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Earnings Management and Firm Performance: Analyzing the Impact of COVID-19

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Abstract

Earnings management has long been in practice for several reasons with various implications reported on firm performance. The COVID-19 pandemic has created another compelling reason for earnings management to be conducted as it has undoubtedly affected many businesses financially. This study examines the impact of earnings management on firm performance during the COVID-19 pandemic hits. Earnings management is quantified following the Roychowdhury-inspired model of real earnings management, where abnormal cash flows from operation, abnormal discretionary expenses, and abnormal production costs are used as proxies. As for performance, it is reflected through the firm's return on assets (ROA), return on equity (ROE) as well as earnings per share (EPS). The sample for the study comprises a number of consumer goods firms listed in Bursa Malaysia from 2020 through 2021. Analyses of descriptive statistics, correlation analysis, and multiple regressions were adopted to test the research hypotheses. Results showed that earnings management had a positive but insignificant impact on firm performance during the pandemic years. This study adds to the body of knowledge by shedding light on the effects of earnings management during the pandemic and by expanding the literature on earnings management. This is particularly useful for managers, investors, and analysts for decision-making and analysis purposes.

Keywords: Earnings Management, Firm Performance, COVID-19, Consumer Goods

Introduction

The declaration of the COVID-19 pandemic in March 2020 has resulted in various impacts on human life and the business environment. While policymakers and health experts regularly adjust the policy to prioritize healthcare, the impact of policy adjustment has contributed to

the changes in the business landscape. Various impacts on the financial market and firm performance have emerged from the COVID-19 pandemic. A previous study found that firms are inclined to manipulate their earnings in response to economic crises to smooth earnings and meet earnings targets for the period (Roychowdhury, 2006). Concerning COVID-19, a study in Iraq firms found that the effect on earnings management usage in the firm is slightly increased during COVID-19 (Aljawaheri et al., 2021). Additionally, a study by He & Jianqun (2021) found that there is a manipulation of earnings management in the highly affected region in China during COVID-19.

Theoretically, some firms choose to manipulate their earnings during the troubled period to ensure the earnings target and firm's value can be sustained (Simon et al., 2022). However, the method of earnings manipulation on the behavior committed by the financial manager in ensuring the objective of manipulating the earnings can be met is still debatable today. There are two common earnings management activities in an organization namely accrual-based earnings management (AEM) and real-activity-based earnings management (REM) (Graham et al., 2005; Kim & An, 2018). AEM refers to the manipulation of the accrual component of earnings, while REM occurs when real activities such as reduction in expenditures in research and development or any other expenses that have a direct impact on the cash flows of the firms are manipulated by the manager to increase the income of the business (Cimini, 2015).

The empirical research on earnings management has substantial evidence of the manipulation of the earnings on three main components of cash flows namely operating, financing, and investing activities (Xu et al., 2007) and discretionary expenditure such as production expenses, inventory, and sales to ensure the financial target is met (Roychowdhury, 2006). Some managers might reduce the fluctuation in cost from one period to another period in ensuring that stable earnings are disclosed to the investors (Lisboa & Kacharava, 2018). In contrast, firms tend to manipulate earnings downward during crisis periods to accommodate the impact of the crisis on their business and to receive economic hands out from the authorities such as stimulus packages or bailout funds (Lassoued & Khanchel, 2021; Ozili & Arun, 2023)

However, in the business with strong practices of Corporate Social Responsibility (CSR), it was found that there is a negative association between the practices of earnings management and firm performance. The study discovered that CSR frequently serves as a tool for businesses to conceal their earnings management tactics during crises by producing income declining reporting (Goncalves et al., 2021). According to some studies, the organization's ethical procedures work as a cover-up so that the firm is perceived to be disclosing a genuine value of the company and not engaging in earnings management (Jesus et al., 2020; Filip & Raffournier, 2014; Tangjitprom, 2013; Chtourou et al., 2001)

The result of this study contributes to the existing literature in three ways. First, it contributes to the literature on the impact of COVID-19 on the consumer goods industry. Second, this study contributes to the empirical evidence of the impact of earnings management during COVID-19 in the consumer goods industry in developing countries. This study investigates the impact of earnings management on the Return on Assets (ROA), Return on Equities (ROE), and Earnings per share (EPS) in the consumer goods industry in Malaysia where limited research is conducted in this area. Third, this study provides insight into the impact of earnings

management during a pandemic, while previous studies focused more on the earnings management impact during normal circumstances as well as during financial crises such as sub-prime mortgage crises and oil crises (Lassoued & Khanchel, 2021).
The remainder of the paper is organized as follows; in section 2, relevant literature discussion related to the study is discussed followed by a discussion on the methodology used for data collection in section 3. Section 4 discussed the results and findings from the data analysis and section 5 concludes the study with contributions, limitations, and avenues for future research in this area.

