Does Tax Avoidance, Deferred Tax Expenses and Deferred Tax Liabilities Affect Real Earnings Management? Evidence from Indonesia

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Abstract: *The study analyses the effect of tax avoidance, deferred tax expenses and deferred tax liabilities on real earnings management. The samples consist of 152 manufacturing companies listed on the Indonesian Stock Exchange (IDX). The study examines the financial statements from 2011 to 2019, ending up with 1,368 observations. The empirical results of this study are as follows. First, tax avoidance affects positively the abnormal discretionary operating cash flows and the abnormal discretionary expenses. However, tax avoidance does not affect the abnormal discretionary production costs. Second, deferred tax expenses affect real earnings management positively, either through abnormal discretionary operating cash flows, abnormal discretionary expenses, or abnormal discretionary production costs. Third, deferred tax liabilities affect real earnings management positively, either by using abnormal discretionary operating cash flows, abnormal discretionary expenses, or abnormal discretionary production costs. The findings of this study may be of interest to regulators and tax authorities, as they highlight how to increase the actual amount of tax payments by reducing the occurrence of real earnings management activities. Regulators need to consider tax audits on companies that have suffered losses but are still operating.*

Keywords: Tax avoidance; Deferred tax expenses; Deferred tax liabilities; Real earnings management.
JEL Classification: H21, H32, M41

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1. Introduction

Corporate taxation is one of the most important sources of revenue for the Indonesian government and also a policy tool to regulate the course of a country's economy in support of national priority development. Sri Mulyani, the Minister of Finance of the Republic of Indonesia, announced that tax revenues in Indonesia have fallen short of the target (shortfall) over the last five years (Rengganis, 2020). Tax revenue realisation in 2020 was only Rp. 1,070 trillion, or 89.3% of the target of Rp. 1,198.8 trillion. Realisation of tax revenue in 2019 was recorded at Rp. 1,332.1 trillion or 84.4% of the target of Rp. 1,577.6 trillion. In percentage terms, this realisation is lower than 2017 and 2018 which respectively reached 89.7% and 92.4% of the APBN target. However, the realisation in 2017 and 2018 was still higher than the achievement in 2015 and 2016, which were 82% and 81.6% of the National Budget (Anggaran Pendapatan dan Belanja Negara or APBN) target, respectively. The APBN outlines revenue and expenditure targets for one fiscal year.

According to Rengganis (2020), the cause of the failure to achieve the tax revenue target was due to various factors. First, declining commodity prices caused the performance of tax revenues in the plantation, oil and gas and mining sectors to decline. Second, international trade fell and had an impact on the realisation of Value Added Tax (VAT) or import VAT revenues, which only reached 81.3%. Third, the government has issued many tax incentives, such as tax holidays, tax allowances, increasing the threshold for luxury residences, and efforts to accelerate tax refunds. Fourth, the utilisation of data and information is not optimal. Fifth, delays in tax collection in several sectors, such as e-commerce. The Directorate General of Taxes (DJP) is now facing a condition where on the one hand it has to collect tax revenues, on the other hand, it also provides support and even helps taxpayers to get tax incentives.

Despite the fact that taxes are compulsory levies for Indonesians, tax collection is frequently hampered, particularly by tax resistance, which typically arises when there are opportunities from tax legislation gaps (Damayanti & Wulandari, 2021). Direct action is used to indicate resistance to tax officials with the goal of lowering taxes, it can also be referred to as active resistance.

Almashaqbeh et al. (2018) revealed that managers have substantial

motivations to engage in tax and earnings management. According to Scott and O'Brien (2019), earnings management is a management alternative for defining accounting policies, or actions, that may affect the reporting income. Earnings management can be defined as management's involvement in financial statement engineering in order to benefit themselves. Tax motivation is one means of earnings management to reduce the amount of tax burden payments through income reduction (Scott & O'Brien, 2019).

Management has different ways to report pre-tax income and taxable income (Kałdoński & Jewartowski, 2020). In the company's efforts to minimise tax payments, management tends to report higher profits for financial reporting purposes, and lower profits for tax purposes. Management is motivated differently to report taxable income and accounting income. Each of these had a distinct performance metric based on measurement units. Furthermore, neither pre-tax income nor taxable income contain information that is useful to tax authorities or users of financial statements.

Accounting standards allow management policies to be used in selecting alternative accounting methods. It has the potential to result in actual earnings management practices (Kadoski & Jewartowski, 2020). The practices of real earnings management have a direct impact on cash flow (Cohen & Zarowin, 2010). As an operational decision, it is also more difficult to control (Dichev et al., 2013). Tax avoidance is the transfer of profits that should belong to the state to shareholders through transactions that can be combined with earnings management (Pipatnarapong et al., 2020). Income tax is a significant element of a company's expense, as well as a reduction in cash flow accessible to the company and its shareholders. Tax avoidance provides alternatives for businesses to decrease their tax burden (Cheong & Woo, 2016). Deferred tax expenses and deferred tax liabilities, in addition to tax avoidance, provide a chance to reduce tax burdens. Earnings management can be predicted using deferred tax expenses by a company to avoid a decline in profits, and to prevent losses (Rafay & Ajmal, 2014). Companies' earnings management strategies to reduce losses are heavily influenced by deferred tax liabilities (Lee et al., 2015). Deferred tax liabilites causes the level of earnings earned to decrease, so that it has a greater chance of getting bigger earnings in the future and reduces the amount of tax paid.

The number of studies that include tax avoidance in the context of real earnings management is still quite small (Pipatnarapong et al., 2020;

Damayanti & Wulandari, 2021). The use of tax avoidance, deferred tax expenses, and deferred tax liabilities to identify real earnings management by abnormal discretionary operating cash flows, abnormal discretionary expenses, and abnormal discretionary production costs, is proposed and evaluated in this study. There has been no prior research on the relationship between deferred tax expenses and deferred tax liabilities with real earnings management. This study aims to close that gap. The ability to detect real earnings management reliably is crucial to assess the reported income's quality (Kałdoński & Jewartowski, 2020). The purpose of this research is to first examine the impact of tax avoidance on real earnings management. Second, the impact of deferred tax expenses on real earnings management will be examined. Third, to research the impact of deferred tax liabilities on real earnings management.

This research will help to advance accounting sciences by examining the impact of tax avoidance, deferred tax expenses, and deferred tax liabilities on real earnings management. Furthermore, as part of real earnings management, this study is predicted to construct tax avoidance, deferred tax expenses, and deferred tax liabilities. This study is also expected to inform tax authorities that pre-tax income can be managed in such a way that it does not affect taxable income using real earnings management. This research will also assist policymakers in the future in designing tax systems and accounting standards to close the gap between pre-tax and taxable income.

This study is organised in the following way. The review of the literature and hypotheses are explained in Section 2. The methodology is provided in Section 3. The empirical data and debate are contained in Section 4. The study is concluded in Section 5.

