corporate governance and conservatism examines their overall link (Ruch & Taylor, 2015). Both conservatism and corporate governance share the common objective of diminishing information asymmetry (Ahmed & Duellman, 2007; Cullinan et al., 2012). Strong corporate governance may lead to increased conservatism in companies (García Lara et al., 2009). Previous studies measured corporate governance in various ways,

such as the largest shareholder ownership ratio, board-related variables, and foreign ownership ratio (Ahmed & Duellman, 2007; Lee & Lee, 2008; Cullinan et al., 2012; Lee & Ji, 2012). Some researchers have made efforts to compile items related to corporate governance to create a comprehensive corporate governance index (Gompers et al., 2003; Brown & Caylor, 2006; Bebchuck et al., 2009).

As part of improving corporate governance practices, in 2018, Korea mandated corporate governance report (CGR) disclosure for stock market-listed corporations with total assets exceeding KRW 2 trillion. While applying comprehensive corporate governance indices from previous overseas studies to Korean companies is challenging, the CGR offers a viable alternative. The compliance rate with CGR indicators[1] (hereafter, the CGR compliance rate), a novel variable for measuring corporate governance, can advance prior research in the following ways. First, it enables the comprehensive measurement of corporate governance indicators for Korean companies, which proves valuable for research in the Korean market. Second, the CGR compliance indicators are not selected by individual researchers, but chosen by regulatory bodies, setting them apart from existing indices. Third, the CGR compliance rate involves publicly disclosed assessment criteria and item compliance.

1. LITERATURE REVIEW

In March 2017, the CGR was introduced as a voluntary disclosure format. Subsequently, in 2018, the Financial Services Commission mandated the disclosure of the CGR for companies with total assets exceeding KRW 2 trillion. This report follows the "Comply or Explain"[2] approach. The CGR compliance rate provides fresh insights into a company's corporate governance, allowing for a comprehensive analysis of variables that have been examined in a fragmented manner in previous studies.

First, the category of shareholders in the CGR encompasses the following criteria: 1) convening the general meeting of shareholders at least four weeks prior, 2) implementing electronic voting, 3) holding the general meeting of shareholders on a date other than the fiscal year-end, and 4) notifying shareholders of dividend policies and dividend execution plans at least once a year. This differs from prior research, which relied on indirect proxies, such as, major shareholders, institutional investors, or foreign ownership, to measure the protection of minority shareholders. By considering direct indicators for safeguarding minority shareholders, this approach provides a more accurate assessment of a company's commitment to protecting the interests of minority shareholders.

Second, the category of board of directors in the CGR includes the following criteria: 1) the existence and implementation of CEO succession policies, 2) the establishment and execution of internal control policies, 3) the separation of the chairman of the board and CEO, 4) the adoption of cumulative voting, 5) the formulation of policies to prevent the appointment of executives responsible for corporate value impairment or shareholder rights infringement, and 6) the absence of directors with tenures exceeding six years. While previous research examined specific characteristics of the board of directors, few studies comprehensively analyzed multiple board-related characteristics concurrently. Therefore, the CGR compliance rate in this category is critical as a novel variable for assessing corporate governance in the context of a company's board of directors.

Third, the audit committee category in the CGR consists of the following criteria: 1) whether the internal audit committee offers training to its members at least once a year, 2) the presence of an independent internal audit department, 3) the existence of accounting or financial experts within the internal audit committee, 4) whether the internal audit committee holds meetings with external auditors at least once a quarter without management's presence, and 5) the establishment of procedures that grant internal audit committees access to key management-related govern-

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1   Specific principles are explained in Appendix A.

2   Comply or Explain: Compliance with principles, explaining reasons for non-compliance.

ment entities. While previous studies examined individual aspects of the internal audit committee, few studies have comprehensively considered various aspects of the internal audit committee simultaneously. Thus, the significance of the CGR compliance rate in this category lies in its role as a comprehensive measure for evaluating corporate governance associated with the audit committee.

Furthermore, the CGR compliance rate makes it possible to integrate compliance rates across all categories, enabling a comprehensive assessment of corporate governance. The CGR indicators are crucial because they are not arbitrary selections made by individual researchers; instead, they are officially designated by regulatory authorities, exerting significant influence on the market. Moreover, the CGR compliance rate, which is subject to mandatory disclosure, mitigates information asymmetry between a company's internal operations and market participants regarding corporate governance. This feature sets it apart from previous corporate governance variables that were not readily available to Korean market participants.

Prior research on corporate governance has consistently emphasized the multifaceted influence of good corporate governance, which is recognized for its role in mitigating agency problems and addressing concerns about information asymmetry. Alali et al. (2012) showed that strong corporate governance, through effective monitoring and reducing information asymmetry, is linked to lower default likelihood and improved credit ratings. Chen et al. (2012) found that weak corporate governance intensifies the positive link between the agency problem and SG&A cost asymmetry, emphasizing the crucial role of corporate governance in mitigating managers' cost adjustment decisions during demand shocks. Lee et al. (2022) identified a positive relationship between a company's adherence to fundamental corporate governance indicators and its credit ratings.

