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The Effect of COVID-19 on Public and Private Sector Earnings Management: Evidence from Korea

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Abstract: This study investigated how the COVID-19 pandemic impacted earnings management practices within both public and private firms in Korea. Amid active government efforts and policies to overcome the pandemic crisis, we anticipate that the earnings management of public sector managers, prioritizing public benefit as their key sustainability objective, will distinctly differ from those of private sector managers, who are influenced by a different set of pressures and incentives. Empirical analysis revealed a notable decrease in earnings management in the public sector post-COVID-19, with no significant change in the private sector. Our study distinguishes how public and private firms react to identical economic crises, deepening our insight into the ways different organizations handle financial reporting amid government intervention and economic stress. Such differentiation not only broadens our comprehension of strategies for managing earnings but also offers vital perspectives on the dynamics among corporate governance, regulatory environments, and sustainability.

Keywords: earnings management; COVID-19 crisis; reporting quality; government policy; public sector; private sector; sustainability

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1. Introduction

The COVID-19 pandemic has triggered extensive economic disruptions worldwide, profoundly affecting capital markets, leading to a decline in corporate investments, and significantly reducing consumer spending. These disturbances have heightened the risk of asset impairment and introduced significant challenges in the collection of receivables, thereby compromising the reliability and trustworthiness of financial reporting (Zhang et al. 2020; Appelbaum et al. 2020). To counteract these adverse effects, government interventions were implemented with the aim of mitigating the economic downturn. However, these actions have predominantly influenced stock market valuations, without necessarily providing a true reflection of economic recovery. This discrepancy between the market's perceived condition and the actual economic reality may prompt firms to modify their financial statements as a strategy to cope with the uncertainties of the economic environment.

This study analyzes how the earnings management decision-making behavior of managers in public and private firms changed before and after the COVID-19 crisis, focusing on data from South Korean companies. Specifically, it compares the changes in the size of discretionary accruals over three years before and after the outbreak of COVID-19 to examine the impact of the crisis on earnings management behaviors. The COVID-19 pandemic has been a period that necessitated strong governmental policies for crisis management more than any other time, highlighting the pivotal role of government interventions in overcoming economic challenges. Given the substantial influence of government policy on public firms, it is anticipated that the financial reporting behaviors of managers in these firms would differ from those in private firms. This distinction stems from the close

alignment of public firms with government policy directions aimed at achieving economic development and social objectives, suggesting that their financial reporting practices during such a crisis may reflect broader governmental strategies and priorities (Kriz and Johnson 2003; Peng and Brucato 2004; Carroll and Marlowe 2006; Burke 2006; Robbins and Miller 2006; Alchian 1977; Shleifer 1998). In this context, examining changes in earnings management practices before and after COVID-19 among South Korean public firms is particularly meaningful. South Korean public firms operate under strong government intervention and management, closely aligning with government policy directions to fulfill economic development and social objectives. This alignment has significantly contributed to infrastructure development, the advancement of key industries, and the enhancement of the country's competitiveness. Therefore, studying these firms can provide valuable insights into how government policies and interventions during a crisis impact corporate financial behaviors.

We conducted an empirical investigation to examine the variation in earnings management practices among managers, dividing the timeframe from 2017 to 2023 into pre-pandemic and pandemic periods. Within this timeframe, public and private firms were analyzed as distinct cohorts, comprising 424 and 11,901 firm-year observations, respectively. The empirical evidence suggests a decline in earnings management activities within public firms during the pandemic era, relative to the pre-pandemic phase. Conversely, the analysis for private firms did not demonstrate a statistically significant alteration in earnings management behavior across the two delineated periods.

Our study contributes to the broader discourse on corporate governance and financial reporting by shedding light on the differential impacts of the COVID-19 crisis on earnings management across the public and private sectors. The worldwide COVID-19 pandemic induced market turbulence that appeared significantly distinct from previous crises, highlighting unique characteristics of the economic crisis it brought to the global economy (Reinhart 2022; Stiglitz et al. 2020). This distinctiveness underlines the importance of understanding how the unique pressures and objectives of public and private firms influence their financial reporting behaviors amidst the unprecedented economic turmoil caused by the COVID-19 pandemic. Recently, there have been limited country-specific studies examining the impact of COVID-19 on earnings management, revealing diverse findings across nations. In particular, research focusing on earnings management by managers of public enterprises due to COVID-19 is scarce. However, studying changes in financial reporting incentives for public enterprises, especially in contexts with active government intervention for crisis management, holds significance. By examining these dynamics in the context of a global pandemic, the research offers insights into the evolving nature of financial reporting practices under extraordinary economic conditions, providing valuable implications for policymakers, regulators, and managers in navigating future crises for sustainability.

The remainder of this paper is organized as follows: Section 2 reviews related literature and develops hypotheses. Section 3 describes sample composition and the research design. Section 4 presents the empirical results. Section 5 provides the conclusion of the study.