2. Literature Review and Hypotheses

2.1. Literature review

2.1.1. Agency theory

According to Jensen and Meckling (1976), an agency relationship exists when a work contract is entered into between management as an agent and the owner as a principal. The "nexus of contract" refers to the working relationship between the owner (principal) and the management (agent) in

the form of a cooperation contract. Management should provide the principal with information about the company's current state. Because management tends to report something with the priority of maximising their utilities, the data delivered by management may sometimes differ from the company's actual report (Machdar & Nurdiniah, 2021). This condition results in information asymmetry, which frequently leads to a conflict of interest between the principal and the agent. Something similar happened when there was a conflict of interest between management and investors (Juliati & Tjaraka, 2014). It causes the non-optimal allocation of company resources. Agency theory can conceptually explain tax avoidance in the activity of real earnings management (Pipatnarapong et al., 2020). Management prefers to pay as little tax as possible because paying taxes reduces a company's financial ability. In order to receive compensation (bonus) or related regulations with debt covenants, the manager will report a higher earning in the financial statements (Purnamasari, 2019).

2.1.2. Real earnings management

Earnings management can be divided into two categories: accrual earnings management and real earnings management (Enomoto et al., 2015; Kothari et al., 2016; Alsharairi et al., 2020). Accrual earnings management is a sort of accounting that determines the accounting technique rather than affecting a company's activities. According to Alsharairi et al. (2020), accrual earnings management is achieved by applying an active financial reporting standard assessment so that it affects reported income, such as the elimination of time assets and the provision for uncollectable accounts receivable expenses.

When managers take actions that alter the timing or settings of operations and deviate from standard business practices, this is referred to as real earnings management (Vakilifard & Mortazavi, 2016; Roychowdhury, 2006). Real earnings management is divided by the abnormal discretionary operating cash flows, discretionary expenses, and discretionary production costs (Roychowdhury, 2006). Abnormal discretionary operating cash flows are management actions performed by increasing sales (Roychowdhury, 2006). This practice is applied with a rebate and flexible credit terms at the end of the year. This action can shift the sales of the next year to sales of the current year. Increasing production to reduce the cost of items supplied is an example of abnormal discretionary production costs (Roychowdhury, 2006).

Abnormal discretionary expenses are performed by diminishing discretionary costs, such as research and development (R&D) expenses and general and administrative (G&A) expenses, in an attempt to raise benefits. Abnormal discretionary expenses are linked to short-term sales and have an impact on future sales (Roychowdhury, 2006). Since management requires the use of additional cash, it is likely that management will incur additional cash for discretionary expenses (Cheong & Woo, 2016).

2.1.3 Tax avoidance

In Indonesia, taxpayers have complete autonomy in calculating, paying, and reporting their tax responsibilities (Waluyo, 2020). This is due to the Indonesian tax law's implementation of the self-assessment system. The introduction of the self-assessment system allows taxpayers to lower the amount of tax that must be paid. Businesses seek to save costs wherever possible, including the tax burden. Companies have two options for reducing the amount of tax they must pay (Waluyo, 2020). First, companies reduce the value of taxes by adhering to the prevailing tax regulations by way of tax avoidance. Second, firms diminish the value of taxes by engaging in tax avoidance, which involves doing activities that are not in conformity with tax regulations.

Tax avoidance is lawful and legitimate when it involves taking advantage of loopholes in existing tax regulations to lower the amount of money paid in taxes and the amount of income tax owed (Gravelle, 2015). Tax avoidance refers to barriers that arise in the collection of taxes, resulting in a decrease in government cash receipts without violating tax regulations (Gravelle, 2015). Companies avoid taxes by taking advantage of the ambiguity of regulations to achieve a beneficial tax consequence (Graham et al., 2012). The company's purpose is to undertake tax avoidance, i.e., to lower income tax because income tax expenses lower the company's income. As a result, the government is very concerned about tax avoidance.

Tax avoidance can be seen as a tax-cutting strategy that transfers government funds to shareholders (Pipatnarapong & Jaafar, 2020). Further, tax avoidance is a dishonest behaviour that combines diversionary actions, including diversion of profits and prioritising the interests of managers over shareholders. When carried out in accordance with tax laws, tax avoidance activities, are legal and acceptable activities. Tax avoidance is a taxpayer's

attempt to reduce their tax liability by employing real-world alternatives that are acceptable to the Internal Revenue Service. Tax avoidance is often thought to be a tax-saving strategy that transfers government resources to shareholders, resulting in higher earnings after taxes (Cheong & Woo, 2016).

The structuring of tax affairs that keep within the limitations of existing tax legislation is known as tax avoidance. Tax avoidance is the practice of using tax legislation to one's advantage in order to reduce the amount of taxes payable through legal means. Tax avoidance is the intentional use of a tax deduction of pre-tax income. Furthermore, tax avoidance is a legal technique that reduces government revenue required to fund infrastructure, public services, and public utilities (Kholbadalov, 2012). Tax avoidance is a combination of tax planning tactics that includes more lawful and aggressive transactions in the grey region (illegible transactions).

2.1.4 Deferred tax expenses

Deferred tax expenses are the difference between corporate tax expenses and current tax expenses that result from transitory tax discrepancies (Rafay & Ajmal, 2014). Deferred tax expenses are a component of total corporate income tax expense that reflect the impact of tax through temporary differences between pre-tax and taxable income. Real earnings management has a greater opportunity to avoid reporting losses due to an increase in deferred tax expenses.

Companies are not required to submit financial statements for two purposes of reporting income because they are required to reconcile fiscal accounts at the end of the period (Waluyo, 2020). They determine the amount of taxable income by doing adjustments or corrections to fiscal accounts that are both positive and negative. Deferred tax liabilities result from the negative fiscal correction. Deferred tax liabilities are multiplied by the applicable tax rate, and the results are recognised as deferred tax expenses to be added (subtracted) from the current tax expense (benefit) (Waluyo, 2020). If the amount of tax expense exceeds the amount of current tax, deferred tax expenses are generated. When there is a positive correction, it means that the company recognises deferred tax assets. Such deferred tax assets are multiplied by the applicable tax rate, and the results are recognised as deferred tax benefits, that must be subtracted (added) from current tax expenses (benefit) (Waluyo, 2020).