However, from an academic perspective, the definition of corporate governance remains ambiguous (Leventis et al., 2013). As a result, earlier studies on corporate governance have often used numerous variables as proxies for corporate governance without a clear definition. Some studies have used corporate ownership as a proxy for corporate governance, considering it a mechanism to mitigate managerial agency problems. Schleifer and Vishny (1986) and Bhojraj and Sengupta (2003) employed institutional ownership as a proxy for effective corporate governance due to its monitoring effect on managerial agency issues. Ahmed and Duellman (2007) assessed corporate governance by analyzing metrics related to the percentage of inside and outside directors' shareholdings to explore their connection with conservatism. Cullinan et al. (2012) highlighted that the presence of the largest shareholder and the controlling shareholder can negatively impact accounting conservatism. Finally, Kim et al. (2015) analyzed the relationship between the ownership-control wedge and accounting conservatism.

Several studies have utilized various characteristics of the board of directors as proxies for corporate governance, driven by the recognition that strong corporate governance is intrinsically tied to the effective monitoring of the board, consequently mitigating agency problems. Lim (2011) and Ahmed and Henry (2012) investigated the relationship between corporate governance and accounting conservatism, examining governance attributes such as board independence, board size, audit committee. Elshandidy and Hassanein (2014) identified a positive link between the presence of independent directors and accounting conservatism, alongside a negative association between the presence of executive directors and accounting conservatism. Caskey and Laux (2017) demonstrated that the board's ability to restrain manipulation influences the optimal level of accounting conservatism, with stronger reporting oversight associated with more conservatism.

However, these corporate governance variables have yielded inconsistent results, implying that they only partially influence accounting conservatism. Almutairi and Quttainah (2019) showed that effective internal governance factors, including reputation, tenure, board diversity, and management oversight, are positively linked to conservative accounting tendencies. On the other hand, Nasr and Ntim (2018) observed a positive correlation between board independence and accounting conservatism, while board size exhibited negative associations with accounting conservatism.

Almutairi and Oleh et al. (2021) found positive associations between board independence and size with accounting conservatism, whereas CEO duality, management shareholding, and the largest shareholder's shareholding ratio demonstrated negative associations.

Given the challenges in measuring what constitutes effective corporate governance, prior studies have sought to develop indices or scores for assessing effective corporate governance. Gompers et al. (2003) utilized data from the Investor Responsibility Research Center (IRRC) to construct the G-index[3] based on 24 governance provisions aimed at reflecting the balance of power between shareholders and managers. Bebchuk et al. (2009) devised a competing governance index, the E-index[4], to identify provisions among the IRRC's collection that genuinely impact shareholder value. To create a more comprehensive assessment of corporate governance, Brown and Caylor (2006) leveraged data from Institutional Shareholder Services Inc. (ISS) to formulate the Gov-Score Index[5].

Despite the efforts of international researchers, the criteria suggested by prior research to measure corporate governance measurement are not suitable for the context of Korea (Black et al., 2017). Thus, utilizing international indices to evaluate Korean companies' corporate governance is challenging. In this context, the mandatory disclosure of the CGR compliance rate introduced in 2018 has emerged as a valuable and novel indicator for assessing the corporate governance of Korean companies. Therefore, this study introduces the CGR compliance rate as a novel variable in the realm of corporate governance. If it proves to be suitable for comprehensively evaluating corporate governance, higher CGR compliance rates are expected to lead to increased accounting conservatism.

2. METHODS

The core indicators of corporate governance are presented in Appendix A. The CGR compliance rate indicates the number of items in a corporate governance report that a company complies with. In this study, the overall CGR compliance rate *(Pct_All)* and category-specific CGR compliance rates *(Pct_Shareholder, Pct_Board, Pct_Internal)* are used as proxies for corporate governance.

To test the relationship between the CGR compliance rate and accounting conservatism, this study adopts the approach introduced by Ball and Shivakumar (2005)[6]. This methodology assesses the timely recognition of gains and losses by examining the propensity to revert to shifts in reported earnings. The model employed in the analyses is as follows:

$$
\begin{aligned}
\Delta NI_t = {} & \alpha_0 + \alpha_1 \Delta NI_{t-1} + \alpha_2 D\Delta NI_{t-1} \\
& + \alpha_3 \Delta NI_{t-1} \cdot D\Delta NI_{t-1} + \alpha_4 CGR_t \\
& + \alpha_5 \Delta NI_{t-1} \cdot CGR_t + \alpha_6 D\Delta NI_{t-1} \cdot CGR_t \\
& + \alpha_7 \Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot CGR_t \\
& + \sum Controls_t + Fixed\ effects + \varepsilon_t,
\end{aligned} \quad (1)
$$

where *CGR* represents *CGR* compliance rates, including the compliance rates of the entire sector *(Pct_All)*, shareholder sector *(Pct_Shareholder)*, board sector *(Pct_Board)*, and audit committee sector *(Pct_Internal)*. To calculate ΔNI_{t-1}, subtract NI_{t-1} from the value of NI_t and divide by

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3   "The governance provisions were grouped into five dimensions: 1) Delay – consists of four provisions for delaying hostile takeover bidders, 2) Voting - deals with shareholder voting rights, 3) Protection - refers to six provisions protecting directors and officers from legal liability or compensating them for termination, 4) State - refers to incorporation in a state with one of six state takeover laws, and 5) Others - other takeover defences." (Tipuric et al., 2014).