Literature Review

Real earnings management is a form of financial manipulation used by management that deviates the normal business operation. It influences the company's cash flow directly through operational activities (Sun et al., 2014). REM also is commonly used as a technique to avoid losses and beat earnings targets (Roychowdhury, 2006). REM may result in a decrease in a company's value as the manipulation performed during the relevant period may harm future cash flows (Tabassum et al., 2013).
Management prefers to window dress earnings through REM rather than accrual earnings management (AEM) which could only be done at the end of the financial reporting period (Roychowdhury, 2006). Additionally, Simamora (2019) mentioned that auditors can identify AEM more easily than REM due to greater awareness concern, for example from the change of method used.
Previous studies have found various impacts of earnings management on the performance of companies. According to Cyril et al (2020), earning management does not have any significant impact on the total assets, equity, and total liabilities of consumer goods companies in Nigeria. The author suggested that the management of consumer goods firms in the country diversify their ownership fund positions and raise internal sources of capital. Furthermore, they should improve the earnings management situation to boost the financial performance of the sector.
It is important to understand the practice of earnings management and whether it has an effect on stakeholders. Based on a study conducted by Gill (2013), stronger earnings management practices have greater negative effects on a company's rate of return on assets. In addition, according to Okafor & Ezeagba (2018), earnings management practices have negative and insignificant effects on corporate firms' net profit as well as return on capital invested. The same pattern was also found by Anjum et al (2012) across businesses in various industries in Pakistan, where they discovered that larger discretionary accruals result in lower ROA levels.
Some companies manipulate earnings to demonstrate higher and smooth earnings. This is evident in the study conducted by Khuong et al (2019) which found a positive correlation between real earnings manipulation and financial performance among Vietnamese energy companies as evaluated by the ROA and ROE ratios. Abbas (2018) in his study also supplied the same finding. He found that earnings management through income increase results in a rise in the value of banks in Indonesia. This confirms that managers manipulate earnings to show stable income and good economic conditions. Higher profitability, however, did not ensure greater shareholders' wealth because, despite looking excellent on paper, the corporation may not be able to boost dividend payments to the shareholders.
Crises, among others, have caused significant impacts on companies' performance globally as people, the consumers experience financial pressure. Using the COVID-19 pandemic as the

situation, Baker et al (2020) discovered that overall spending has decreased by 25%–30% during the second half of March, concurrent with the development of the disease, with the main exceptions being on meal delivery and grocery spending. According to Bagnera & Steinberg (2020), the hotel business was only working at 20% of its usual capacity, nearly 90% of airline industry personnel have been laid off, and the tourism and travel sector undoubtedly experienced financial losses in 2020. Additionally, Rababah et al., (2020) in their study also proved that the COVID-19 pandemic hurts the financial performance of Chinese listed companies despite being the largest exporters of goods.

Based on the aforementioned scenarios, this paper comes up with the following hypotheses

H1

Earnings management has a significant effect on firms' ROA during the COVID-19 pandemic.

H2

Earnings management has a significant effect on firms' ROE during the COVID-19 pandemic.

H3

Earnings management has a significant effect on firms' EPS during the COVID-19 pandemic.

Research Methodology

Data

The initial sample of this study is made up of 86 consumer goods companies listed in Bursa Malaysia operating in the COVID-19 pandemic years of 2020 and 2021. However, due to the unavailability of complete data, only 73 companies were used in the analysis, making a total of 146 firm-year observations. The validity and reliability of the data are assured since they were downloaded from the Refinitiv Eikon Datastream. Some missing information was collected manually from the annual financial reports. The study utilized multiple regression in performing the analysis.