2. Literature Review and Hypothesis

Prior literature suggests that the incentives for earnings management vary depending on whether the company is publicly owned or privately owned. Burgstahler et al. (2006) discovered that privately owned companies in 13 European countries engage in more widespread earnings management compared to their publicly owned counterparts. They attributed this to the stricter application of legal systems and controls on publicly owned firms in Europe (Burgstahler et al. 2006). Previous studies on Chinese state-owned firms have reported weaker oversight over managers, resulting in fewer incentives for earnings management (Li et al. 2021). However, it has also been documented that for specific purposes, managers in these enterprises may exploit this weak monitoring to engage in even more earnings management (Cheng et al. 2015). In Korea, higher information asymmetry in public firms, coupled with various incentives for managers, has resulted

in greater earnings manipulation compared to private firms (Eom et al. 2021). These findings collectively suggest that, while stronger government oversight naturally leads to less earnings management, even in situations where government oversight is weak or information asymmetry is high, public firm managers refrain from engaging in earnings management if they lack sufficient incentives to do so.

Although research on earnings management in public firms is not as extensive as it is for private firms, there are many studies that have presented motives for managers of public firms to engage in earnings management (Vinnari and Näsi 2008; Pilcher and Van Der Zahn 2010; Lizińska and Czapiewski 2023). The pursuit of both profitability and public service creates managerial ambiguities and inefficiencies, a phenomenon well-documented across various studies (Papenfuß and Schaefer 2010; Papenfuß et al. 2017). Managers in public institutions, typically serving short tenures of one to four years and lacking prospects for reappointment, are incentivized to focus on short-term performance due to their compensation structures. This pursuit, combined with susceptibility to political influence, often leads public organizations to engage in earnings management practices (Greenwood et al. 2017; Hodges 2018; Ding et al. 2007). In contrast, existing research also points to mechanisms within public that might naturally curtail such financial reporting practices. Enhanced public scrutiny and a comprehensive accountability framework are thought to restrict managers' ability to engage in earnings management, with performance evaluations extending beyond financial metrics to include socio-political objectives (Blumenthal 1979; Bower 1977; Nigro and Nigro 1977; Fan et al. 2007; Gois and Soares 2019).

There are mixed findings in the literature regarding managers' earnings management behaviors during financial crises. Financial uncertainty might motivate efforts to reduce earnings management to lower information asymmetry (Persakis and Iatridis 2016; Filip and Raffournier 2014; Ming Chia et al. 2007; Bertomeu and Magee 2011). Conversely, firms facing financial downturns may engage in increased earnings manipulation to conceal their economic hardships (Burgstahler and Dichev 1997; Ayers et al. 2006; Degeorge et al. 1999; Ahmad-Zaluki et al. 2011; Flores et al. 2016; Jose and Ivan 2019). Dimitras et al. (2015) found that Greek companies reduce earnings manipulation during recession (Dimitras et al. 2015). Additionally, the big bath strategy involves reporting exaggerated losses in difficult times to prepare for future profitability improvements (Scott 2005; Kwon and Lee 2016). Lizińska and Czapiewski (2023) found Polish public firms seemed to be more inclined to adopt the 'big bath' strategy during pandemic period to inflate future income (Lizińska and Czapiewski 2023). Recently, limited country-specific studies have examined the impact of COVID-19 on earnings management, revealing varied findings across different nations. Aljughaiman et al. (2023) discovered that Chinese firms were more prone to managing earnings during the pandemic, with state-owned enterprises engaging in less earnings management than private firms (Aljughaiman et al. 2023). Lassoued and Khanchel (2021) examined private firms in 15 European countries and reported an increase in income-boosting earnings management after the pandemic (Lassoued and Khanchel 2021). Liu and Sun (2022) suggested that companies in the U.S. engaged in more income-decreasing earnings management, taking a big bath in their financial reports during the pandemic year (Liu and Sun 2022).

Given the distinct organizational goals, regulatory environments, and shareholder expectations between public and private sectors, it is logical to hypothesize that their managerial strategies and responses to crises will differ. To date, the only study that has examined changes in earnings management practices between public and private companies before and after the COVID-19 pandemic is the research conducted by Aljughaiman et al. (2023). In China, state-owned enterprises benefit from extensive government support, face relatively lax external audits, and experience less pressure on corporate performance compared to private companies. Consequently, even during crises, the incentive for SOE managers to engage in earnings management is reported to be minimal. However, despite stringent government oversight, Korean public enterprises do not receive unconditional support from the government as seen with Chinese SOEs. This discrepancy suggests

that the earnings management practices of managers in public and private companies in South Korea could differ from those in China before and after the COVID-19 crisis. Furthermore, because South Korea does not have a regulatory and control system as robust as that of Europe, understanding how the earnings management practices of public and private company managers change in the wake of the COVID-19 crisis remains an empirical question.