4   "E-index based on six provisions: staggered boards, limits to shareholder bylaw amendments, poison pills, golden parachutes, and supermajority requirements for mergers and charter amendments." (Tipuric et al., 2014).

5   "Gov-Score index consists of 51 provisions divided into the following 8 groups: 1) Audit- consists of four factors regarding the overall audit process of the firm as well as the powers and accountability of the audit committee, 2) Board of directors - consists of seventeen factors analyzing the board of directors as a mechanism of corporate governance, 3) Charter/bylaws – consists of seven factors regarding shareholders' rights, 4) Director education - represented with one factor: participation of directors in ISS-accredited director education program, 5) Executive and director compensation – consists of ten factors dealing with the compensation system in a firm, 6) Ownership – consists of four factors dealing with directors' ownership, 7) Progressive practices – consists of seven factors which represent progressive corporate governance practices, and 8) State of incorporation – consists also of one factor: incorporation in state with no takeover statutes." (Tipuric et al., 2014).

6   Dietrich et al. (2007) found that the Basu specification is biased due to the method used to partition the sample and the choice of deflator. Therefore, this study utilizes alternative measures proposed by Ball and Shivakumar (2005) to validate inferences made using the Basu approach, similar to the approach taken by Lara et al. (2009).

the total assets' beginning balance. $D\Delta NI_{t-1}$ is the dummy variable, which is equal to 1 if the ΔNI_{t-1} is less than 0, and 0 otherwise. The main variable of interest is $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot CGR_t$. The coefficient on $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot CGR_t$, α_7, is expected to be negative, indicating a positive association between the CGR compliance rate and accounting conservatism.

Following Hu et al. (2020), this study controls a firm's size (Size), market-to-book ratio (MB), leverage ratio (Lev), net operating cash flows (CFO), sales growth (Grow), and chief executive officer (CEO) characteristics (CEO_own, CEO_gender, and CEO_age). Appendix B provides the definitions of all variables.

The empirical tests are based on a dataset comprising 784 firm-year observations spanning the fiscal years 2018 to 2021. The sample excludes financial and insurance companies, and firms with settlement months other than December. In addition, firms lacking financial data and those that do not provide CGRs are excluded.

3. RESULTS

Descriptive statistics for the analyses are presented in Table 1. The primary explanatory variable, the entire sector's CGR compliance rate (Pct_All), exhibits an average value of 0.596 (median =0.6), signifying adherence to approximately 9 out of 15 indicators. The average (median) of Pct_Shareholder and Pct_Board is 0.459 (0.5) and 0.531 (0.5), re-

spectively. This means that about 2 out of 4 shareholder protection items are complied with, and an average of about 3 out of 6 items related to board functions are complied with. In addition, the average (median) of Pct_Internal is 0.785 (0.8), showing that about 4 out of 5 audit committee-related items are in compliance.

Next, the correlations among the variables for the empirical tests are presented in Table 2. It is ensured that no variables have excessively high correlations.

Table 3 shows the results of the main test. In column (1), where $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ is examined, a negative value is recorded, as predicted, at the 1% significance level (coef = –2.416, t-value = –3.937). In the following columns, this study investigates whether a higher CGR compliance rate in specific sectors corresponds to heightened accounting conservatism. In column (2), the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Shareholder_t$ is a negative value, exhibiting a noteworthy significance at the 5% level (coef = –0.711, t-value = –2.435). This finding validates the association between a higher compliance rate for aspects related to shareholder protection and an elevated accounting conservatism level. Similarly, in column (3), the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Board_t$ is a negative value, displaying substantial significance at the 5% level (coef = –1.089, t-value = –2.176). This result further corroborates the notion that as the compliance rate for the board of director–related items increases, accounting con-

Table 1. Descriptive statistics

Variables	N	Mean	Std. Dev.	Min	Median	Max
ΔNI	784	0.007	0.060	−0.201	0.004	0.221
DΔNI	784	0.492	0.500	0.000	0.000	1.000
Pct_All	784	0.596	0.155	0.200	0.600	0.933
Pct_Shareholder	784	0.459	0.290	0.000	0.500	1.000
Pct_Board	784	0.531	0.197	0.167	0.500	1.000
Pct_Internal	784	0.785	0.189	0.200	0.800	1.000
Size	784	21.830	1.270	19.017	21.682	25.401
Lev	784	0.420	0.217	0.009	0.433	0.891
MB	784	1.460	1.601	0.234	0.905	10.045
CFO	784	0.053	0.056	−0.080	0.047	0.212
Grow	784	0.062	0.282	−0.876	0.034	1.394
CEO_own	784	0.086	0.143	0.000	0.001	0.584
CEO_gender	784	0.977	0.150	0.000	1.000	1.000
CEO_age	784	58.261	5.886	41.000	58.500	74.000

