

# Real Earnings Management and Discretionary Accruals Earnings Management: The Impact of Tax Incentives on Corporate Sustainability and SDG 16

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**Abstract:** *Many governments provide tax incentives to promote economic development. However, a major concern resulting from these incentives is a significant loss of tax revenue diminishing government funds available for essential services such as healthcare, education, and infrastructure. However, the effectiveness of tax incentives may not be directly observable through the information provided in the financial reporting as firms may use earnings management to manipulate. In other words, there is a lack of clarity in the role of tax incentives in earnings management practices. This study aims to investigate the relationship between discretionary earnings management (DEM), real earnings management (REM) and tax incentive. The study used data from firms listed on the Main Market of Bursa Malaysia for 2017, with additional analysis covering 2016–2018. This study employs multiple regression analysis with a moderating variable and t-tests to investigate whether tax incentive recipient status moderates the relationship DEM and REM. Regression analysis was used to investigate the relationships between MIDA status and earnings management practices. The findings show that tax incentive recipient status significantly moderates the relationship between REM and DEM, which is a crucial insight of this study. Specifically, the findings reveal that tax incentives may encourage firms to engage in REM, which, when used appropriately, can serve as a positive signal of operational strength, compliance, and managerial confidence. This suggests that tax incentives may still be beneficial. However, without effective monitoring, they can also lead to opportunistic financial reporting behaviours, undermining transparency and governance. This has implications for the achievement of the Sustainable Development Goals, particularly SDG 16, which emphasizes the importance of strong institutions, accountability, and transparency. Policymakers must therefore carefully examine tax incentive policies to guarantee consistency with the goals of SDG 16, which supports open government and robust institutions.*

**Keywords:** Real Earnings Management (REM), Discretionary Accruals (DEM), Tax Incentives, Corporate Sustainability, Sustainable Development Goal 16 (SDG 16)

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## 1. Introduction

Prior studies have shown a complex and conflicting relationship between the quality of financial reporting and a lower tax burden, especially with respect to the relationship between tax strategies (including tax incentives) and earnings management techniques. It is argued that firms may choose between Real Earnings Management (REM) and Discretionary Earnings Management (DEM) to meet their financial goals and tax purposes. The selection between DEM and REM, which depends on various elements including regulatory frameworks, tax avoidance strategies, and tax incentives, makes the correspondence of financial reporting with compliance and performance goals even more complex. These dynamics are particularly important in Malaysia, where economic growth depends on tax incentives acting as a central instrument.

Despite the argument that tax incentives could affect the relationship between the choices in earnings management, there is little data to support this given the limited access to information on tax incentive recipients. In addition to this, increasing awareness in recent years has been of the complexity and consequences of tax incentives on corporate behaviour. Hanlon and Heitzman (2010) highlight the importance of more and detailed study to completely grasp the understanding about the relationship between tax policies and corporate financial reporting. Hanlon and Heitzman (2010) also stress that tax incentive recipient status is a major influence, perhaps as tax incentive received may lower the need for aggressive tax avoidance by offering legitimate tax burden reductions. Lanis and Richardson (2015) find that transparent incentive information is crucial to evaluate governance and transparency consequences, whilst Gaertner (2014) shows how tax incentives affect corporate financial reporting choices. Armstrong et al. (2015) also suggested that by lowering the incidence of earnings management, tax incentives could improve reporting transparency. De Simone et al. (2019) also discover a negative relationship between tax incentives and earnings manipulation. Therefore, it is crucial to evaluate whether such incentives actually lower earnings management or only transfer practices from DEM to REM. This difference is significant since REM can hide aggressive tax avoidance behind operational choices, therefore hindering attempts to guarantee financial transparency. While tax incentives could inspire companies to adhere to tax rules via honest planning, they could also create requirements that drive companies to manipulate earnings to satisfy compliance criteria. In other words, although tax incentives are implemented to promote real economic activities, there is limited understanding of how these incentives shape firms' earnings management strategies, particularly their choice between discretionary accruals (DEM) and real activities (REM). It remains unclear whether firms use REM as a tool for opportunistic manipulation or as a strategic mechanism to signal compliance, efficiency, and alignment with policy objectives to external stakeholders. This concern is important in order to understand a firm's opportunistic behaviours when the firms are faced with contemplating tax-related choices between compliance and pursuing self-interest. Unfortunately, there are limited studies to reach a consensus conclusion, particularly due to lack of transparency in tax incentives recipients' information.