The anticipated scenarios regarding changes in the earnings management practices of public company managers are as follows. South Korean public firms operate under strong government intervention and management, closely aligning with government policy directions to fulfill economic development and social objectives. Therefore, the earnings management behavior of managers in South Korea may differ between public and private firms before and after COVID-19. Under public interest theory, during the COVID-19 crisis, managers of public enterprises may focus on transparent financial reporting as societal objectives gain importance. These firms are often more influenced by government policies and regulations, leading to a potential decrease in earnings management as managers align their actions with government crisis management initiatives. This strategic alignment serves broader economic and social goals rather than just financial metrics. Additionally, public firms may prioritize long-term stability and societal impact in times of crisis, which contrasts with the short-term financial focus of private firms, reducing the likelihood of aggressive earnings management practices. On the other hand, South Korean public enterprises inherently possess a high degree of information asymmetry (Eom et al. 2021). The economic uncertainty and pressures brought about by COVID-19 may incentivize these enterprises to increase earnings management practices to secure financial flexibility or achieve specific financial targets. Based on these points, predicting changes in the earnings management practices of public enterprises before and after the COVID-19 pandemic is an empirical task. Thus, we propose the following null hypothesis:

Hypothesis 1: *There is no difference in the earnings management practices of South Korean public firm managers before and after the COVID-19 pandemic*.

Conversely, private firms face significant pressure to meet investor expectations and demonstrate adequate financial performance even in crisis conditions, due to the critical role of financial performance evaluations in capital markets and financing. This pressure may compel private sector managers to maintain or even increase earnings management practices to present a facade of financial stability or to meet market expectations under expectation management theory (Ahmad-Zaluki et al. 2011; Masruki and Azlinna 2012). However, the recent emphasis on environmental, social, and governance (ESG) activities suggests that the drive towards transparent accounting information and the establishment of governance structures could play a crucial role in restraining earnings management during crisis situations (Yuan et al. 2022). Under corporate sustainability theory, managers who pursue long-term corporate health and sustainability may avoid engaging in earnings management to improve short-term financial metrics during periods of high uncertainty. This shift towards transparency and sustainability might reflect a strategic response to align with evolving stakeholder expectations and mitigate perceived risks during the pandemic. Overall, South Korean private companies have both incentives to adjust earnings upwards to meet market expectations and incentives to maintain the transparency of accounting information to emphasize long-term sustainability during the COVID-19 crisis. Thus, we propose the following null hypothesis:

Hypothesis 2: *There is no difference in the earnings management practices of South Korean private firm managers before and after the COVID-19 pandemic*.

3. Materials and Methods

In this study, we divided the sample into public and private firms, designating the period from 2020 onwards (2020–2023) as the COVID-19 era and comparing it with the three years preceding the pandemic (2017–2019). Our analysis focused on comparing the absolute values of discretionary accruals between these two periods to understand the impact of the COVID-19 pandemic on earnings management behaviors in Korean public and private firms. For empirical analysis, we sourced the financial information of private firms listed on the South Korean stock market (KOSPI and KOSDAQ) from the Korea Listed Companies Association's database, TS2000 data-guide. Financial data for public firms were manually collected through the Public Institution Management Information Disclosure System, ALIO (www.alio.go.kr (accessed on 30 September 2023))[1]. Our sample consisted of firms with accessible financial data, specifically those with a December fiscal year-end and classified as non-financial firms. Table 1 shows the yearly distribution of public and private firm samples, showing a consistent distribution across all years, with a marginal annual increase. The dataset encompasses 424 public firm-years and 11,901 private firm-years.

Table 1. Sample distribution by fiscal year.

Year	2017	2018	2019	2020	2021	2022	Total
N. of public firm	67	66	68	70	76	77	424
N. of private firm	1912	1955	1977	2010	2021	2026	11,901

This study utilized the modified Jones model by Dechow et al. (1995) to measure managers' accrual-based earnings management (Dechow et al. 1995). Total Accruals (TACC) are calculated by deducting cash flow from operations from net income, and can be divided into discretionary accruals (DA), which can be adjusted at the discretion of managers, and non-discretionary accruals (NDA), which are changes in accruals due to economic conditions and are not subject to managerial discretion. Dechow et al. (1995) modified the Jones model by subtracting the change in accounts receivable from the change in revenues to estimate DA, addressing the assumption in the Jones model that revenues are not manipulated for earnings management. Furthermore, Dechow et al. (1998) and Barber and Lyon (1996) revealed that matching earnings management to operational performance measures like return on assets (ROA) provides better explanatory power than including other variables (Dechow et al. 1998; Barber and Lyon 1996). Kothari et al. (2005) suggested adding ROA as a new control variable to the modified Jones model, resulting in the following model 1. In this study, the residual generated from performance matched discretionary measure is used as a measure of managerial earnings management (Kothari et al. 2005). A positive DA value indicates that managers are adjusting earnings upwards, while a negative DA value signifies the adjustment of earnings downwards. Our study aims to examine changes in earnings management practices among managers of private and public firms not by the direction of earnings adjustments but through the absolute size of such adjustments. To achieve this, an empirical analysis was conducted using the absolute values of DA.