2.1.5 Deferred tax liabilities

According to Sovdan (2012), firms have two ways of calculating income in each period, which is a calculation based on financial reporting and tax payable. Financial statements must be prepared in compliance with the Indonesian accounting standards, known as Pernyataan Standar Akuntansi Keuangan (PSAK), as well as tax legislation. When there is a disparity between pre-tax income and taxable income, taxable temporary discrepancies occur. A discrepancy causes differences in the timing of tax recognition and tax value. Deferred tax liabilities arise as a result of transitory taxable differences. Deferred tax liabilities, according to PSAK 46 (DSAK-IAI, 2018a), are the amount of income tax due in future periods as a result of transitory taxable differences. In Indonesia, the tax code mandates that taxable income be calculated on an accrual basis. Companies in Indonesia have the ability to use their own accounting policies for calculating the amount of deferred tax liabilities provision. This happens because there are differences between accounting standards and tax regulations (PSAK 46, DSAK-IAI, 2018a). Management considers certain judgments and estimates, so management is more flexible. Management flexibility in preparing financial statements is regulated in PSAK No. 1 (DSAK-IAI, 2018b) concerning the presentation of financial statements using an accrual basis. The implication of PSAK 46 is related to the problem of earnings management, where management takes advantage of this opportunity to manage the profit figures in the comprehensive profit and loss statement using the accrual approach to get a bonus or reward for good performance by lowering the amount of income tax that must be paid to the state. Minimising the burden of tax does not mean escaping taxes or reducing them outright (Almashaqbeh et al., 2018).

A transient difference increases the amount of tax due or taxes recovered in the following period. PSAK 46 (DSAK-IAI, 2018a) stated that if an asset or liability occurs as a result of pre-tax income recognition that is greater than taxable income, future tax due will be recognised as deferred tax liabilities. *Vice versa*, if taxable income recognised exceeds pre-tax income, the entity must pay the tax income in advance, resulting in a deferred tax asset. Because deferred tax liabilities are more useful than deferred tax assets in terms of tax planning, this study concentrates on the former. Deferred tax liabilities may imply that the corporation pays less in taxes than anticipated

based on pre-tax income (Lee et al., 2015).

2.2. Hypotheses development

2.2.1. Effect of tax avoidance on real earnings management

Companies regulate earnings to achieve the desired profit target. These companies are opportunistic actions carried out by management through daily company activities without waiting for the end of the accounting period, known as real earnings management. Real earnings management improves short-term company performance but has the potential to reduce long-term company value. Real earnings management results in reported income that is not in accordance with existing economic realities so that the quality of earnings is low. The earnings presented may be sufficient to satisfy management's desire to demonstrate that the company is performing well. This is typically done when the company's management wishes to produce financial reports that are suitable for a specific purpose, such as attracting investors and creditors.

The decision by management to boost this year's earnings will almost certainly have a detrimental influence on the company's performance in the coming periods. Companies that carry out real earnings management can take advantage of tax avoidance strategies to reduce the tax burden (Kałdoński & Jewartowski, 2020). Encouragement of tax authority enforcement, according to Hanlon et al. (2014), lessens the chance of tax avoidance. As a result, it may have an indirect impact on real earnings management, impacting financial report quality.

Real earnings management can be done by manipulating sales, specifically by offering discounts and softening the credit sales period. This sales manipulation has an impact on increasing sales in the current period (temporary sales), but lowering gross profit margin due to discounts provided, and reducing operating cash flow due to credit sales. In addition to sales manipulation, real earnings management can also be done by overproduction. Overproduction is done by increasing production so that it can reduce the cost of goods sold, increase profits, but reduce current operating cash flow. Furthermore, real earnings management is accomplished through abnormal discretionary expenses, which are reduced for the current period in order to increase the company's operating income and cash flow from

operations. Sales manipulation, reducing discretionary expenses, and excessive production all result in abnormal costs, such as abnormal cash flow from operations, abnormal discretionary expenses, and abnormal cost production.

Surahman and Firmansyah (2017) showed that real earnings management through operating cash flow has a significant negative impact on tax aggressiveness. This study contradicts the findings of Dridi and Boubaker (2015) and Geraldina (2013), who found that an increase in real earnings management *via* abnormal discretionary operating cash flows is followed by an increase in corporate tax avoidance.

The impact of tax avoidance on real earnings management *via* abnormal discretionary production costs yields inconclusive results. Surahman and Firmansyah (2017) demonstrated that using abnormal discretionary production costs to manage real earnings has a significant positive impact on tax avoidance. Herusetya and Stefani (2020) discovered that using abnormal discretionary production costs to increase or decrease real earnings management has no effect on a company's tax avoidance. According to Nugroho and Firmansyah (2017), the higher the taxable income compared to pre-tax income, the greater the pre-tax income generated as a result of manipulation in the form of abnormal discretionary production costs. Thus, the higher real earnings management through production manipulation will make the difference in reported earnings accounting ensuring that taxation becomes smaller and ultimately reducing tax avoidance. This means that abnormal discretionary production cost has a significant negative relationship to tax avoidance. This relationship can be interpreted such that when a company manipulates the amount of production, the company chooses whether to increase its accounting profit or reduce its taxable income. This choice is because the two cannot go hand in hand. It can be presumed that companies in Indonesia override the increase in taxable income arising from abnormal discretionary production costs because the company must increase accounting earnings followed by the use of inefficient production factors. For example, the company may have excess manpower or machinery but does not produce maximum output.

According to Surahman and Firmansyah (2017), there is a significant positive relationship between tax avoidance and real earnings management *via* abnormal discretionary expenses. As a result, any increase in abnormal discretionary expenses is accompanied by an increase in tax avoidance. According to Herusetya and Stefani (2020), each level of tax avoidance

had a negative impact on the reduction of abnormal discretionary expenses. Because the manager minimises the discretionary expenses, the value of abnormal discretionary expenses is negative. The same result is also shown by Nugroho and Firmansyah (2017), where a considerable negative association exists between abnormal discretionary expense and tax avoidance. Geraldina (2013), on the other hand, discovered that tax avoidance has no significant impact on real earnings management through abnormal discretionary expenses.

The primary focus of this research is, therefore, on how the information included in the book-tax gap influences future corporate earnings, in order to assist investors in improving the quality of earnings and the company's worth. The following are the proposed hypotheses based on the explanation given above:

H1a: Tax avoidance has a positive effect on real earnings management through abnormal discretionary operating cash flows.

H2a: Tax avoidance has a positive effect on real earnings management through abnormal discretionary expenses.

H3a: Tax avoidance has a positive effect on real earnings management through abnormal discretionary production costs.

2.2.2 Effect of deferred tax expenses on real earnings management

Manipulation of sales can be used to manage real earnings through abnormal discretionary operating cash flows, i.e. offering discounts and softening the credit sales period. This sales manipulation increases sales in the current period (temporary sales), but lowers gross profit margins due to discounts provided, and reduces operating cash flow due to credit sales. In addition to sales manipulation, real earnings management can also be done by abnormal discretionary production costs. Companies do overproduction and it reduces the cost of goods sold, increases profits, but reduces current operating cash flow. Abnormal discretionary expenses reduce current-period expenses, increasing the firm's operating income and cash flow from operations.