Based on these concerns, this study aims to examine tax incentives measured by MIDA recipient status to moderate the relationship between the choices of earnings management. The results offer insightful analysis of corporate decision-making on DEM and REM in reaction to tax incentives. Conducting this study within developing countries like Malaysia serves as additional significant knowledge as this study could help clarify how tax incentives interact with financial reporting tactics within different regulatory compliance and governance. Malaysia serves as a unique setting as the information of tax incentives recipients may be

gathered from Malaysian Investment Development Authority (MIDA). MIDA is a government agency under the Ministry of Investment, Trade and Industry (MITI) that serves as the principal body administering investment-related tax incentives in Malaysia, including pioneer status and investment tax allowances. This study is also expected to provide timely insights for legislators seeking to enhance financial transparency aligned with Sustainable Development Goal (SDG) 16, which promotes transparent governance, responsibility, and robust institutions.

## 2. Literature Review

### Agency Theory

Agency theory, introduced by Jensen and Meckling in 1976, is an idea that explains the principal agent relationship and the potential conflict of interest between shareholders (the principals) and managers (the agents). These conflicts occur when agents decide to pursue their own interests rather than the firm's, thus resulting in problems such as revenue manipulation and tax avoidance, as found by Dechow and Skinner (2000). Elements such as personal compensation, job security, or meeting key performance indicators (KPIs) may cause managers to engage in similar behaviour, often at the expense of long-term organisational performance (Hanlon and Heitzman, 2010). While tax avoidance may increase short term profitability and reduce the cost of capital, it may also increase principal agent problems, especially when it is associated with poor design of managerial incentives (Berle and Means, 1932). This theory provides a framework for understanding how actions taken by managers, motivated by the pressure to reduce tax burden, can be achieved through accounting choices that could mislead both shareholders and the stakeholders of the firm.

### Signaling Theory

Signaling theory, introduced by Spence (1973), is a concept that explains how one party, for instance a firm, conveys credible information to the other, i.e., investors, to reduce uncertainty. It is argued that, unlike DEM, REM can both be an opportunistic accounting choice or strategically signaling credible information of financial stability and growth by altering real activities such as a firm's discretionary spending or changing its production schedule (Roychowdhury, 2006; Gunny, 2010). Firms with tax incentives, especially in a competitive environment, may engage in REM to signal the effective use of tax benefits, hence enhancing investor confidence and firm valuation. In contrast to DEM which relies on discretionary accounting adjustments, REM involves real business operations and is less likely to attract regulatory scrutiny (Cohen et al., 2008). This makes REM both a strategic tool for signaling and a decision with long term operational implications (Zang, 2012). Thus, it is expected that firms may shift from DEM to REM to align with tax policies while at the same time present a good corporate face, demonstrate operational efficiency and good management (Guenther et al., 2017) perhaps with the advantage of tax incentives received.

### Differences Between REM and DEM and the Role of Tax Incentives

There are two main types of earnings management strategies discussed in the literature. First is real earnings management (REM) and secondly is discretionary accrual-based earnings management (DEM). DEM refers to the changing of accounting estimates and accruals without changing the business and economic fundamentals with opportunistic objectives, whilst REM, on the other hand, refers to the changing of real operational decisions related to sales, production, or expenses (Roychowdhury, 2006; Cohen & Zarowin, 2010) to meet certain earnings targets. Comparing these two methods, due to its operational nature, REM is often harder to be detected and the practice is more justifiable, making it a more discreet, although expensive earnings management tool (Shah et al., 2024; Mnif & Tahri, 2023). Thus, after the

Sarbanes–Oxley Act and other stricter rules were put in place, it is reported that companies in the U.S. are more likely to switch from DEM to REM to meet their earnings targets, as a stricter enforcement makes it more difficult to manipulate accruals (Cohen et al., 2008; Malik, 2015). REM strategies, which include reducing discretionary spending, overproducing to lower cost of goods sold (COGS), and accelerating or delaying sales (Roychowdhury, 2006; Thomas & Zhang, 2002), are apparently more justifiable. These practices remain dominant, as recent studies reaffirm that such operational manipulations are still widely used to influence reported earnings, particularly under increased regulatory scrutiny or incentive-driven environments (Shah et al., 2024; Mnif & Tahri, 2023; Garcia Osma et al., 2023). Unfortunately, despite being a long-standing issue, earnings management remains widespread globally, even with increasing scrutiny and the implementation of mitigating strategies (Ali & Kamardin, 2018; Kim & Sohn, 2013; Chi et al., 2011; Xu et al., 2007).