$$\frac{TACC_{i,t}}{TA_{i,t-1}} = \alpha_0\left(\frac{1}{TA_{i,t-1}}\right) + \alpha_1\left(\frac{\Delta REV_{i,t} - \Delta AR_{i,t}}{TA_{i,t-1}}\right) + \alpha_2\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + \alpha_3(ROA) + \varepsilon_{i,t} \quad (1)$$

where

TACC—Company i's total accruals in year t
TA—Company i's total assets at the end of the fiscal year
ΔREV—Change in revenue
ΔAR—Change in accounts receivable
PPE—Property, plant, and equipment excluding land and assets under construction
ROA—Return on assets

An empirical model was developed to examine the alteration in earnings management practices among managers in public and private firms pre- and post-COVID-19 outbreak, structured as in Model 2. If β_1 shows a significant positive value, this indicates that magnitude of earnings management has increased after COVID-19. Conversely, if β_1 is significantly negative, it means that magnitude of earnings management has decreased post-COVID-19. In our study, we controlled for factors known to influence discretionary accruals, such as firm size, leverage ratio, growth, and performance metrics. Altman's Z-score is a measure of a company's financial health, assessing its long-term solvency. We included Z-score to control profit adjustments for firms facing higher bankruptcy risks during the COVID-19 period. Larger (SIZE) and profitable firms (ROA) are less likely to engage in earnings management due to increased scrutiny (Watts and Zimmerman 1990). Firms with higher debt ratios (LEV) are believed to practice earnings management by moving future profits to current earnings to meet financial ratios or avoid covenant breaches (Watts and Zimmerman 1990; DeFond and Jiambalvo 1994). Firms in growth phases (GROW) might manage earnings to appear more attractive to potential partners or investors (Ki and Kim 2010). These variables are incorporated based on their established impact on earnings management.

$$|DA| = \beta_0 + \beta_1(COVID) + \beta_2(Z\text{-}SCORE_{i,t}) + \beta_3(SIZE_{i,t}) + \beta_4(LEV_{i,t}) + \beta_5(GROW_{i,t}) + \beta_6(ROA_{i,t}) + \varepsilon_{i,t} \quad (2)$$

|DA|—absolute value of the residual term in model 1
COVID—1 for COVID-19 period (year of 2020–2022), 0 for pre-COVID-19 period (year of 2017–2019)
Z-SCORE—financial soundness indicators from below formula

$$3.3\left(\frac{\text{net income}_{i,t}}{\text{Total Assets}_{i,t-1}}\right) + \left(\frac{\text{Sales}_{i,t}}{\text{Total Assets}_{i,t-1}}\right) + 1.4\left(\frac{\text{Retained Earnings}_{i,t}}{\text{Total Assets}_{i,t-1}}\right) + 1.2\left(\frac{\text{Working Capital}_{i,t}}{\text{Total Assets}_{i,t-1}}\right)$$

SIZE—natural logarithm of total assets
LEV—total debt/total assets
GROW—(sales growth)/previous year end total assets
ROA—net income/asset

4. Results

Table 2 presents descriptive statistics for the variables used in the empirical analysis model. We analyze samples from public and private sectors separately, but the comparison of statistics between the two groups allows for the identification of financial differences between public and private firms. The average |DA| for private firms is 0.067, while for public firms, the average |DA| is 0.169, indicating that absolute discretionary accruals are relatively lower in private firms. This could be interpreted as public firms exhibiting a higher degree of managerial discretion in their accounting practices over the entire sample period. SIZE and Z-score show similar average values for both groups. However, the average debt ratio (LEV) is higher for private firms. GROW averages are higher for public firms, whereas asset efficiency (ROA) is shown to be higher in private firms.

Table 3 presents the results of the Pearson correlation analysis between |DA| and other variables. The upper right section of the table shows the correlations among variables for public firms, while the lower left section displays the correlations for private firms. For public firms, a significant negative correlation between |DA| and COVID suggests a decrease in earnings management during the pandemic. In contrast, private firms show a significant positive correlation, indicating an increase in earnings management in the same period.

Table 2. Descriptive statistics.

<Panel A> Public Firms					
N = 424	**Mean**	**Std. Dev.**	**Min**	**Median**	**Max**
|DA|	0.169	0.361	0.000	0.055	4.563
Z-score	1.394	1.993	(4.385)	0.940	12.466
Size	19.123	2.387	14.669	18.884	24.810
LEV	0.661	0.420	0.001	0.613	3.147
Growth	0.043	0.405	(1.809)	0.015	3.680
ROA	0.265	0.102	(0.358)	0.012	0.926
<Panel B> Private Firms					
N = 11,901	**Mean**	**Std. Dev.**	**Min.**	**Median**	**Max.**
|DA|	0.067	0.086	0.000	0.044	1.791
Z-score	1.395	1.725	(21.530)	1.500	23.898
Size	18.934	1.317	16.413	18.757	22.716
LEV	0.388	0.235	0.004	0.379	7.910
Growth	0.068	0.328	(3.088)	0.027	8.702
ROA	0.036	0.118	(1.185)	0.023	1.422

Notes: See Model 2 for the explanation of the variables.