The following is how the regression model may be expressed:

$$FP_{it} = \alpha_0 + \alpha_1 TOTALREM_{it} + \alpha_2 SIZE_{it} + \alpha_3 MTB_{it} + \varepsilon_{it} \quad (2)$$

δ_1 in the above model is used to explain the relationship between real earnings management and firm performance, proxied by Return on assets, Return on equity, and Earnings per share of the firm. The above model is used to regress the three proxies individually.

Measurement for Dependent Variable: Firm Performance

This paper aims to investigate the impact earnings management has on firm performance during the COVID-19 pandemic. Three variables—return on assets (ROA), return on equity (ROE), and earnings per share (EPS) are used as proxies of the firm performance measure.

ROA is one of the crucial ratios for determining a company's profitability. It is a ratio that compares total assets to income. This ratio evaluates a company's ability to produce income from its assets. Thus, this ratio indicates how efficient is the company in utilizing its assets to create revenue. Haniff et al (2013) mentioned that a greater ratio indicates a corporation is more effective in using its resources.

ROE measures a company's annual profitability concerning the total amount of shareholders' equity disclosed on the balance sheet. ROE measures what the shareholders receive in return for their investment. A firm with a high ROE is anticipated to be able to generate cash on its own, which paints a picture of stronger firm performance. Additionally, ROE shows how well a company is managing investors' money (Alhadab & Al-Own, 2017).

Earnings per share (EPS) is the monetary value of earnings per outstanding share of common stock for a company. It is a popular statistic for determining corporate value, showing how

much money a firm produces for each share of its stock. A higher EPS indicates greater firm value since it might entice investors to pay more for a company's shares as the company is perceived to have higher profits relative to its share price.

Measurement for Independent Variable: Earnings Management

Companies manipulate earnings for a variety of reasons, such as gaining the trust of investors, presenting a predictable income, reducing risk, tax incentives, executive compensation, or changing accounting methods. According to Roychowdhury (2006) and Cohen & Zarowin (2010), the following accounting repercussions are likely to occur for businesses that manage earnings upward: abnormally low cash flow from businesses due to massive discounts offering or lenient credit terms given to hasten sales for the current period, abnormally lower cost of goods sold as a result of overproduction and abnormally lower level of discretionary accruals due to aggressive reduction in R&D, advertising and SG&A costs to improve the financial reporting of the period.

Although there is no absolute method for measuring earnings management, the model introduced by Roychowdhury (2006) is one of the most commonly used.

Model for AbCFO

The formula below was formed to calculate the normal level of CFO in relation to sales. Residuals of this model give abnormal CFO.

$$CFO_{it} / A_{it-1} = \beta\ 1\ [1/A_{it-1}] + \beta\ 2\ [Sales_{it} / A_{it-1}] + \beta\ 3\ [\Delta Sales_{it} / A_{it-1}] + \varepsilon_{it}$$

where CFO_{it} is cash flow from the operation of firm i in period t, A_{it-1} is total assets of firm i in year t-1, $Sales_{it}$ is sales of firm i in year t, $\Delta Sales_{it}$ is the change in sales of firm i between year t-1 and t, ε_{it} is a residual term that captures the level of abnormal cash flow of firm i in year t.

Model for AbPROD

The model below was proposed as a means to measure the normal level of production cost. Residuals of this model give abnormal production costs.

$$PROD_{it} / A_{it-1} = \beta\ 1\ [1/A_{it-1}] + \beta\ 2\ [Sales_{it} / A_{it-1}] + \beta\ 3\ [\Delta Sales_{it} / A_{it-1}] + \beta\ 4\ [\Delta Sales_{it\ -1} / A_{it-1}] + \varepsilon_{it}$$

where $PROD_{it}$ is the sum of the cost of goods sold and the change in inventory of firm i in year t, $\Delta Sales_{it-1}$ is the change in sales of firm i from year t-1 to t, and all other variables are as previously defined.

Model for AbDISEXP

The following model was suggested as a way to gauge the normal level of discretionary expenses. Residuals are taken as the level of abnormal discretionary expenses.

$$DISEXP_{it} / A_{it-1} = \beta\ 1\ [1/A_{it-1}] + \beta\ 2\ [Sales_{\ it\ -1} / A_{\ it-1}] + \varepsilon_{it}$$

where, $DISEXP_{it}$ is the sum of Research and Development (R&D) expenses and Selling, General & Administrative (SG&A) expenses of firm i in year t, and all other variables are as previously defined.