Nonetheless, what is more interesting is, unlike DEM, it is also argued that REM serve both functions, i.e. opportunistic and strategic signalling. According to agency theory (Pappas et al., 2019; Kothari et al., 2016), managers may use REM as an alternative to DEM to obscure real performance and at the same time better in avoiding regulatory scrutiny since the practice is less detectable. However, it is also argued that REM might also serve as a credible signal to investors about the company's private information such as the firm's strength or tax compliance, which is in line with signalling theory (Gunny, 2010; Al-Shattarat & Abood, 2018; Zhao et al., 2012). Nevertheless, DEM is still a popular way to change reported financial results through accruals, even though it is usually easier to be detected and has more regulatory risk (Schipper, 1989; Watts & Zimmerman, 1990; Comporek, 2020).

In the existing body of literature, various factors have been identified as influencing a firm's choice between REM and DEM, such as regulatory scrutiny, managerial incentives, and reporting objectives (Zang, 2012; Gunny, 2010; Cohen & Zarowin, 2010; Mnif & Tahri, 2023; Shah et al., 2024). In addition to those factors, among others, it is argued that the decision between REM and DEM is also significantly influenced by tax policy. For example, Wang et al. (2024) finds that China's accelerated depreciation tax policy led to increased earnings management, particularly in the contexts of lax enforcement, indicating that tax incentives may unintentionally encourage both REM and DEM, depending on institutional strength and oversight. Similarly, Garfatta et al. (2022) uses both REM and DEM to show that Tunisian businesses move their income over time after tax rate reductions. Further, Chan et al. (2025) reports that companies that take advantage of bonus depreciation incentives in the US have higher REM as a result of the Tax Cuts and Jobs Act (TCJA). It is argued that some companies use DEM to inflate earnings and satisfy capital market expectations, while others use REM to signal compliance and sound management. Across a number of European economies, Delgado et al. (2023) discovers a positive relationship between DEM and effective tax rates, indicating that some managers forego tax benefits in order to demonstrate better financial results. Similarly, Aljifri and Elrazaz (2024) demonstrate that firms in the GCC region engage in both REM and DEM to achieve objectives like investor signaling and earnings smoothing, despite operating in tax-free settings. In addition to that, regulation and supervision also influence the choice between REM and DEM. For instance, Chan et al. (2015) find that following the adoption of compensation clawback provisions, firms reduce accrual-based earnings management but increase real earnings management practices such as cutting R&D expenditures, particularly among firms facing high short-term performance pressure. Floropoulos et al. (2024) emphasise that while tax authority enforcement enhances financial reporting quality and reduces tax avoidance, increased book-tax conformity may impair the informational usefulness and transparency of accounting. Furthermore, through improved

monitoring, digital tools like China's Golden Tax Project Phase III shows promising reduce in earnings manipulation. Zhang (2024) finds that the digitisation of tax collection and administration significantly inhibits real earnings management among Chinese firms.

Earnings management practices are not just a concerning issue in developed nations. It is also a concern within Malaysia and the Southeast Asian region. However, there is limited empirical evidence within this setting especially after the year 2020. Nonetheless, some limited studies within this region show interesting findings. For example, Indonesian companies, particularly in the consumer sector, are reported to engage in earnings manipulation during the COVID-19 period in order to comply with short-term tax relief programmes (Azizah & Mappanyukki, 2023). These results imply that tax incentives may inadvertently encourage earnings management even though their primary goal is to stimulate the economy. These findings provide evidence that tax incentives potentially encourage both compliance and manipulation highlight how difficult it is to formulate and administer tax related policy and incentives. The relationship among tax incentives, earnings management, and institutional strength is crucial and especially pertinent to the Sustainable Development Goal (SDG) as it promotes accountability, transparency, and strong institutions. This notion is consistent with Viana et al. (2023), who found that in times of economic strain, businesses in nations with more robust legal systems exhibit less propensity to manipulate earnings. Thus, to avoid unforeseen consequences, tax incentives must be supported by robust governance, open enforcement, and real-time monitoring. In conclusion, tax incentives have a big impact on businesses' decisions between DEM and REM. Institutional frameworks, firm characteristics, and regulatory enforcement all influence this decision. It is therefore contingent on policymakers to have a sophisticated understanding of the dynamics in order to play an important role in improving transparency, mitigating opportunistic behaviour, and matching corporate conduct with more general sustainable development goals.