Table 3. Correlation matrix.

	|DA|	COVID	Z-SCORE	SIZE	LEV	GROWTH	ROA
|DA|		**−0.14706 (0.0024)**	−0.05692 (0.2421)	−0.18844 (<0.0001)	0.27412 (<0.0001)	−0.03799 (0.4352)	−0.06076 (0.2118)
COVID	**0.01538 (0.0934)**		0.03322 (0.4950)	−0.06390 (0.1891)	0.04843 (0.3198)	0.05656 (0.2451)	−0.02112 (0.6645)
Z-SCORE	0.05070 (<0.0001)	−0.03676 (<0.0001)		−0.17922 (0.0002)	−0.31991 (<0.0001)	0.37107 (<0.0001)	0.39550 (<0.0001)
SIZE	−0.12068 (<0.0001)	0.08705 (<0.0001)	0.17006 (<0.0001)		−0.12590 (0.0095)	−0.03589 (0.4610)	-0.06570 (0.1769)
LEV	0.06481 (<0.0001)	−0.04191 (<0.0001)	−0.31702 (<0.0001)	0.04097 (<0.0001)		0.07153 (0.1415)	−0.12116 (0.0125)
GROWTH	0.16756 (<0.0001)	0.01756 (0.0555)	0.41994 (<0.0001)	−0.02146 (0.0192)	0.03785 (<0.0001)		0.25053 (<0.0001)
ROA	−0.00808 (0.3778)	−0.00761 (0.4065)	0.68805 (<0.0001)	0.21835 (<0.0001)	−0.32810 (<0.0001)	0.21701 (<0.0001)	

Table 4, in Panels A and B, illustrates the *t*-test results for the differences in the variable |DA| before and after the COVID period for public and private firms, respectively. For public firms (Panel A), the average value of |DA| decreased significantly from 0.2250 pre-COVID to 0.1189 post-COVID. In contrast, for private firms (Panel B), the average |DA| increased slightly from 0.0656 before COVID to 0.0688 after. Based on the *t*-test results, it can be interpreted that since COVID-19, there has been a decrease in earnings management behavior among managers in public sector, while there has been a slight increase in earnings management behavior among managers in private sector.

Table 4. Result of *T*-test.

<Panel A> *T*-Test of Variable | DA | for Public Firms					
COVID	**Method**	**N**	**Mean**	**Pr > t**	**Pr > F**
0		201	0.2250		
1		223	0.1189		
	Pooled			0.0024	
	Satterthwaite			0.0036	
	Folded F				<0.0001
<Panel B> *T*-Test of Variable | DA | for Private Firms					
COVID	**Method**	**N**	**Mean**	**Pr > t**	**Pr > F**
0		5844	0.0656		
1		6057	0.0688		
	Pooled			0.0432	
	Satterthwaite			0.0427	
	Folded F				<0.0001

Table 5 shows the results of regression analysis investigating the impact of the COVID-19 crisis on earnings management. For public firms (Panel A), a significant negative relationship between COVID and |DA| suggests a reduction in earnings management during the pandemic. This suggests that during the pandemic, public sector managers prioritized societal benefits and responsibilities over adjusting financial reports. Vernon (1981) suggested that public firms, reinforced by governmental support and regulatory protections, show a relative resistance to bankruptcy and a more lenient attitude towards risks compared to their private counterparts (Vernon 1981). This infers a reduced propensity for public firms to manipulate accounting information for profit inflation or deflation in response to the COVID-19 crisis. Management incentives aligned with societal objectives and a commitment to public service deepen their resilience to financial strains, encouraging a broader perspective on risk that prioritizes public welfare and long-term sustainable goals. A reduced earnings management by managers of public firms might also stem from intensified public oversight and the enforcement of stricter regulations by governments (Rainey et al. 1976; Buchanan 1974; Weiss 1974; Self 1977). This heightened scrutiny likely discouraged public firms from manipulating earnings, steering them towards a stronger commitment to transparency and accountability principles. Furthermore, this scenario supports Arrow and Lind's (1970) theory that public firms are more adept at assuming their social responsibilities during crises, as they shift focus to support broader societal goals and aid in governmental crisis management initiatives (Arrow and Lind 1970). In contrast, for private firms (Panel B), although a positive relationship is observed between COVID and |DA|, this association lacks statistical significance, indicating no substantial change in earnings management pre- and post-COVID-19. Despite the autonomy private firms possess in financial decision-making and their potential engagement in earnings management to project stability amid market pressures and investor expectations, there exists a complex interplay of factors that govern financial reporting decisions within these entities (Yuan et al. 2022).[2]

Table 5. Result of Regression.