Tax planning through deferred tax expenses is part of real earnings management with the aim of reducing the tax burden (Almashaqbeh et al., 2018). The difference between the corporate tax expenses and the current tax expenses caused by the temporary tax difference results in deferred tax

expenses (Rafay & Ajmal, 2014). The difference between accounting income and the book-tax gap caused by temporal differences provides information about earnings quality (Penman, 2012). According to Penman (2012), the information contained in the book-tax gap influences the company's future earnings, thereby increasing the quality of earnings and firm value.

Earnings engineering is the practice of increasing or decreasing the quantity of deferred tax expenses recorded in the comprehensive profit and loss statement. Management may minimise deferred tax expenses to reduce the tax payment. Management, on the other hand, employs real earnings management to increase reported earnings. Deferred tax expenses reflect the amount of income tax that will be paid in future periods. According to Dridi and Boubaker (2015), companies use deferred tax expenses to avoid losses by delaying income and accelerating tax savings. As a result, through real earnings management, the company engineered the deferred tax expenses related to accruals.

Several earlier studies on the impact of deferred tax expenses on real earnings management have been done, but the findings were inconsistent (Juliati & Tjaraka, 2014; Trisnawati et al., 2015; Baradja et al., 2017; Purnamasari, 2019; Machdar & Nurdiniah, 2021). Deferred tax expenses help with real earnings management (Machdar & Nurdiniah, 2021). Real earnings management increases in tandem with the increase in deferred tax expenses. The greater the deferred tax expenses, the greater the likelihood that the corporation is managing its earnings. The greater the difference between pre-tax and taxable income, the more the corporation attempts to control earnings in order to reduce tax obligations for the period. Juliati and Tjaraka (2014) discovered that deferred tax expenses and current tax expenses can detect earnings management in response to changes in corporate income tax rates. Baradja et al. (2017) examined 46 manufacturing companies to determine the impact of deferred tax expenses on real earnings management. The results showed that deferred tax expenses had a positive effect on real earning management. This means that when deferred tax expenses rise, the likelihood of the corporation engaging in profits management rises as well. On the other hand, Trisnawati et al. (2015) found that deferred tax expenses do not have an impact on the probability of companies doing real earnings management to avoid reporting losses, while Purnamasari (2019) claimed that deferred tax expenses have a positive but insignificant impact on the likelihood of corporations managing their earnings.

Based on the above explanation, the following hypotheses are proposed in this study:

H1b: Deferred tax expenses have a positive effect on real earnings management through abnormal discretionary operating cash flows.

H2b: Deferred tax expenses have a positive effect on real earnings management through abnormal discretionary expenses.

H3b: Deferred tax expenses have a positive effect on real earnings management through abnormal discretionary production costs.

2.2.3 Effect of deferred tax liabilities on real earnings management

Temporary discounts to advance sales, overproduction to record lower sales costs due to a lower fixed cost per unit to increase reported profitability, and reducing expenses that are a burden for the current period to increase the firm's operating income and cash flow from operations were proposed as three proxies of real earnings management activities (Roychowdhury, 2006). Companies can increase abnormal discretionary operating cash flows by providing discount prices, and softer credit terms will reduce current period cash flows. Companies can reduce abnormal discretionary expenses such as R&D expenses, advertising, and sales, G&A expenses, especially in periods where these expenses do not directly generate revenue and profit. Companies can increase abnormal discretionary production costs to lower the cost of goods sold and increase operating income.

Deferred tax is the source of opportunistic earnings management (Machdar & Nurdiniah, 2021; Rafay & Ajmal, 2014). Accounting regulations allow managers to have more policies than tax authorities, resulting in opportunistic earnings management. The basic premise is that deferred tax liabilities are a genuine tax burden that the corporation must bear, notwithstanding the fact that liabilities are growing. As a result, managers use earnings engineering to increase or decrease the size of a number of deferred tax liabilities on the comprehensive profit and loss statement. Management may also reduce or increase the number of deferred tax liabilities to reduce the tax bill. When there is a possibility of increased tax payments in the future, deferred tax liabilities arise. Rosharlianti and Hidayat (2020) explained that deferred tax liabilities affect positively the abnormal discretionary expenses. This means that while this technique can enhance

income and cash flow in the short term, it also runs the risk of diminishing cash flow in the long term.

Based on the foregoing explanation, the following hypotheses are proposed in this study:

H1c: Deferred tax liabilities have a positive effect on real earnings management through abnormal discretionary operating cash flows.

H2c: Deferred tax liabilities have a positive effect on real earnings management through abnormal discretionary expenses.

H3c: Deferred tax liabilities have a positive effect on real earnings management through abnormal discretionary production costs.

3. Methodology

3.1 Sample selection

This study's population includes all manufacturing firms listed on the Indonesia Stock Exchange (Bursa Efek Indonesia or BEI) from 2011 to 2019. This study chooses manufacturing companies as the object of research because manufacturing companies have a considerable influence on the trading dynamics of the Indonesia Stock Exchange. The selection of manufacturing companies is expected to represent the condition of public companies in Indonesia. Because the number of manufacturing enterprises in Indonesia rose following the 2008 to 2009 global financial crisis (GFC), the observation period is confined to 2011 to 2019.. The 2011 observation year is also chosen because, beginning in 2011, the Directorate General of Taxes issued tax regulations that all companies in Indonesia are required to follow. Purposive sampling was used, and the following criteria are used for the selection: (a) All manufacturing firms are listed on the Indonesia Stock Exchange (IDX) during the observation period (2011-2019); (b) Manufacturing firms are listed on the Bursa Efek Indonesia in 2011; (c) The financial statements have been audited by independent auditors, as of December 31; and (d) The financial statements must contain complete information about all variables studied (the observation period runs from 2011 to 2019).

Because the variables of tax avoidance, deferred tax expenses, deferred tax liabilities, and real earnings management require measurements

with prior time periods (t-1) and future time periods (t+1), the period observation used in this study is from 2011 to 2019. The OSIRIS database, the Indonesian Capital Market Directory, and the IDX website (www.idx.co.id) are used to compile data for this research. As a result of the sample selection process, 1,368 firm-year observations are obtained. From 1,368 observations, 304 are used to calculate observations for the previous year (t-1) and the period for the following year (t+1), i.e. two years multiplied by 152 companies, for a total of 1,064. The sample in Table 1 is chosen using the purposive sampling approach.

Table 1. Research Sample Summary

The number of manufacturing firms listed on the BEI in 2019	198
The number of firms has not been listed on BEI since 2011	-46
The remaining number of manufacturing firms as samples	152
The number of years of observations	9
The number of firm-year observations	1.368

Source: Data is processed.

3.2 Variables and measurement

The dependent variable in this study is real earnings management. Management engages in real earnings management to impact accounting system output by altering the timing or form structuring of operating, investing, or financing events. The abnormal discretionary operating cash flows, abnormal discretionary expenses, and abnormal discretionary production costs are used to measure real earnings management.