Table 2. Correlation matrix

Panel A

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) ΔNI	1.000						
(2) $D\Delta NI$	0.216 (0.000)	1.000					
(3) Pct_All	0.035 (0.334)	0.008 (0.814)	1.000				
(4) Pct_Shareholder	0.084 (0.019)	0.011 (0.758)	0.678 (0.000)	1.000			
(5) Pct_Board	−0.009 (0.810)	0.007 (0.850)	0.747 (0.000)	0.186 (0.000)	1.000		
(6) Pct_Internal	−0.005 (0.889)	−0.004 (0.912)	0.692 (0.000)	0.208 (0.000)	0.359 (0.000)	1.000	
(7) Size	−0.036 (0.309)	0.028 (0.432)	0.442 (0.000)	0.206 (0.000)	0.396 (0.000)	0.343 (0.000)	1.000
(8) Lev	−0.021 (0.552)	0.023 (0.527)	0.042 (0.236)	−0.022 (0.531)	0.070 (0.051)	0.041 (0.248)	0.158 (0.000)
(9) MB	0.023 (0.523)	−0.069 (0.055)	0.045 (0.207)	0.053 (0.136)	0.011 (0.748)	0.030 (0.408)	−0.038 (0.289)
(10) CFO	0.184 (0.000)	−0.027 (0.445)	0.164 (0.000)	0.088 (0.013)	0.159 (0.000)	0.100 (0.005)	0.193 (0.000)
(11) Grow	0.234 (0.000)	−0.031 (0.389)	−0.059 (0.102)	0.019 (0.590)	−0.083 (0.020)	−0.058 (0.108)	−0.057 (0.114)
(12) CEO_own	−0.029 (0.420)	−0.058 (0.104)	−0.258 (0.000)	−0.150 (0.000)	−0.231 (0.000)	−0.156 (0.000)	−0.351 (0.000)
(13) CEO_gender	0.051 (0.152)	0.066 (0.066)	−0.029 (0.410)	−0.022 (0.547)	−0.019 (0.601)	−0.021 (0.549)	−0.011 (0.766)
(14) CEO_age	0.005 (0.884)	−0.042 (0.235)	−0.019 (0.588)	−0.116 (0.001)	0.005 (0.887)	0.091 (0.010)	0.073 (0.041)

Panel B

Variables	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) ΔNI							
(2) $D\Delta NI$							
(3) Pct_All							
(4) Pct_Shareholder							
(5) Pct_Board							
(6) Pct_Internal							
(7) Size							
(8) Lev	1.000						
(9) MB	0.010 (0.772)	1.000					
(10) CFO	−0.015 (0.679)	0.215 (0.000)	1.000				
(11) Grow	−0.083 (0.019)	0.111 (0.002)	0.070 (0.049)	1.000			
(12) CEO_own	−0.398 (0.000)	−0.095 (0.008)	−0.182 (0.000)	0.065 (0.068)	1.000		
(13) CEO_gender	0.024 (0.500)	−0.151 (0.000)	−0.005 (0.897)	−0.024 (0.506)	0.086 (0.017)	1.000	
(14) CEO_age	0.061 (0.090)	−0.075 (0.035)	0.042 (0.242)	0.007 (0.848)	−0.049 (0.168)	0.199 (0.000)	1.000

servatism also intensifies. In column (4), where $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Internal_t$ is examined, a coefficient of -1.317 is derived, indicating a statistically significant negative relationship at the 1% level (t-value $= -2.975$). This confirms the premise that the greater independence and expertise of external auditors lead to heightened levels of accounting conservatism.

Table 4 displays the outcomes of the cross-sectional tests. In columns (1) and (2) of Panel A, the subsamples are classified based on the stakes of major shareholders. Columns (3) and (4) in Panel A divide the subsamples into those with small and large foreign shareholder equity ratios, respectively. When the major shareholders or foreign shareholder's share ratio is not large, the coefficient of

Table 3. CGR compliance rate and accounting conservatism

Variables	(1)	(2)	(3)	(4)
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
ΔNI_{t-1}	−1.151***	−0.436***	−0.745***	−0.926***
	(−4.448)	(−4.552)	(−4.042)	(−3.807)
ΔDNI_{t-1}	−0.005	0.003	0.001	−0.016
	(−0.278)	(0.386)	(0.056)	(−0.802)
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	1.184***	0.091	0.359	0.818**
	(3.235)	(0.625)	(1.295)	(2.275)
Pct_All_t	−0.048**			
	(−2.032)			
$\Delta NI_{t-1} * Pct\_All_t$	1.466***			
	(3.244)			
$D\Delta NI_{t-1} * Pct\_All_t$	0.014			
	(0.459)			
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_All_t$	−2.416***			
	(−3.937)			
$Pct\_Shareholder_t$		−0.010		
		(−0.798)		
$\Delta NI_{t-1} * Pct\_Shareholder_t$		0.284		
		(1.329)		
$D\Delta NI_{t-1} * Pct\_Shareholder_t$		−0.002		
		(−0.147)		
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Shareholder_t$		−0.711**		
		(−2.435)		
Pct_Board_t			−0.016	
			(−0.874)	
$\Delta NI_{t-1} * Pct\_Board_t$			0.795**	
			(2.356)	
$D\Delta NI_{t-1} * Pct\_Board_t$			0.002	
			(0.070)	
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Board_t$			−1.089**	
			(−2.176)	
$Pct\_Internal_t$				−0.046**
				(−2.526)
$\Delta NI_{t-1} * Pct\_Internal_t$				0.774**
				(2.530)
$D\Delta NI_{t-1} * Pct\_Internal_t$				0.023
				(0.943)
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Internal_t$				−1.317***
				(−2.975)
Intercept	0.032	0.011	0.024	0.037
	(0.482)	(0.167)	(0.359)	(0.549)
Controls	Included	Included	Included	Included
Industry, Year Fixed Effect	Yes	Yes	Yes	Yes
Adj. R²	0.328	0.319	0.319	0.323
Observations	784	784	784	784

Note: The top and bottom 1% of all continuous variables were winsorized. All numbers in parentheses represent t-statistics, with significance levels denoted by *, **, and *** for 10%, 5%, and 1%, respectively. All control variables in Eq. (1) are included.