<Panel A> Public Firms		
	Coefficient	***t*-Value**
Intercept	0.39533	1.74
COVID	−0.33820	−5.24 ***
Z-score	0.03407	2.84
Size	−0.01042	−0.93
LEV	0.09774	1.75 *
Growth	−0.05478	−1.05
ROA	−0.33912	−1.88 *
∑IND & ∑YD	Included	
F-value	13.40	
Adj R^2	0.260	
N	424	
<Panel B> Private Firms		
	Coefficient	***t*-Value**
Intercept	0.08300	2.17 **
COVID	0.00224	0.80
Z-score	0.00251	4.02 ***
Size	−0.00485	−7.53 ***
LEV	0.02839	7.54 ***
Growth	0.02896	10.85 ***
ROA	−0.00451	−0.82 ***
∑IND & ∑YD	Included	
F-value	23.18	
Adj R^2	0.446	
N	11,901	

***, **, * indicate the significance level at the 1%, 5%, and 10% level, respectively.

5. Conclusions

Our empirical analysis of the shifts in financial reporting behaviors among public and private sectors during the COVID-19 pandemic contributes to a deeper understanding of earnings management strategies amidst economic upheavals. By focusing on the South Korean public sector, which is significantly influenced by government policies and faces increasingly strict standards for transparent accounting information, this research contributes to the broader accumulation of knowledge on public firms' financial reporting worldwide.

This research makes academic contributions in two main areas. First, it broadens the scope of research on the impact of the COVID-19 economic crisis on earnings management, which has primarily focused on Europe and China, by including data from South Korea. This addition offers a wider lens to understand the effects of different regulatory, cultural, and economic contexts on earnings management during crises. By exploring how a non-Western country with distinct corporate governance and market dynamics responds to global pandemics, the study sheds light on diverse managerial strategies and underscores the role of government policies in shaping corporate financial reporting in Asian contexts, thus deepening our global perspective on financial reporting challenges during adverse times. Secondly, this study is pioneering in its revelation of the distinct earnings management behaviors exhibited by public and private sectors within the same

country in response to a specific event. It demonstrates that the institutional objectives and the degree of understanding and closeness to government policies significantly influence how these entities react to risks closely associated with governmental actions. By differentiating the responses of public and private firms to the same economic crisis, this research adds depth to our comprehension of how various types of organizations navigate financial reporting under governmental influence and economic pressure. This distinction not only enhances our understanding of earnings management strategies but also provides critical insights into the interplay between corporate governance, regulatory frameworks, and sustainable goals. This aids policymakers in crafting more effective regulations and promoting transparent, fair public policies. Additionally, the study highlights the importance of acknowledging the distinct contexts and challenges that public and private sectors encounter during economic uncertainties.

This study has limitations, as it primarily focuses on the distinct earnings management behaviors between public and private company managers post-COVID-19, yet it does not explore deeper sectoral differences that could provide additional insights. Our findings may also be influenced by the unique attributes of Korean public enterprises, such as their size, maturity, and financial performance. Furthermore, our earnings management methodology has limitations, failing to fully adjust for fluctuations in accruals driven by real-world economic conditions, particularly during recessions. Future research is encouraged to delve into the mechanisms behind the changes in the earnings management behaviors observed, further enriching our comprehension of corporate financial reporting practices amidst global crises.

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

Notes

[1] In Korea, public firms are broadly categorized into three types based on ownership structure: government-controlled enterprises where the government is the major shareholder, local government-owned enterprises established with investments from local authorities to promote regional development and stimulate local economies, and joint ventures established with investments from both the central government and local authorities. In this study, we included all three types of public firms, specifically focusing on those subject to external audits. As of the end of 2022, out of 347 public firms, 124 received external audits. These enterprises predominantly operate in industries such as energy, telecommunications, infrastructure, and public services, often holding monopolistic positions and facing significant government oversight.

[2] We conducted an additional empirical analysis using the modified Jones model by Dechow et al. (1995). The empirical analysis results using Dechow et al. (1995) were qualitatively similar to those obtained using the discretionary accruals measurement method of Kothari et al. (2005).

References

Ahmad-Zaluki, Nurwati A., Kevin Campbell, and Alan Goodacre. 2011. Earnings management in Malaysian IPOs: The East Asian crisis, ownership control, and post-IPO performance. *The International Journal of Accounting* 46: 111–37. [CrossRef]

Alchian, Armen A. 1977. Why Money? *Journal of Money, Credit and Banking* 9: 133–40. [CrossRef]

Aljughaiman, Abdullah A., Tam Huy Nguyen, Vu Quang Trinh, and Anqi Du. 2023. The COVID-19 outbreak, corporate financial distress and earnings management. *International Review of Financial Analysis* 88: 102675. [CrossRef] [PubMed]

Appelbaum, Deniz, Shaun Budnik, and Miklos Vasarhelyi. 2020. Auditing and accounting during and after the COVID-19 crisis. *The CPA Journal* 90: 14–19.