OCF stands for discretionary operating cash flows, which are a linear function of sales and fluctuations in sales. The operating cash flows (OCF_{it}) replicates Kothari et al. (2016)'s measurement in the following way:

$$OCF_{it}/TA_{it-1} = \delta_0 + \delta_1 (1/TA_{it-1}) + \delta_2 (S_{it}/TA_{it-1}) + \delta_3 (\Delta S_{it}/TA_{it-1}) + \epsilon_{it} \quad (1)$$

In equation (1), OCF_{it} is operating cash flows of firm i in year t; TA_{it-1} is total assets of firm i in year t-1; Sit is sales of firm i in year t; ΔS_{it} is the changes in sales (S_{it} - S_{it-1}); δ0, δ1, δ2, δ3 are all constants; and ϵ_{it} represents the error residual of firm i in the year t.

Abnormal discretionary operating cash flows ($ABOCF_{it}$) are calculated by subtracting the actual OCF from the typical OCF using estimated coefficients from equation (1). The abnormal discretionary operating cash flows are multiplied by a negative one (-1). If a value is less than zero, the firms are suspected of having abnormal discretionary operating cash flows.

Abnormal discretionary expenses ($ABEXPS_{it}$) are calculated as a linear function of current sales. $ABEXPS_{it}$ is the total of R&D expenses, advertising expenses, and G&A expenses. The following is a replication of the measurement used by Kothari et al. (2016):

$$ABEXPS_{it} / TA_{it-1} = \delta_0 + \delta_1 (1/TA_{it-1}) + \delta_2 (S_{it-1} / TA_{it-1}) + \mathcal{E}_{it} \tag{2}$$

Abnormal discretionary expenses ($ABEXPS_{it}$) are the actual expenses less the normal expenses, as calculated by using the estimated residual value from equation (2). If the value of abnormal discretionary expenses is less than zero, the company is suspected of having them (negative).

Abnormal discretionary production costs ($ABPRODT_{it}$) is the sum of the cost of goods sold ($COGS_{it}$) and inventory changes ($\Delta INVT_{it}$) over the course of the year. (Abnormal discretionary production costs replicate the measurement of Kothari et al. (2016) as follows:

$$PRODT_{it} / TA_{it-1} = \delta_0 + \delta_1(1/TA_{it-1}) + \delta_2(S_{it}/TA_{it-1}) + \delta_3(\Delta S_{it}/TA_{it-1}) + \delta_4(\Delta S_{it-1}/TA_{it-1}) + \mathcal{E}_{it} \tag{3}$$

$COGS_{it}$ is the normal of cost of goods sold as determined in equation (4), which is as follows:

$$COGS_{it}/TA_{it-1} = \delta_0 + \delta_1 (1/TA_{it-1}) + \delta_2 (S_{it}/TA_{it-1}) + \mathcal{E}_{it} \tag{4}$$

$\Delta INVT_{it}$ is a normal of inventory growth using a regression in equation (5):

$$\Delta INVT_{it} = \delta_0 + \delta_1 (1/TA_{it-1}) + \delta_2 (\Delta S_{it}/TA_{it-1}) + \delta_3 (\Delta S_{it-1}/TA_{it-1}) + \mathcal{E}_{it} \tag{5}$$

In equation (3), $PRODT_{it}$ is normal discretionary production costs of firm i in year t, and $PRODT_{it}$ is calculated by summing $COGS_{it}$ and $\Delta INVT_{it}$. Abnormal discretionary production costs are the result of a reduction from actual production with the normal production. The normal production is

obtained by calculating the estimated residual production in equation (3). High production costs are a result of overproduction, which reduces the cost of goods sold and the operating margins. Other manufacturing expenses and unsold inventory storage costs are still borne by the corporation, resulting in the high annual production costs compared to sales, and the low operating cash flows compared to certain sales levels (Enomoto et al., 2015).

Tax avoidance, deferred tax expenses, and deferred tax liabilities are the independent variables. Tax avoidance is the use of tax legislation to one's advantage in order to lower the amount of taxes owed in methods that are unsual. The measurement of tax avoidance is a replication of Dridi and Boubaker (2015), in which, for tax purposes, discretionary accrual separates the components of the tax-book gap that are accounted for by income manipulation. There are two methods for calculating tax avoidance. First, this study used the Dechow (1994) model by counting the discretionary accrual resulting from the residual value from equation (6):

$$TAKR_{it}/TA_{it-1} = \frac{\delta_0 + \delta_1\,(1/TA_{it-1}) + \delta_2[(\Delta S_{it} - \Delta AR_{it})/TA_{it-1}] +}{\delta_3(PPE_{it}/TA_{it-1}) + \epsilon_{it}} \qquad (6)$$

Total accruals are defined as net income after taxes minus operational cash flows in equation (6), ΔAR_{it} is the change in account receivable of firm i in year t, PPE_{it} is the property, plant, and equipment of firm i in year t, and ϵ_{it} represents the error residual of firm i in the year t.

Second, it finds an aspect of tax avoidance by isolating the book-tax discrepancies components that are not attributable to income manipulation.

$$BTXD_{it}/TA_{it-1} = \beta_1\,DCA_{it}/TA_{it-1} + \emptyset_{it} + \epsilon_{it} \qquad (7)$$

$BTXD_{it}$ is the book-tax difference of the firm i in year t, which is defined as pre-tax income minus taxable income in equation (7). DCAit is a residual from equation (6) that represents the discretionary accruals of firm i in year t. $\emptyset_{it}$ is the remaining value of tax avoidance, and ϵ_{it} represents the error residual of firm i in the year t.

The residual from equation (8) is the component of BTXD that cannot be explained by changes in discretionary accruals. The following formula is used to calculate tax avoidance:

$$TXAVOID_{it} = \emptyset_{it} + \epsilon_{it} \tag{8}$$

Deferred tax expenses ($DFTE_{it}$) arise as a result of differences between pre-tax income and taxable income. Deferred tax expenses are a component of total corporate income tax expenses that reflect the tax consequences of short-term differences between pre-tax income and taxable income. Deferred tax expenses are calculated by multiplying deferred tax liabilities by the applicable tax rates and then weighting deferred tax expenses by total assets (Trisnawati et al., 2015). The proportional value is obtained by weighting deferred tax expenses to total assets. The comprehensive profit and loss statement is used to calculate deferred tax expenses. PSAK 46 (2018) suggests that as a result of temporary discrepancies, deferred tax liabilities indicate numerous income taxes due in the next year Deferred tax liabilities arise when pre-tax income exceeds taxable income and the tax expense exceeds the tax payable. The transitory differences are multiplied by the applicable tax rates to calculate deferred tax liabilities. According to Waluyo (2020), deferred tax liabilities ($DFTL_{it}$) are calculated by dividing deferred tax liabilities by total assets in the previous year.

