

THE IMPACT OF THE COVID-19 PANDEMIC ON EARNINGS MANAGEMENT: EMPIRICAL EVIDENCE FROM VIETNAM

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Abstract: *The COVID-19 pandemic caused a severe impact on the global society and economy. Human losses and lockdown activities during the pandemic led to a sluggish economy, and companies faced many difficulties. This paper examines the impact of the pandemic on earnings management in a sample of 104 listed companies in Vietnam from 2018 to 2021. The findings reveal a significant positive relationship between the pandemic and earnings management. Furthermore, the results also indicate that firms engage in more upward earnings management during the pandemic period compared to the pre-pandemic period, while there is no significant change in downward earnings management between the two periods.*

• Keywords: Covid-19 pandemic, earnings management.

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1. Introduction

The outbreak of the COVID-19 pandemic led to global intense economic and social effects. Due to a number of human losses and actions to prevent the spread of this disease, such as social distancing and self-isolation, COVID-19 slowed down economic activities all over the world and brought many challenges to enterprises. Many companies went into bankruptcy after the pandemic, and surviving companies faced a lot of financial and operational pressure. Managers were also put under high pressure; therefore, they may have manipulated earnings by using accounting discretion to achieve their targets (Abdullah et al., 2023; Liu & Sun, 2022). Therefore, to gain a deep, insightful, practical knowledge of this subject, it is interesting to seek an answer to the following research question: Were firms more likely to engage in earnings management due to the effect of the COVID-19 pandemic? If yes, what was the direction of earnings management (upward or downward)?

This study uses a large sample of 104 listed companies in Vietnam for the period from 2018 to 2021. The results of the study contribute to the existing literature and practice in the following aspects. First, this study attempts to find whether there is a correlation between the pandemic and earnings management practices in Vietnam. Second, this study provides evidence that if firms engage in earnings management during the pandemic, this would be income-increasing earnings management or income-decreasing earnings management.

The remaining of the paper is structured as follows. Section 2 presents a literature review and hypotheses development. Section 3 describes the research methodology. Section 4 discusses the results and findings, and Section 5 gives a conclusion.

2. Literature review

2.1. The impact of the COVID-19 pandemic on earnings management

The sudden outbreak of the COVID-19 pandemic led to global intense economic and social effects. Several studies have examined earnings management practices during the pandemic and showed inconsistent findings.

Many studies have found an increase in earnings management practices during the pandemic (Yan et al., 2022; Taylor et al., 2023; Chen et al., 2023; Hsu & Yang, 2022; Abdullah et al., 2023; Liu & Sun, 2022). This behavior is explained to be motivated by managers' interests of meeting targets, by the need to keep the trust of stakeholders, and/or to raise and retain investments. Abdullah et al. (2023), Yan et al. (2022), Liu & Sun (2022), and Taylor et al. (2023) examined the relationship between the pandemic and earnings management in China and Taiwan, respectively, and found an increase in earnings management during the pandemic. Chen et al. (2023) and Hsu & Yang (2022) investigated the impact of the pandemic on financial reporting quality and found a decline in the quality of financial reports during the period of COVID-19.

On the other hand, Azizah (2021) concluded that Indonesian enterprises are more likely to reduce earnings management practices because managers are more careful to avoid potential issues. This is consistent with a finding of Chintrakarn et al. (2018) in the context of a financial crisis.

Furthermore, findings on the direction of earnings management during the pandemic are also inconsistent. While Liu & Sun (2022) reported that firms engaged in more downward accruals-based earnings management to

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take a big bath in reporting earnings in the pandemic years in the USA, Abdullah et al. (2023) found a significant increase in upward accruals-based earnings management during the pandemic in China. Yan et al. (2022) found that both upward and downward accruals-based earnings management increased during COVID-19.

2.2. Hypotheses development

Under positive accounting theory, managers' choice of accounting policies and their responses to crisis, such as engaging in earnings management practices, are explained (Watts and Zimmerman, 1990). Specifically, Watt and Zimmerman (1986) hypothesized that managers are more likely to increase current earnings to improve their compensation packages if they depend on reported earnings. Healy (1985) found that managers defer income recognition when they achieve the bonus cap based on the bonus plan, hence, save that income for the following year. In addition, managers are predicted to increase current earnings if the firm is close to the violation of debt covenants so that they will not breach the debt covenants (Watts and Zimmerman, 1990).