Arrow, Kenneth J., and Robert C. Lind. 1970. Uncertainty and the evaluation of public investment decisions. *American Economic Review* 60: 364–78.
Ayers, Benjamin C., P. Eric Yeung, and John Jiang. 2006. Discretionary Accruals and Earnings Management: An Analysis of Pseudo Earnings Targets. *The Accounting Review* 81: 617–52. [CrossRef]
Barber, Brad M., and John D. Lyon. 1996. Detecting abnormal operating performance: The empirical power and specification of test statistics. *Journal of Financial Economics* 41: 359–99. [CrossRef]
Bertomeu, Jeremy, and Robert P. Magee. 2011. From low-quality reporting to financial crises: Politics of disclosure regulation along the economic cycle. *Journal of Accounting and Economics* 52: 209–27. [CrossRef]
Blumenthal, W. Michael. 1979. Candid reflections of a businessman in Washington: Interview with Secretary of the Treasury. *Fortune*, 36–49.
Bower, Joseph L. 1977. Effective Public Management. *Harvard Business Review* 55: 131–40.
Buchanan, Bruce. 1974. Government managers, business executives, and organizational commitment. *Public Administration Review* 34: 339–47. [CrossRef]
Burgstahler, David C., Luzi Hail, and Christian Leuz. 2006. The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review* 81: 983–1016. [CrossRef]
Burgstahler, David, and Ilia Dichev. 1997. Earnings Management to Avoid Earnings Decrease and Losses. *Journal of Accounting and Economics* 24: 99–126. [CrossRef]
Burke, Brendan F. 2006. Altruism, accountability, and transparency: Cooperative aspirations in contemporary state-level budgeting. *Journal of Public Budgeting, Accounting & Financial Management* 18: 198–223.
Carroll, Deborah A., and Justin Marlowe. 2006. Symposium on the new organizational economics of public financial management. *Journal of Public Budgeting, Accounting & Financial Management* 18: 192–240, 306–75.
Cheng, C. S. Agnes, Jing Wang, and Steven X. Wei. 2015. State Ownership and Earnings Management around Initial Public Offerings: Evidence from China. *Journal of International Accounting Research* 14: 89–116. [CrossRef]
Dechow, Patricia M., Richard G. Sloan, and Amy P. Sweeney. 1995. Detecting Earnings Management. *The Accounting Review* 70: 193–225.
Dechow, Patricia M., Sagar P. Kothari, and Ross L. Watts. 1998. The relation between earnings and cash flows. *Journal of Accounting and Economics* 25: 133–68. [CrossRef]
DeFond, Mark L., and James Jiambalvo. 1994. Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics* 17: 145–76. [CrossRef]
Degeorge, François, Jayendu Patel, and Richard Zeckhauser. 1999. Earnings Management to Exceed Thresholds. *The Journal of Business* 72: 1–33. [CrossRef]
Dimitras, Augustinos I., Maria I. Kyriakou, and George Iatridis. 2015. Financial crisis, GDP variation and earnings management in Europe. *Research in International Business and Finance* 34: 338–54. [CrossRef]
Ding, Yuan, Hua Zhang, and Junxi Zhang. 2007. Private vs state ownership and earnings management: Evidence from Chinese listed companies. *Corporate Governance: An International Review* 15: 223–38. [CrossRef]
Eom, Kijung, Chaechang Im, and Sungyong Yoon. 2021. A study on the effect of government support on the earnings management of public enterprises. *The Journal of Industrial Innovation* 37: 25–46.
Fan, Joseph P. H., Tak Jun Wong, and Tianyu Zhang. 2007. Politically connected CEOs, corporate governance, and post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics* 84: 330–57. [CrossRef]
Filip, Andrei, and Bernard Raffournier. 2014. Financial Crisis and Earnings Management: The European Evidence. *International Journal of Accounting* 49: 455–78. [CrossRef]
Flores, Eduardo, Elionor Farah Jreige Weffort, Aldy Fernandes da Silva, and L. Nelson G. Carvalho. 2016. Earnings management and macroeconomic crises: Evidence from Brazil and USA capital markets. *Journal of Accounting in Emerging Economies* 6: 179–202. [CrossRef]
Gois, Alan Diogenes, and Sandro Vieira Soares. 2019. The effect of corporate reputation, based on accounting transparency, on earnings management in public companies on B3. *Revista de Educação e Pesquisa em Contabilidade* 13: 213–27.
Greenwood, Jeremy, Emin Dinlersoz, and Henry Hyatt. 2017. What Businesses Attract Unions: Unionization over the Life Cycle of U.S. Establishments. *The Journal of Work and Policy* 70: 733–66.
Hodges, Ann C. 2018. Employee Voice in Arbitration. *Employee Rights and Employment Policy Journal* 22: 235–58.
Jose, Miranda-Lopez, and Valdovinos-Hernandez Ivan. 2019. The impact of the global economic crisis of 2008 on earnings quality in Mexico. *Journal of Accounting in Emerging Economies* 9: 407–21.
Ki, Hyun-hee, and Min-choul Kim. 2010. The Effects of Company Characteristics on Earning Management. *Review of Accounting and Policy Studies (RAPS)* 15: 197–217.
Kothari, Sagar P., Andrew J. Leone, and Charles E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39: 163–97. [CrossRef]
Kriz, Kenneth A., and Craig L. Johnson. 2003. Could governments hedge financial risk? In *Proceedings. Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association*. Washington, DC: National Tax Association, vol. 96, pp. 110–17.
Kwon, Kyungheon, and Nam-Ryoung Lee. 2016. A Case study on big bath earnings management with large shareholder changes with a focus on the setting of loan loss allowances for a savings bank. *The Journal of Applied Business Research* 32: 1793–808. [CrossRef]