Investment opportunity sets and business size are the control variables. Investment opportunity sets (MTB_{it}) are a collection of a company's assets that include future investment choices (Myers, 1977). MTBit is computed by dividing firm's market value by firm's book value (Myers, 1977). According to Rafay and Ajmal (2014), deferred tax liabilities can grow indefinitely as long as investments generate a new temporary difference that is at least equivalent to the reversal of previous temporary differences. The log of the total asset company i in year t is used to measure $SIZES_{it}$ (Dang et al., 2018).

3.3 Research model and technique of analysis

This study measures tax avoidance, deferred tax expenses and deferred tax liabilities in three ways. The first model (1) is used to analyse the variables of tax avoidance, deferred tax expenses and deferred tax liabilities that affect abnormal discretionary operating cash flows.

Model 1:

$$
\begin{aligned}
ABOCF_{it} = \ &\chi_0 + \chi_1 TXAVOID_{it} + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \chi_4 MTB_{it} \\
&+ \chi_5 SIZES_{it} + \epsilon_{it}
\end{aligned} \tag{1}
$$

The second model (2) is used to examine how the variables of tax avoidance, deferred tax expenses and deferred tax liabilities affect abnormal discretionary expenses.

Model 2:

$$ABEXPS_{it} = \chi_0 + \chi_1\,TXAVOID_{it} + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \chi_4 MTB_{it} \\ + \chi_5 SIZES_{it} + \epsilon_{it} \tag{2}$$

The third model (3) is utilised to investigate how the variables of tax avoidance, deferred tax expenses and deferred tax liabilities affect abnormal discretionary production costs.

Model 3:

$$ABPRODT_{it} = \chi_0 + \chi_1\,TXAVOID_{it} + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \\ \chi_4\,MTB_{it} + \chi_5 SIZES_{it} + \epsilon_{it} \tag{3}$$

Models (1), (2), and (3) now have all of their variables defined. The SPSS statistical software is used in all of the regression models.

4. Results and Discussions

4.1 Descriptive statistic analyses

Table 2 summarises the descriptive statistics, minimum, maximum, mean, and standard deviation, for the dependent and independent variables. As for DFTE, the results show an average mean of 0.06, a minimum of 0, a maximum value of 3.207, and a standard deviation of 0.2097. The results of DFTL show an average mean of 0.0126, a minimum of 0, a maximum value of 0.747, and a standard deviation of 0.040. The results of TXAVOID show an average mean of 0.0276, a minimum of -1.402, a maximum value of 1.075, and a standard deviation of 0.1549. The standard deviation value of DFTE, DFTL, and XAVOID is greater than the mean value. This means that there is not much variation in all of the sample's variables.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Error	Std. Deviation
DFTE	1064	0.00	3.21	0.06	0.01	0.21
DFTL	1064	0.00	0.75	0.01	0.00	0.04
TXAVOID	1064	-1.40	1.08	0.03	0.00	0.15
ABOCF	1064	-0.95	1.25	0.01	0.01	0.18
ABPRODT	1064	-13.90	2.32	0.05	0.03	1.02
APEXPS	1064	0.88	2.36	0.18	0.83	2.72
MTB	1064	-1.67	82.44	2.47	0.18	6.00
SIZES	1064	23.98	33.50	28.63	0.05	1.79

Notes: ABOCF = Abnormal discretionary operating cash flows, ABEXPS = Abnormal discretionary expenses, ABPRODT = Abnormal discretionary production costs, TXAVOID = Tax avoidance, DFTE = Deferred tax expenses, DFTL = Deferred tax liabilities, MTB = Market to book value, SIZES = Company size.
Source: Data is processed.

The mean of real earnings management, i.e., abnormal discretionary operating cash flows (ABOCF), abnormal discretionary production costs (ABPRODT), and abnormal discretionary expenses (ABEXPS), each of which is 0.01, 0.05 and 0.18. These results indicate that, on average, the firm-year observations perform real earnings management in abnormal discretionary operating cash flows (ABOCF), abnormal discretionary production costs (ABPRODT), and abnormal discretionary expenses (ABEXPS), each at 1%, 5%, and 18% of total assets.

For the control (MTB and SIZES) variables, it could be viewed that the average of the MTB and SIZES are 2.47% and 28.63%, while their standard deviation is 6% and 1.79% respectively. It indicates that there are meaningful variations in firm performance among Indonesian firms.

In this study, abnormal discretionary operating cash flows and abnormal discretionary expenses were multiplied by minus one (-1), implying that the bigger the abnormal discretionary operating cash flows, the more sales manipulation through sales discount that firms engage in. Furthermore, the greater the abnormal discretionary expenses, the more firms reduce discretionary expenses. Firms, on the other hand, manage real earnings through abnormal discretionary production costs (a positive direction). Because high production costs indicate the occurrence of excess production

in order to reduce the cost of goods sold, abnormal discretionary production costs are not multiplied by minus one (-1).

4.2 Empirical results

4.2.1 Results of hypothesis 1

The results of Hypothesis 1 are shown in Table 3. The adjusted R^2 is 0.078, which means that TXAVOID, DFTE, and DFTL explain only 7.8% of abnormal discretionary operating cash flows, while other factors outside the model explain the remaining 92.2%. With a probability of 0.000, the F-statistic value is 18.8888. The coefficient value of determination R^2 is not equal to zero since the probability is substantially smaller than 0.05. To put it another way, the TXAVOID, DFTE, and DFTL all effect abnormal discretionary operating cash flows at the same time.

Table 3. Results for Hypothesis 1

$$ABOCF_{it} = \chi_0 + \chi_1\,TXAVOIDit + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \chi_4 MTB_{it} + \chi_5 SIZES_{it} + \varepsilon_{it} \quad (1)$$

	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	*t*	Sig.	
a. Dependent Variable: ABOCF						
(Constant)	0.154	0.083		1.845	0.065	*)
DFTE	0.106	0.026	0.127	4.156	0.000	***)
DFTL	0.456	0.131	0.104	3.485	0.001	***)
TAVOID	0.060	0.034	0.053	1.750	0.080	*)
MTB	0.006	0.001	0.198	6.543	0.000	***)
SIZES	0.007	0.003	0.066	2.245	0.025	**)
Adjusted R Square	0.078					
F-Test	18.888				0.000	***)

Notes: ABOCF = Abnormal discretionary operating cash flows, ABEXPS = Abnormal discretionary expenses, ABPRODT = Abnormal discretionary production costs, TXAVOID = Tax avoidance, DFTE = Deferred tax expenses, DFTL = Deferred tax liabilities, MTB = Market to book value, SIZES = Company size.

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

Source: Data is processed.