Model for REM

The sum of the three real activity manipulation measures is then aggregated to create a single proxy, TOTALREM.

$TOTALREM_{it} = AbCFO_{it} + AbPROD_{it} + AbDISEXP_{it}$ (1)

Other Control Variables

As for control variables, the study used the natural logarithm of total assets to modulate the size of the sample. Other than that, market to book ratio is also employed to control the impact it has on firm performance. Companies with a higher ratio are typically stronger and more profitable Tabassum et al., (2013).

Results and Discussion

Table 1

Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
TOTALREM	-0.0174	11.0256	1.213761	1.5413769	3.426	0.201	15.732	0.399
ROA	-68.52	41.82	3.7808	10.9511	-1.758	0.201	14.322	0.399
ROE	-86.18	183.25	7.265	26.23814	2.354	0.201	16.68	0.399
EPS	-0.21	3.88	0.2035	0.50265	4.411	0.201	24.415	0.399
SIZE	4.57	7.44	5.8382	0.58027	0.437	0.201	0.085	0.399
MTB	0.18	59.68	2.1112	6.73074	7.731	0.201	61.957	0.399

Note: This table presents the descriptive statistics of variables used in the analysis for a final sample of 146 firm-year observations. All the variables with Skewness and Kurtosis higher than positive 1 and lower than negative 1 had been transformed to achieve the assumption of Normality for multiple linear regression analysis.

The descriptive statistics for each variable utilized in the study are shown in Table 1. It manifests the minimum, maximum, mean, standard deviation, skewness, and kurtosis amount of each variable. The mean score for TOTALREM is 1.2138, with a range of -0.0174 and 11.0256. A negative sign indicates that some firms engaged in activities manipulation to show lower earnings. Next are ROA, ROE, and EPS, which serve as proxies for firm performance. The minimum values are -68.52, -86.18, and -0.21, while the maximum values are 41.82, 183.25, and 3.88, respectively. The negative figures suggest that some firms experience losses throughout the chosen time of analysis. The mean scores for the three variables are 3.7808, 7.265, and 0.2035. In addition, Table 1 also reports descriptive statistics for other explanatory factors which act as the control variables. SIZE ranges between 4.57 and 7.44 with a mean value of 5.8382, while MTB ranges from 0.18 to 59.68 with a mean score of 2.1112.

Table 2
Pearson Correlation Coefficient Matrix

	ROA	ROE	EPS	TOTALREM	SIZE	MTB
ROA	1					
ROE	.	1				
EPS	.	.	1			
TOTALREM	0.148**	0.195***	0.094	1		
SIZE	0.345***	0.412***	0.465***	-0.109*	1	
MTB	0.374***	0.386***	0.333***	0.401***	0.106*	1

Note: The table reports the correlation matrix over the COVID-19 pandemic period from 2020 to 2021 for Malaysian consumer goods manufacturing firms. ROA, ROE, and EPS are proxies for firm performance. TOTALREM is the aggregate of the three real activities manipulation measures; abnormal cash flows from operation, abnormal discretionary expenses, and abnormal production costs. For control variables, SIZE is a proxy for firm size, calculated by the natural logarithm of total assets at year-end. MTB is a proxy for firm growth.

Table 2 exhibits the correlations between the independent and dependent variables employed in the study. The results reveal that most of the dependent variables have a significant favorable correlation with earnings management. These statistically positive and significant correlations between TOTALREM and firm performance (ROA and ROE) suggest that firms with a higher level of earnings management perform better during the COVID-19 pandemic. This serves as an early indicator of the opportunistic use of earnings management to convey favorably reported accounting figures. Positive correlations between firm performance and both of the control variables are also observed.

Table 3
Regression Analysis

Variables	ROA		ROE		EPS	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
(Constant)	-33.911***	.000	-93.236***	.000	-1.951***	.000
TOTALREM	0.055	.503	0.119	.131	.032	.684
SIZE	0.317***	.000	0.393***	.000	.439***	.000
MTB	0.319***	.000	0.296***	.000	.274***	.001
R Square	0.236		0.3		0.298	
Adjusted R Square	0.22		0.285		0.283	
F	14.453***	.000	19.955***	.000	19.832***	.000

Note: This table shows the model summary of each Firm Performance value for a sample of 146 firm-year observations. R-square is the regression coefficient determination. Adjusted R-square is the adjusted regression coefficient determination. F-statistics is the indication of how much variation is explained by the regression equation. ROA is the return on asset, calculated by dividing net income by total assets, ROE is the return on equity, calculated by dividing net income by common equity, EPS is earnings per share, TOTALREM is the total of three Real Earnings Management, for control variables; SIZE is the firm size measured by log Total Assets, MTB is the market to book value as a proxy for growth.