Lassoued, Naima, and Imen E. Mehdi Khanchel. 2021. Impact of COVID-19 Pandemic on Earnings Management: An Evidence from Financial Reporting in European Firms. *Global Business Review* 2021: 09721509211053491. [CrossRef]
Li, Leye, Gary S. Monreo, and Jenny Jing Wang. 2021. State ownership and abnormal accruals in highly-valued firms: Evidence from China. *Journal of Contemporaty Accounting and Economics* 17: 100223. [CrossRef]
Liu, Guoping, and Jerry Sun. 2022. The impact of COVID-19 pandemic on earnings management and the value relevance of earnings: US evidence. *Managerial Auditing Journal* 37: 850–68. [CrossRef]
Lizińska, Joanna, and Leszek Czapiewski. 2023. Earnings Management amid the COVID-19 Financial Crisis: The Experience of Poland. *The Polish Journal of Economics* 313: 93–112. [CrossRef]
Masruki, Rosnia, and Azizan Noor Azlinna. 2012. The Impact of Asian Financial Crisis to Earnings Management and Operating Performance in Malaysia. *The Social Sciences* 7: 510–16. [CrossRef]
Ming Chia, Yew, Irvine Lapsley, and Hing-Wah Lee. 2007. Choice of auditors and earnings management during the Asian financial crisis. *Managerial Auditing Journal* 22: 177–96. [CrossRef]
Nigro, Felix A., and Lloyd G. Nigro. 1977. *Modem Public Administration*, 4th ed. New York: Harper and Row.
Papenfuß, Ulf, and Christina Schaefer. 2010. Improving public accountability by aligning reporting to organizational changes in public service provision—An empirical Internet study of all Austrian, German and Swiss towns and states from an agency-theory perspective. *International Review of Administrative Sciences* 76: 555–76. [CrossRef]
Papenfuß, Ulf, Lars Steinhauer, and Benjamin Friedländer. 2017. Clearing the fog for an overall view on state-owned-enterprises: Quality of aggregate holdings reporting by public administrations in 12 countries. *International Review of Administrative Sciences* 85: 116–36. [CrossRef]
Peng, Jun, and Peter F. Brucato. 2004. An empirical analysis of market and institutional mechanisms for alleviating information asymmetry in the municipal bond market. *Journal of Economics and Finance* 28: 226–38. [CrossRef]
Persakis, Anthony, and George Emmanuel Iatridis. 2016. Audit quality, investor protection and earnings management during the financial crisis of 2008: An international perspective. *Journal of International Financial Markets, Institutions & Money* 41: 73–101.
Pilcher, Robyn, and Mitchell Van Der Zahn. 2010. Local governments, unexpected depreciation and financial performance adjustment. *Financial Accountability & Management* 26: 299–324.
Rainey, Hal G., Robert W. Backoff, and Charles H. Levine. 1976. Comparing public and private organizations. *Public Administration Review* 36: 233–44. [CrossRef]
Reinhart, Carmen M. 2022. From health crisis to financial distress. *IMF Economic Review* 70: 4–31. [CrossRef]
Robbins, Donijo, and Gerald J. Miller. 2006. Auction off the farm: Signaling, politics, and economic development. *Journal of Public Budgeting, Accounting & Financial Management* 18: 307–50.
Scott, William Robert. 2005. *Financial Accounting Theory*, 5th ed. Upper Saddle River: Pearson Prentice Hall.
Self, Peter. 1977. *Administrative Theory and Politics*, 2nd ed. London: Allen and Unwin.
Shleifer, Andrei. 1998. State versus Private Ownership. *The Journal of Economic Perspectives* 12: 133–50. [CrossRef]
Stiglitz, Joseph E., Todd N. Tucker, and Gabriel Zucman. 2020. The Starving State: Why Capitalism's Salvation Depends on Taxation. *Foreign Affairs* 99: 30–37.
Vernon, Raymond. 1981. State owned enterprises in the western economies. In *Theory, Facts and Speculation*. Edited by Raymond Vernon and Yair Aharoni. London: Croom Helm.
Vinnari, Eija M., and Salme Näsi. 2008. Creative accrual accounting in the public sector: 'Milking' water utilities to balance municipal budgets and accounts. *Financial Accountability & Management* 24: 97–116.
Watts, Ross L., and Jerold L. Zimmerman. 1990. Positive Accounting Theory: A Ten Year Perspective. *Accounting Review* 65: 131–56.
Weiss, Herman L. 1974. Why business and government exchange executives. *Harvard Business Review* 52: 129–40.
Yuan, Tiezhen, Ji (George) Wu, Ni Qin, and Jian Xu. 2022. Being nice to stakeholders: The effect of economic policy uncertainty on corporate social responsibility. *Economic Modelling* 108: 105737. [CrossRef]
Zhang, Dayong, Min Hu, and Qiang Ji. 2020. Financial markets under the global pandemic of COVID-19. *Finance Research Letters* 36: 101528. [CrossRef]

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