$\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ is a significant negative value (coef = –2.168 and coef = –5.343, respectively) at the 1% significance level (t-value = –3.107 and t-value = –5.849, respectively). However, it is insignificant when the major shareholders or foreign shareholder's ownership ratio is large. In columns (1) and (2) of Panel B, the subsamples are divided into those with small and large board sizes, respectively. When the board size is not large, the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ is –3.145, showing a significant negative value at the 1% level of significance (t-value = –4.042). However, it is not significant when the board's size is large. Combining these results, it is found that CGR compliance increase accounting conservatism in the groups not exhibiting favorable corporate governance, as observed in previous studies by Ahmed and Duellman (2007), Lee and Lee (2008), and Cullinan et al. (2012). Columns (3) and (4) of Panel B divide the subsamples according to the size of the external auditor. Although external auditors are not a direct measure of corporate governance, they can influence the impact of corporate governance on accounting conservatism. When firms have the Big4 external auditors, the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ has a

significant negative value (coef = –2.695, t-value = –4.144). The analysis reveals that the CGR compliance rate increases accounting conservatism only in the sample with the Big4 external auditors.

Table 5 presents the results after adding firm fixed effects instead of industry fixed effects to control for endogeneity. In column (1), the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ is significantly negative at the 1% significance level (coef = –2.507, t-value = –2.871), which is consistent with the main analysis. However, in column (2), the coefficient of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Shareholder_t$ is not significant. In addition, in columns (3) and (4), the coefficients of $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Board_t$ and $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Internal_t$, with significance levels of 10% and 5%, respectively, show diminished levels of significance.

Accounting conservatism and a company's CGR compliance rate can be influenced by a firm's financial characteristics and the CEO's attributes. This may introduce bias to the primary analysis. Therefore, this study conducts a Propensity Score Matching (PSM) analysis to address the potential impact of these confounding variables. The obser-

Table 4. Cross-sectional analyses

Panel A. The role of large shareholders and foreign ownership

Variables	(1)	(2)	(3)	(4)
	Big_Lrg_own=0	Big_Lrg_own=1	Big_Frn_own=0	Big_Frn_own=1
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
ΔNI_{t-1}	−1.110***	−1.216**	−1.636***	−0.833*
	(−3.529)	(−2.367)	(−4.524)	(−1.917)
$D\Delta NI_{t-1}$	−0.006	−0.029	0.022	−0.039
	(−0.306)	(−0.664)	(0.786)	(−1.601)
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	0.979**	1.446	2.592***	−0.036
	(2.314)	(1.533)	(5.107)	(−0.060)
Pct_All_t	−0.047*	−0.047	−0.058	−0.058*
	(−1.783)	(−0.788)	(−1.557)	(−1.793)
$\Delta NI_{t-1} * Pct\_All_t$	1.395***	1.559	2.509***	0.747
	(2.605)	(1.430)	(3.718)	(1.085)
$D\Delta NI_{t-1} * Pct\_All_t$	0.011	0.093	−0.034	0.062*
	(0.332)	(1.173)	(−0.677)	(1.653)
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_All_t$	−2.168***	−2.237	−5.343***	−0.073
	(−3.107)	(−1.225)	(−5.849)	(−0.079)
Intercept	0.011	0.315**	−0.185*	0.052
	(0.158)	(2.193)	(−1.901)	(0.835)
Controls	Included	Included	Included	Included
Industry, Year Fixed Effect	Yes	Yes	Yes	Yes
Adj. R²	0.334	0.347	0.377	0.368
Observations	673	111	392	392

Table 4 (cont.). Cross-sectional analyses

Panel B. The role of board and auditor size

Variables	(1) Big_Board=0	(2) Big_Board=1	(3) Big_Auditor=0	(4) Big_Auditor=1
Dependent variable:	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
ΔNI_{t-1}	−1.263***	−0.922**	−1.207	−1.317***
	(−3.832)	(−2.112)	(−0.824)	(−4.931)
$D\Delta NI_{t-1}$	−0.016	0.012	−0.062	−0.006
	(−0.654)	(0.429)	(−0.880)	(−0.299)
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	1.341***	1.076	0.502	1.424***
	(2.902)	(1.650)	(0.292)	(3.620)
Pct_All_t	−0.035	−0.070**	−0.098	−0.055**
	(−1.078)	(−2.011)	(−1.040)	(−2.225)
$\Delta NI_{t-1} * Pct\_All_t$	1.871***	0.708	1.923	1.730***
	(3.276)	(0.922)	(0.693)	(3.749)
$D\Delta NI_{t-1} * Pct\_All_t$	0.026	0.002	0.174	0.014
	(0.624)	(0.037)	(1.272)	(0.449)
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_All_t$	−3.145***	−1.363	−2.164	−2.695***
	(−4.042)	(−1.273)	(−0.677)	(−4.144)
Intercept	0.032	−0.005	0.233	0.037
	(0.483)	(−0.059)	(0.954)	(0.739)
Controls	Included	Included	Included	Included
Industry, Year Fixed Effect	Yes	Yes	Yes	Yes
Adj. R^2	0.333	0.365	0.557	0.314
Observations	480	303	85	699

Note: The top and bottom 1% of all continuous variables were winsorized. All numbers in parentheses represent t-statistics, with significance levels denoted by *, **, and *** for 10%, 5%, and 1%, respectively. All control variables in Eq. (1) are included.