Hypothesis 1a claims that tax avoidance has a positive effect on real earnings management through abnormal discretionary operating cash flows. TXAVOID has a positive and significant coefficient (0.080), indicating that hypothesis 1a is correct. As a result, tax avoidance has a positive impact on real earnings management via abnormal discretionary operating cash flows. This positive effect can be interpreted in terms of the greater the sales results generated as a result of manipulation in the form of giving unreasonable discounts, the higher the tax avoidance of a company. As a result, the gap between pre-tax and taxable income widens. This study is in line with the results of research by Surahman and Firmansyah (2017). It is determined that as a company's tax avoidance increases, so does its use of real earnings management through abnormal discretionary operating cash flows.

Hypothesis 1b claims that deferred tax expenses have a positive effect on real earnings management through abnormal discretionary operating cash flows. Hypothesis 1b is accepted since the DFTE coefficient is positive and significant (0.000). Febriyanti and Hanna (2014) stated that the greater the percentage of deferred tax expenses to the company's total tax burden, the greater the accounting earnings. This is due to the fact that accounting standards allow the use of many assumptions and considerations that encourage companies to carry out real earnings management. By lowering the amount of tax paid, management increases deferred tax expenses. Management is likely to incur additional cash for discretionary expenses because it requires the use of additional cash. Simultaneously, abnormal discretionary operating cash flows are used to increase sales, resulting in an increase in cash flow and reported income. As a result, the goals of deferred tax expenses and abnormal discretionary operating cash flows are aligned. As a result, abnormal discretionary operating cash flows are impacted by deferred tax expenses.

Hypothesis 1c claims that deferred tax liabilities have a positive effect on real earnings management through abnormal discretionary operating cash flows. The DFTL coefficient is positive and significant (0.0001), indicating that ypothesis 1c is correct. As a result, deferred tax liabilities have an impact on abnormal discretionary operating cash flows. The findings are consistent with those of Rafay and Ajmal (2014). To reduce the amount of tax paid, management increases the number of deferred tax liabilities. Abnormal discretionary operating cash flows enhance sales, resulting in a rise in cash flow and reported income. It can be concluded that the deferred

tax liabilities and abnormal discretionary operating cash flows objectives are compatible. As a result, deferred tax liabilities have an impact on abnormal discretionary operational cash flows.

MTB has a positive and significant coefficient (0.000), whereas SIZES has a positive and significant coefficient (0.025). It means that abnormal discretionary operational cash flows are influenced by investment opportunity sets and firm size. The higher the investment opportunity set, the greater the abnormal discretionary operating cash flows from operation. The larger firm size, then the better firms can manage abnormal discretionary operating cash flows because they have a high flexibility.

4.2.3 Results of hypothesis 2

The results of Hypothesis 2 are presented in Table 4. The adjusted R^2 is 0.495, which means that TXAVOID, DFTE, DFTL, MTB, and SIZES explain only 49.5% of abnormal discretionary expenses, while other factors outside the model explain the remaining 55.5%. The F-statistic value is 209.029, with a probability of 0.000. This means that TXAVOID, DFTE, and DFTL all have a positive effect on abnormal discretionary expenses.

Hypothesis 2a claims that tax avoidance has a positive effect on real earnings management through abnormal discretionary expenses. The independent variable of TXAVOID has a significant value of 0.002, therefore hypothesis 2a is accepted. It suggests that tax avoidance affects positively abnormal discretionary expenses. Tax avoidance entails lowering the amount of tax paid, whereas abnormal discretionary expenses entail lowering discretionary expenses in order to enhance the amount of reported income. As a result, tax avoidance and abnormal discretionary expenses goals are aligned. This study is in line with Surahman and Firmansyah (2017) who showed that real earnings management via an abnormal discretionary expense has a substantial positive connection with tax avoidance. This means that every increase in abnormal discretionary expenses is followed by an increase in tax avoidance. This positive effect can be interpreted to mean that the higher the pre-tax income generated as a result of manipulation in the form of reducing abnormal discretionary expenses, the higher the taxable income, which is higher than the pre-tax income. Thus, the higher real earnings management through abnormal discretionary expenses, the greater difference in reported earnings in accounting and taxation, and ultimately in increased

corporate tax avoidance. It can be stated that corporations in Indonesia control real earnings management by incurring abnormal discretionary expenses with the goal of raising pre-tax income and taxable income.

Table 4. Results for Hypothesis 2

$$ABEXPS_{it} = \chi_0 + \chi_1 TXAVOID_{it} + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \chi_4 MTB_{it} + \chi_5 SIZES_{it} + \epsilon_{it} \quad (2)$$

	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	t	Sig.	
b. Dependent Variable: ABEXPS						
(Constant)	-124.058	9.541		-13.002	0.000	
DFTE	8.880	2.925	0.068	3.036	0.002	**)
DFTL	30.291	14.963	0.045	2.024	0.043	**)
TAVOID	8.876	3.901	0.051	2.275	0.023	**)
MTB	-0.236	0.101	-0.052	-2.328	0.020	**)
SIZES	10.501	0.334	0.690	31.481	0.000	***)
Adjusted R Square	0.495					
F-Test	209.029				0.000	***)

Notes: ABOCF = Abnormal discretionary operating cash flows, ABEXPS = Abnormal discretionary expenses, ABPRODT = Abnormal discretionary production costs, TXAVOID = Tax avoidance, DFTE = Deferred tax expenses, DFTL = Deferred tax liabilities, MTB = Market to book value, SIZES = Company size.

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

Source: Data is processed.

Hypothesis 2b asserts that deferred tax expenses have a positive impact on real earnings management *via* abnormal discretionary expenses. Hypothesis 2b is accepted because the independent variable DFTE has a significant value of 0.043. This findings are consistent with those of Baradja et al. (2017), Juliati and Tjaraka (2014), and Machdar and Nurdiniah (2021). When measured by abnormal discretionary expenses, deferred tax expenses have a positive effect on real management earnings. This reflects the fact that the greater the balance of deferred tax expenses, the greater the indication that the company is using abnormal discretionary expenses to manage real earnings. The gap between pre-tax and taxable income widens, indicating that the company is attempting to manage earnings in order to reduce tax payments for the period.

Hypothesis 2c contends that deferred tax liabilities have a positive impact on real earnings management via abnormal discretionary expenses. Hypothesis 2c is accepted because the variable DFTL has a significant value of 0.023. Deferred tax liabilities usually arise when items of expenditure are included in taxable income in early periods compared to net income. Deferred tax liabilities are concerned with reducing the amount of tax paid, whereas abnormal discretionary expenses are concerned with reducing discretionary expenses in order to increase the amount of reported income. As a result, the goals of deferred tax liabilities and abnormal discretionary expenses are aligned. These findings support the findings of Rosharlianti and Hidayat (2020), who claim that deferred tax liabilities have a positive effect on abnormal discretionary expenses. This means that while this strategy can increase earnings and cash flows in the current period, it also has the potential to reduce cash flow in the future period.