Under signaling theory, investors are more sensitive to good news in an economic slowdown; therefore, firms would try to release positive signals to the market so that firms could receive benefits such as additional investments, increases in firm stock price, etc. (Spence, 1978). Therefore, in the context of the COVID-19 pandemic that caused a severe economic recession, managers were motivated to send good news to the market by applying income-increasing earnings management practices.

Under agency theory, the separation of ownership and management gives managers the opportunity to act for their own interests rather than for the owners of the company (Watts and Zimmerman, 1986). One of the agency issues is opportunistic earnings management practices so that managers can gain higher bonus packages and a personal reputation.

The hypotheses are therefore presented as follows:

H1: Firms are more likely to engage in earnings management due to the effect of the COVID-19 pandemic.

H2: Firms are more likely to engage in income-increasing earnings management compared to income-decreasing earnings management during the COVID-19 pandemic.

3. Research methodology

3.1. Data and sample

This paper focuses on non-financial firms listed in the Ho Chi Minh stock exchange (HOSE) during a four-year period from 2018 to 2021. Insurance firms and banks are excluded from the sample because these firms apply different accounting processes and regulations. As the first case of COVID-19 in Vietnam was found in January 2020, the sample period is divided

into the pre-pandemic period (2018 and 2019) and the pandemic period (2020 and 2021).

For this research, 150 non-financial firms listed firms are included in the sample. After removing firms with missing data, the final sample comprises 124 firms, leaving 496 firm-year observations.

3.2. Explained variable: accrual-based earnings management (DA)

This paper applies the performance-adjusted discretionary accruals model, which is developed by Kothari et al. (2005). This model includes the effect of firm performance because this could mitigate the heteroscedasticity and misspecification problems (Kothari et al., 2005).

$$\frac{AC_{i,t}}{TA_{i,t-1}} = \frac{\alpha}{TA_{i,t-1}} + \beta_1 \times \frac{\Delta Rev_{i,t} - \Delta Rec_{i,t}}{TA_{i,t-1}} + \beta_2 \times \frac{PPE_{i,t}}{TA_{i,t-1}} + \beta_3 \times \frac{ROA_{i,t}}{TA_{i,t-1}} + \varepsilon_{i,t}$$

In which:

$AC_{i,t}$ total accrual of company i, which is calculated by the difference between net income before extraordinary items and net cash flow from operating activities;

$\Delta Rev_{i,t}$ change in total revenue of company i from year t-1 to year t;

$\Delta Rec_{i,t}$ change in total receivable of firm i from the end of year t-1 to the end of year t;

$PPE_{i,t}$ gross depreciable assets of firm i in year t;

$ROA_{i,t}$ the financial performance, measured by the return on total assets ratio of firm i in year t;

$TA_{i,t-1}$ total asset of firm i in year t-1;

$\varepsilon_{i,t}$ estimated discretionary accruals of firm i in year t.

3.3. Explanatory variables (COVID)

COVID is a dummy variable that takes a value of 1 if the observation is from 2020 to 2021 (pandemic period) and takes a value of 0 if the observation is from 2018 to 2019 (pre-pandemic period)

3.4. Control variables

Control variables are described as follows:

Table 1: Control variables

Variable	Abbreviation	Measurement	References
Firm size	lnSIZE	The logarithm of total assets	Roychowdhury, 2006
Operating cash flow	OCF	The cash flow from operations scaled by total assets	Yoon & Miller, 2002; Jones & Sharma, 2001
Financial leverage	LEV	Total liabilities to total assets	Dichev & Skinner, 2002; Jones & Sharma, 2001
Financial performance	ROA	Return on assets	Ahmed and Zhou, 2000
Board independence	IND	The percentage of independent board directors	Klein, 2002
Audit quality	BIG4	Dummy variable that takes 1 if the firm's auditor is one of Big 4 firms, and 0 otherwise	Becker et al., 1998

3.5. Research model

The following regression model is estimated in this paper:

$$DA_{i,t} = \alpha + \beta_1 COVID_{i,t} + \beta_2 \ln SIZE_{i,t} + \beta_3 OCF_{i,t} + \beta_4 LEV_{i,t} + \beta_5 ROA_{i,t} + \beta_6 IND_{i,t} + \beta_7 BIG4_{i,t} + \varepsilon_{i,t}$$

In which, for the full sample, DA is measured by the absolute value of discretionary accruals. The absolute value focuses on the extent of earnings management rather than the direction of earnings management.