Table 5. Firm fixed effects

Variables	(1)	(2)	(3)	(4)
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
NI_{t-1}	−1.186***	−0.386***	−0.912***	−0.913***
	(−3.426)	(−3.339)	(−3.155)	(−2.774)
$D\Delta NI_{t-1}$	−0.005	0.004	0.004	−0.020
	(−0.253)	(0.375)	(0.232)	(−0.816)
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	1.185**	−0.093	0.446	0.890*
	(2.206)	(−0.472)	(1.055)	(1.741)
Pct_All_t	−0.064**			
	(−1.972)			
$\Delta NI_{t-1} * Pct\_All_t$	1.551***			
	(2.626)			
$D\Delta NI_{t-1} * Pct\_All_t$	0.019			
	(0.552)			
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_All_t$	−2.507***			
	(−2.871)			
$Pct\_Shareholder_t$		−0.012		
		(−0.749)		
$\Delta NI_{t-1} * Pct\_Shareholder_t$		0.263		
		(1.032)		
$D\Delta NI_{t-1} * Pct\_Shareholder_t$		0.004		
		(0.201)		
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Shareholder_t$		−0.514		
		(−1.381)		

Table 5 (cont.). Firm fixed effects

Variables	(1)	(2)	(3)	(4)
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
Pct_Board_t			−0.042	
			(−1.600)	
$\Delta NI_{t-1} * Pct\_Board_t$			1.099**	
			(2.202)	
$D\Delta NI_{t-1} * Pct\_Board_t$			0.001	
			(0.042)	
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Board_t$			−1.325*	
			(−1.823)	
$Pct\_Internal_t$				−0.040
				(−1.606)
$\Delta\Delta NI_{t-1} * Pct\_Internal_t$				0.799*
				(1.930)
$D\Delta NI_{t-1} * Pct\_Internal_t$				0.032
				(1.075)
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Internal_t$				−1.501**
				(−2.425)
Intercept	−1.190***	−1.186***	−1.254***	−1.140***
	(−2.880)	(−2.855)	(−3.023)	(−2.758)
Controls	Included	Included	Included	Included
Firm, Year Fixed Effect	Yes	Yes	Yes	Yes
Adj. R^2	0.362	0.352	0.359	0.359
Observations	784	784	784	784

Note: The top and bottom 1% of all continuous variables were winsorized. All numbers in parentheses represent t-statistics, with significance levels denoted by *, **, and *** for 10%, 5%, and 1%, respectively. All control variables in Eq. (1) are included.

vations were matched based on their likelihood of having high CGR compliance rate across 15 core indicators.

$$\begin{aligned} High\_Pct\_All_t = \beta_0 + \beta_1 Size_t \\ + \beta_2 Lev_t + \beta_3 MB_t + \beta_4 CFO_t + \beta_5 Grow_t \\ + \beta_6 CEO\_own_t + \beta_7 CEO\_gender_t \\ + \beta_8 CEO\_age_t + \varepsilon_t. \end{aligned} \quad (2)$$

To compute the propensity score, a probit model was used to estimate the likelihood of having a high CGR compliance rate. In this model, the variable *High_Pct_All* is defined as an indicator variable equal to 1 if *Pct_All* is above the median, and 0 otherwise. Table 6 presents the results using the PSM sample, where firms with a high and low level of the CGR compliance rate of the entire sector *(Pct_Allt)* are required to be within a caliper distance of 0.01. The PSM analysis shows a positive association between the CGR compliance rate and accounting conservatism (coef = –3.118, t-value = –1.825), consistent with the main analysis.

Table 6. Propensity score matching

Variables	(1)
Dependent variable	ΔNI_t
ΔNI_{t-1}	−0.194
	(−0.257)
$D\Delta NI_{t-1}$	−0.015
	(−0.324)
$\Delta NI_{t-1} * D\Delta NI_{t-1}$	1.643
	(1.522)
Pct_All_t	−0.085
	(−1.446)
$\Delta NI_{t-1} * Pct\_All_t$	0.077
	(0.061)
$D\Delta NI_{t-1} * Pct\_All_t$	0.020
	(0.253)
$\Delta NI_{t-1} * D\Delta NI_{t-1} * Pct\_Al_t$	−3.118*
	(−1.825)
Intercept	−0.150
	(−1.204)
Controls	Included
Industry, Year Fixed Effect	Yes
Adj. R^2	0.308
Observations	190

Note: This table presents the results using the PSM sample, where firms with high and low compliance rates for the CGR of the entire sector *(Pct_All_t)* are required to be within a caliper distance of 0.01. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. All control variables in Eq. (1) are included.