***Significant at the 1% level, **Significant at the 5% level, *Significant at the 10% level

Table 3 reports the results of the main analysis of the study, which is to determine whether earnings management is associated with firm performance during the COVID-19 pandemic. The results show that the practice of earnings management has a positive but no significant impact on any of the firm performance proxies. The trend appears consistent in all models reflected, which determines the robustness of the analysis. Consequently, all three H1, H2 and H3 hypotheses are rejected in this investigation. This is consistent with the findings of Okafor & Ezeagba (2018) who discovered that non-discretionary accruals had a favorable but minor impact on the return on shareholders' funds as well as on the company's return on assets. Khuong et al (2019) further support the finding. In his study, he found a positive correlation between real earnings manipulation and financial performance among Vietnamese energy companies as evaluated by the ROA and ROE ratio. The results for the additional explanatory variables (SIZE and MTB) are also shown in column 1. They demonstrate as being the significant determinants of all firm performance proxies with statistically significant coefficients at a 1% level.

The correlation results show the strength of the linear relationship between earnings management and the three firm performance indicators. It demonstrates that the coefficient of determination (R^2) is 0.236, 0.3, and 0.298 for ROA, ROE, and EPS respectively. This explains that earnings management was able to determine only 23.6% of the variations in ROA, 30% in ROE, and 29.8% in EPS during the COVID-19 pandemic, which may be regarded as inadequate.

Conclusion

In the practice of earnings management, previous studies reported that managers tend to commit opportunistic behavior by manipulating financing, investing, or operating finances or discretionary expenses to ensure that a smooth income earning can be reported (Xu et al., 2007; Roychowdhury, 2006). The objective of this study is to investigate the impact of earnings management during the COVID-19 period in 2020 and 2021 reported by consumers' product companies on a firm performance. The performance measurement used in this study comprises three components of return for the firms and shareholders namely return on assets, return on equity, and earnings per share. This study found that there is no significant impact of earnings management practices by the firm during COVID-19 on the Return on Assets (ROA), Return on Equity (ROE), and Earnings per share (EPS) of consumer goods companies.

This study found that, in the consumers' product industry, the practices of earnings management during the COVID-19 period do not gives any significant impact on ROA, ROE, and EPS as most of them are manufacturing household items and necessities, particularly in the food supply chain. Other than that, consumers' purchasing power and the massive impact of the pandemic on the supply chain of the industry may also be contributing factors. Additionally, the effort made by the government of Malaysia in ensuring the basic needs of the people is met during the lockdown period and transition phase of recovery also plays a vital role in the business operation of consumer goods companies.

This study contributes to the body of knowledge by providing empirical evidence of the impact of earnings management on firm performance during COVID-19 pandemic among the consumer goods companies in Malaysia, where limited research has been done in this area. Apart from that, this study also sheds light on the effects of earnings management during a novel pandemic, in contrast to previous studies that were carried out under normal

circumstances or during other common crises such as the financial crisis and the oil crisis. It is important to understand how firm performance is exposed to the risk of manipulation, especially during tough days, as it could mislead the users of financial statement.

The main limitation of this study relates to the data selected by the researcher. During the pandemic event, most businesses such as airlines, tourism, and financial sectors received a negative impact from the government's initiative to curb the pandemic spread. Despite this, the researcher only chooses to focus on analyzing the impact of earnings management for consumer goods manufacturing companies. The selected companies then are controlled based on the size and growth rate to avoid the outlier on the data selected which may cause underestimation of the relationship between variables. In determining the overall impact of earnings management on a firm performance, further study can explore the comparison analysis for pre and post-COVID-19. At the time this study was conducted, the trend observed for pre and post-data analysis for this industry is insufficient (less than 3 years) to indicate the comparison impact of earnings management.

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