Moreover, the control variable of MTB has a significant value of negative 0.02. It means that an investment opportunity set has a negative effect on the abnormal discretionary expenses. Accounting income is a perceived as undesirable for companies with relatively high growth opportunities because of the nature of conservative accounting. Management is less willing to recognise income that is subject to uncertain future events. Abnormal discretionary expenses are less preferred by management because the rules and procedures for expenses recognition have been set in accounting standards. As a result, the lesser the abnormal discretionary expenses, the larger the investment opportunity set. The firm size, on the other hand, has a significant value of 0.000. This suggests that the size of a company has an impact on abnormal discretionary expenses. So, the larger the company size, the more companies undertake discretionary abnormal expenses to enhance revenue, by cutting research expenses, sales expenses and others.

4.2.4 Results of hypothesis 3

Table 5 provides the results of Hypothesis 3. The adjusted R^2 is equal to 0.197. It suggests that only 19.7% of abnormal discretionary production costs is clarified by TXAVOID, DFTE, DFTL, MTB, and SIZES. Other factors not included in the model account for the remaining 80.3%. The F-statistic has a value of 18,888 and a probability of 0.000. It concludes

that TXAVOID, DFTE, DFTL, MTB, and SIZES simultaneously affect the abnormal discretionary production costs.

Table 5. Results for Hypothesis 3

$$ABPRODT_{it} = \chi_0 + \chi_1\ TXAVOID_{it} + \chi_2 DFTE_{it} + \chi_3 DFTL_{it} + \chi_4 MTB_{it} + \chi_5 SIZES_{it} + \mathcal{C}_{it}\ (2)$$

	Unstandardized Coefficients Beta	Std. Error	Standardized Coefficients Beta	*t*	Sig.	
c. Dependent Variable: ABPRODT						
(Constant)	1.9554	0.1416		13.8082	0.0000	
DFTE	0.3196	0.0721	0.1680	4.4350	0.0000	***)
DFTL	0.8245	0.2538	0.1110	3.2487	0.0012	***)
TAVOID	0.0856	0.0644	0.0477	1.3280	0.1846	
MTB	0.0078	0.0014	0.1950	5.4176	0.0000	***)
SIZES	-0.0515	0.0050	-0.3493	-10.3594	0.0000	***)
Adjusted R Square	0.197					
F-Test	18.888				0.000	***)

Notes: ABOCF = Abnormal discretionary operating cash flows, ABEXPS = Abnormal discretionary expenses, ABPRODT = Abnormal discretionary production costs, TXAVOID = Tax avoidance, DFTE = Deferred tax expenses, DFTL = Deferred tax liabilities, MTB = Market to book value, SIZES = Company size.

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

Source: Data is processed.

Hypothesis 3a claims that tax avoidance has a positive effect on real earnings management by reducing abnormal discretionary production costs. TXAVOID has a positive and insignificant coefficient of 0.1876, hence hypothesis 3a is rejected. It means that tax avoidance has no effect on abnormal discretionary production costs. This result is in line with Herusetya and Stefani (2020). It means that abnormal discretionary production costs are unaffected by tax avoidance. The greater the pre-tax income generated due to manipulation in the form of abnormal discretionary production costs, the greater the taxable income compared to pre-tax income. Thus, the higher real earnings management through abnormal production costs will make the difference in reported earnings accounting and taxation becomes smaller and ultimately reduces the tax avoidance.

Hypothesis 3b contends that deferred tax expenses have a positive impact on real earnings management *via* abnormal discretionary production costs. Because the DFTE coefficient is positive and significant at 1% (0.0000), Hypothesis 3b is accepted. It implies that deferred tax expenses have a positive impact on abnormal discretionary production costs. Abnormal discretionary production costs reduce the cost of goods manufactured per unit, so that the amount of reported income increases and cash flows decrease. Meanwhile, the gap between pre-tax and taxable income becomes large and this shows that the company is trying to manage earnings to minimise tax payments for the period through abnormal discretionary production costs.

Deferred tax liabilities, according to hypothesis 3c, have a positive effect on real earnings management due to abnormal discretionary production costs. Hypothesis 3c is accepted since the DFTL variable has a positive direction and a significant value of 0.0012. It implies that deferred tax liabilities have a positive impact on abnormal discretionary production costs. The greater the deferred tax liabilities, the greater the company's chances of doing real earnings management to avoid company losses. Deferred tax liabilities are managed in order to minimise the amount of tax paid. Abnormal discretionary production costs reduce the cost of goods manufactured per unit, resulting in an increase in reported income and a decrease in cash flows. As a result, the goals of deferred tax liabilities and abnormal discretionary production costs are aligned. Companies that have accounting income greater than taxable income should have a significant effect on real earnings management through deferred tax liabilities. Deferred tax liabilities result in a decrease in the level of income earned so that it has a greater chance of getting bigger income in the future, and this reduces the amount of tax paid.

At 1%, the MTB coefficient is positive and significant (0.000). As a result, investment opportunity sets have an impact on abnormal discretionary production costs. Management with a relatively greater set of investment opportunities will have wider opportunities or more flexibility to manage reported earnings, including abnormal discretionary production costs. Even if the SIZES coefficient is negative and significant at 1% (0.000), a firm's size has a negative impact on abnormal discretionary production costs.

5. Conclusion

The study examines empirically the impact of tax avoidance, deferred tax expenses, and deferred tax liabilities on real earnings management in Indonesian firms. The following are the key empirical findings. To begin with, tax avoidance has a significant positive effect on the abnormal discretionary operating cash flows and the abnormal discretionary expenses. Tax avoidance, on the other hand, has no bearing on the abnormal discretionary production costs. Second, deferred tax expenses have a significant positive effect on real earnings management, either through the abnormal discretionary operating cash flows, the abnormal discretionary expenses, and the abnormal discretionary production costs. Third, deferred tax liabilities have a significant positive effect on real earnings management by utilising abnormal discretionary operating cash flows, abnormal discretionary expenses, and abnormal discretionary production costs.

This study adds to the body of knowledge and informs tax authorities that accounting earnings can be managed through real earnings management while retaining taxable income (or vice versa). The findings can assist authorities in gaining a detailed picture of industrial companies' tax avoidance operations. All of the tax avoidance, deferred tax expenses, and deferred tax liabilities, influence real earnings management. As a result, it is vital to consider how the government will attempt to boost actual tax payments by lowering the occurrence of real earnings management. In that context, the findings of this study can be taken into consideration.

Several limitations apply to this study. First, there is little data on the value of R&D expenditures in Indonesia because companies do not provide separate data. Because of this, the outcomes of real earnings management through abnormal discretionary expenses may be skewed. The PSAK in Indonesia proposes that research costs can be charged directly as an expense, but development costs are categorized as assets, thus adding to the value of assets. Second, there are still many companies that do not have deferred tax liabilities. Further inquiry is needed to determine whether the deferred tax liabilities are zero or whether management took an intentional action.

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