The year 2018 not only witnessed the introduction of CGR in Korea, but also the revision of the *"Act on External Audit of Stock Companies"* to strengthen the regulations for external audits. Accordingly, this study additionally controls for the effect of the revision of the *"Act on External Audit of Stock Companies"* to ensure the robustness of the analysis. Table 7 shows that even after controlling the external auditor's fee and audit hours, as in the primary analysis, the coefficients for $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_All_t$ (coef = –2.405, t-value = –3.901), $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Shareholder_t$ (coef = –0.703, t-value = –2.378), $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Board_t$ (coef = –1.091, t-value = –2.178), and $\Delta NI_{t-1} \cdot D\Delta NI_{t-1} \cdot Pct\_Internal_t$ (coef = –1.316, t-value = –2.967) are significantly negative.

4. DISCUSSION

The results indicate that the CGR compliance rate and accounting conservatism have a positive relationship. These findings align with prior studies suggesting that more robust corporate governance leads to a higher accounting conservatism (García Lara et al., 2009; Ahmed & Duellman, 2007; Elshandidy & Hassanein, 2014; Almutairi & Quttainah, 2019). The aspect of this study advancing previous research is that it presents a new method of measuring corporate governance. However, the CGR compliance rate could cause to potential endogeneity issues, as various characteristics and the business environment influence corporate governance.

Consequently, this study conducts both the firm fixed-effect model and the PSM model. The re-

Table 7. Additional tests controlling the audit fee and hour

Variables	(1)	(2)	(3)	(4)
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
ΔNI_{t-1}	−1.146***	−0.434***	−0.746***	−0.922***
	(−4.416)	(−4.492)	(−4.044)	(−3.783)
$D\Delta NI_{t-1}$	−0.005	0.004	0.001	−0.016
	(−0.265)	(0.408)	(0.051)	(−0.797)
ΔNI_{t-1} * $D\Delta NI_{t-1}$	1.178***	0.088	0.354	0.813**
	(3.191)	(0.587)	(1.275)	(2.253)
Pct_All_t	−0.048**			
	(−2.013)			
ΔNI_{t-1} * Pct_All_t	1.454***			
	(3.213)			
$D\Delta NI_{t-1}$ * Pct_All_t	0.013			
	(0.451)			
ΔNI_{t-1} * $D\Delta NI_{t-1}$ * Pct_All_t	−2.405***			
	(−3.901)			
$Pct\_Shareholder_t$		−0.010		
		(−0.766)		
ΔNI_{t-1} * $Pct\_Shareholder_t$		0.278		
		(1.291)		
$D\Delta NI_{t-1}$ * $Pct\_Shareholder_t$		−0.003		
		(−0.161)		
ΔNI_{t-1} * $D\Delta NI_{t-1}$ * $Pct\_Shareholder_t$		−0.703**		
		(−2.378)		
Pct_Board_t			−0.015	
			(−0.822)	
ΔNI_{t-1} * Pct_Board_t			0.801**	
			(2.369)	
$D\Delta NI_{t-1}$ * Pct_Board_t			0.002	
			(0.086)	
ΔNI_{t-1} * $D\Delta NI_{t-1}$ * Pct_Board_t			−1.091**	
			(−2.178)	

Table 7 (cont.). Additional tests controlling the audit fee and hour

Variables	(1)	(2)	(3)	(4)
Dependent variable	ΔNI_t	ΔNI_t	ΔNI_t	ΔNI_t
Pct_Internal$_t$				−0.047**
				(−2.551)
ΔNI_{t-1} * Pct_Internal$_t$				0.769**
				(2.509)
$D\Delta NI_{t-1}$ * Pct_Internal$_t$				0.023
				(0.944)
ΔNI_{t-1} * $D\Delta NI_{t-1}$ * Pct_Internal$_t$				−1.316***
				(−2.967)
Audit_fee	0.005	0.005	0.005	0.006
	(0.661)	(0.691)	(0.596)	(0.753)
Audit_hour	−0.007	−0.007	−0.009	−0.009
	(−0.685)	(−0.696)	(−0.917)	(−0.929)
Intercept	0.008	−0.014	−0.005	0.005
	(0.106)	(−0.186)	(−0.073)	(0.070)
Controls	Included	Included	Included	Included
Industry, Year Fixed Effect	Yes	Yes	Yes	Yes
Adj.R^2	0.326	0.318	0.318	0.322
Observations	784	784	784	784

Note: The top and bottom 1% of all continuous variables were winsorized. All numbers in parentheses represent t-statistics, with significance levels denoted by *, **, and *** for 10%, 5%, and 1%, respectively. All control variables in Eq. (1) are included.

sults of the analysis using these two models also confirm a positive relationship between the CGR compliance rate and accounting conservatism, consistent with the main analysis. Additionally, supplementary tests further support the primary results. These findings affirm that the criteria identified by regulators for effective corporate governance are associated with the company's conservative accounting practices, thereby mitigating risks for stakeholders. Therefore, investors are advised to closely monitor the disclosed CGR.

This study proposes that, from an academic perspective, the CGR compliance rate can be a unique corporate governance index for Korean companies. The criteria suggested by prior studies were not suitable for the context of Korea. Therefore, the mandatory disclosure of the CGR compliance rate, introduced in 2018 with an anticipated gradual expansion of the scope, can serve as a valuable and novel indicator for assessing the corporate governance of Korean companies. The influence and significance of CGR reports in the Korean market are expected to experience further growth.