In addition, to identify whether firms use discretionary accruals for income increasing or income decreasing during the pandemic, the impact of the Covid-19 pandemic on the direction of earnings management (upward versus downward) will be examined separately.

4. Results and discussion

4.1. Descriptive statistics

Table 2: Descriptive statistics

Variable	N	mean	sd	min	max
DA	496	0.0796	0.1025	0.0003	1.6513
upEM	375	0.0823	0.9804	0.0003	1.6513
downEM	121	-0.0762	0.1000	-1.1206	-0.0000
COVID	496	0.5000	0.4886	0	1
lnSIZE	496	23.0183	1.5178	21.7610	26.4525
OCF	496	0.0515	0.0623	-0.1672	0.2890
LEV	496	0.4192	0.2201	0.0720	0.8810
ROA	496	0.0802	0.2128	-0.2004	0.3228
IND	496	0.1520	0.1728	0.0000	0.3567
BIG4	496	0.7018	0.4532	0	1

Table 2 presents the descriptive statistics for all variables in the model. The absolute value of discretionary accruals (DA), as a proxy of earnings management, shows a mean of 0.0796. Concerning the direction of earnings management, the upward and downward earnings management have a mean of 0.0823 and -0.0762, respectively.

4.2. Correlation analysis

Table 3: Correlation matrix

Variable	COVID	lnSIZE	OCF	LEV	ROA	IND	BIG4
COVID	1						
lnSIZE	-0.102	1					
OCF	-0.073*	0.024	1				
LEV	-0.027	0.353	-0.209*	1			
ROA	-0.033	0.104	0.378	-0.255	1		
IND	0.015	0.022	-0.001	0.002	-0.011	1	
BIG4	0.000	0.356*	0.062	0.093	0.039	0.044	1

* denotes statistical significance at the 5%

Table 3 presents the correlation matrix among all independent variables. There is no severe multicollinearity issues in the model, which is further supported by the unreported low VIF.

4.3. The impact of the COVID-19 pandemic on earnings management

Table 4: Regression results

Variables	DA	upEM	downEM
COVID	0.0035***	0.0020**	0.0046
Control variables			
Constant	-0.0919*	-0.0778**	0.1102**
Year	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Observations	496	375	121
R-squared	0.434	0.406	0.315

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1.

From the regression results, we find that the pandemic has a significantly positive effect on the absolute value of discretionary accruals (DA), which is significant to the extent of 1% with a coefficient of 0.0035. This finding suggests that firms were more likely to adopt accrual-based earnings management practices during the pandemic. Therefore, H1 is verified. This finding is consistent with many prior studies (Yan et al., 2022; Taylor et al., 2023; Chen et al., 2023; Hsu & Yang, 2022; Abdullah et al., 2023; Liu & Sun, 2022).

Regarding the direction of earnings management, the income-decreasing earnings management (downEM) is insignificant, while the pandemic has a significantly positive impact on income-increasing earnings management (upEM), with a coefficient of 0.002 at 5% significance level. This result supports H2.

5. Conclusion

The COVID-19 pandemic caused a severe impact on global social and economic systems. Businesses went through a lot of challenges due to human losses and lockdown activities. This paper examines the effect of the pandemic on the earnings management practices in a sample of 104 listed companies in Vietnam, especially on the Ho Chi Minh stock exchanges from 2018 to 2021.

The study measures earnings management by discretionary accruals, and the findings reveal a significant positive relationship between the pandemic and earnings management. Furthermore, the results also indicate that firms engage in more upward earnings management practices during the pandemic period compared to the pre-pandemic period, while there is no significant change in downward earnings management practices between the two periods.

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