CONCLUSION

This paper shows a positive connection between corporate governance and accounting conservatism using the unique lens of the CGR compliance rate. Companies with higher CGR compliance rates tend to exhibit greater conservatism in financial reporting, implying enhanced transparency and alignment with investor interests. This is consistent with the overarching goal of mandating CGR disclosure. By leveraging the CGR compliance rate as a corporate governance measure, this study contributes to understanding the interplay between regulatory frameworks, governance practices, and financial reporting quality. The results affirm the importance of effective corporate governance in fostering an environment conducive to accurate and reliable financial reporting.

This study has limitations, including a limited sample size due to the implementation of CGR only in larger companies. Furthermore, the period from 2019 to 2021 may be affected by the coronavirus pandemic; thus, this should be sufficiently considered when interpreting the results of the study.

Nevertheless, this paper can serve as a foundation for further developments in the study of corporate governance in Korea.

AUTHOR CONTRIBUTIONS

Conceptualization: Hyoung Seok Choo, Sun-ae Cho, Jeongeun Emilia Lee.
Data curation: Hyoung Seok Choo, Jeongeun Emilia Lee.
Formal analysis: Hyoung Seok Choo, Jeongeun Emilia Lee.
Investigation: Hyoung Seok Choo, Sun-ae Cho.
Methodology: Hyoung Seok Choo, Sun-ae Cho, Jeongeun Emilia Lee.
Project administration: Hyoung Seok Choo, Sun-ae Cho.
Software: Hyoung Seok Choo, Sun-ae Cho, Jeongeun Emilia Lee.
Supervision: Sun-ae Cho.
Visualization: Jeongeun Emilia Lee.
Writing – original draft: Sun-ae Cho.
Writing – review & editing: Hyoung Seok Choo, Sun-ae Cho, Jeongeun Emilia Lee.

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APPENDIX A

Table A1. 15 corporate governance key indices

Category	Key Indices
Shareholder	① Announced the convening of a shareholder meeting four weeks prior to the annual general meeting (Specific Principle 1-①) Corporations should provide timely access to information for shareholders concerning the date, location, agenda, etc., of general meetings prior to the meeting
	② Adopted Electronic Voting system (Specific Principle 1-②) The Company should encourage shareholder participation as much as possible and ensure shareholders can propose their opinions.
	③ Avoided the peak seasons for the shareholder general meeting (Specific Principle 1-③) The Company should ensure shareholders can propose general meeting agenda items conveniently. Shareholders should be able to freely ask questions and receive explanations regarding shareholder suggested meeting agendas
	④ Provided annual notice of dividend policy and distribution plans to shareholders at least once a year (Specific Principle 1-④) Corporations should establish a mid- to long-term shareholder return policy and relevant plans, which includes those for dividends, and provide the information to shareholders
Board	⑤ Established and implemented a CEO succession plan and policies (including emergency appointment policy)
	⑥ Established and operated internal control policies
	⑦ Separated board chairman from the CEO
	⑧ Adopted a cumulative voting system
	⑨ Established policies to prevent the appointment of any director who has damaged corporate value or infringed shareholder rights
	⑩ Removed outside directors who served more than six years
Audit Committee	⑪ Provided an education program for the audit committee at least once a year
	⑫ Established an independent internal audit team to support internal audit tasks
	⑬ Included accounting or finance expertise in the audit committee
	⑭ Allowed the audit committee to hold meetings with external auditors at least quarterly without the presence of the firm's management
	⑮ Established and implemented procedures for the audit committee to access material information on business operations

APPENDIX B

Table B1. Variable definitions

Variable	Definition
ΔNI	Change in net income scaled by beginning total assets.
$D\Delta NI$	An indicator variable that equals 1 if ΔNI is less than zero, 0 otherwise
Pct_All	The ratio of compliant items out of the total of 15 items in the CGR
Pct_Shareholder	The ratio of compliant items out of the 4 shareholder-related items in the CGR
Pct_Board	The ratio of compliant items out of the 6 board-related items in the CGR
Pct_Internal	The ratio of compliant items out of the 5 internal audit committee-related items in the CGR
High_Pct_All	An indicator variable equal to 1 if *Pct_All* is above the median, and 0 otherwise
Size	Natural logarithm of total assets
Lev	Total liabilities scaled by total assets
MB	Market-to-book ratio
CFO	Operating cash flows scaled by total assets
Grow	The sales growth calculated as the change in sales divided by lagged sales
CEO_own	The proportion of ownership held by the CEO
CEO_gender	An indicator variable that equals 1 if the CEO is male, 0 otherwise
CEO_age	The age of the CEO
Big_Lrg_own	An indicator variable that equals 1 if the ownership of large shareholders is greater than the median, and 0 otherwise
Big_Frn_own	An indicator variable that equals 1 if foreign ownership is greater than the median, and 0 otherwise
Big_Board	An indicator variable that equals 1 if the board size is greater than the median, and 0 otherwise
Big_Auditor	An indicator variable that equals 1 if an auditor is one of the four largest audit firms, and 0 otherwise
Audit_fee	Natural logarithm of audit fees
Audit_hour	Natural logarithm of audit hours