### **The MIDA Status as a Moderator in the Relationship Between REM and DEM**

Tax incentives have a significant impact on corporate strategies, especially regarding earnings management. Beuselinck and Deloof (2014) show that firms often manipulate revenue to qualify for tax benefits, particularly under high marginal tax rates. Mills and Newberry (2004) find that tax incentives reduce the average tax rate and increase the use of debt financing, which, in turn, affect financial decisions.

In Malaysia, the Malaysian Investment Development Authority (MIDA) offers a range of tax incentives such as exemptions, deductions, and investment tax allowances that play a moderating role in the relationship between tax avoidance and earnings management. Thus, it is an empirical question if this tax incentive received with the firm's reliance on DEM and further, may encourage or discourage the use of REM, to align with national development policies. There is a negative relationship between MIDA status and aggressive tax avoidance, which suggests that the presence of such incentives deters discretionary accrual manipulation and promotes the adoption of real activities in financial reporting.

Understanding MIDA's role in moderating tax-related earnings management offers valuable insights into how balanced policy designs can promote transparency while driving economic development. This aligns with Sustainable Development Goal (SDG) 16, which emphasises the importance of strong institutions, transparency, and ethical corporate behaviour.

It is argued that firms may strategically choose between REM and DEM, depending on context, incentives, and regulatory environment. Thus, it is proposed that firms receiving tax incentives

through MIDA may exhibit a higher tendency to engage in REM due to the perceived cost-benefit trade-offs. For instance, Brown and Krull (2008) demonstrated that stock option exercises could generate R&D tax credits, enabling managers to simultaneously meet earnings targets and reduce tax liabilities. Similarly, Baber et al. (1991) and Thomas and Zhang (2002) found that firms often increase production or cut expenses as REM strategies to meet earnings targets while minimizing tax exposure.

The MIDA status granted to Malaysian firms thus signals a form of quality certification, allowing access to fiscal incentives that support capital expenditure and productivity-enhancing initiatives. Firms with MIDA status may be more inclined to undertake real economic activities to match the incentives received. Consequently, REM becomes not only a managerial decision but also a strategic response to government policy objectives. MIDA status may also function as a signal to investors and stakeholders that the firm complies with national development goals and engages in operational performance consistent with tax incentive requirements.

Thus, the following hypothesis is proposed:

**H1:** There is a significant difference in the magnitude of real earnings management (REM) between MIDA and non-MIDA firms.

As both REM and DEM are used as mechanisms for earnings management, firms with tax incentives may select earnings management strategies opportunistically or strategically in response to tax avoidance pressures. While REM can offer less detectable earnings management, DEM provides accounting flexibility. Whether a firm engages in both or switches one for the other may reflect its incentive structure and governance environment.

Therefore, this study proposes the following hypotheses:

**H2(a):** MIDA status moderates the relationship between production-based real earnings management (PROD\_REM) and discretionary earnings management (DEM).

**H2(b):** MIDA status moderates the relationship between discretionary expense-based real earnings management (DISEXP\_REM) and discretionary earnings management (DEM).

**H2(c):** MIDA status moderates the relationship between sales-based real earnings management (SALE\_REM) and discretionary earnings management (DEM).

### 3. Materials and Methods

#### Sample and Data Collection

The initial dataset consists of information collected in the year 2017, specifically focusing on 788 companies that are listed on the Main Board with available tax incentive recipient firms information (MIDA). The aforementioned organisations are classified into 11 distinct sectors according to their principal economics.

Final sample	202
Firm-samples under top 500 MIDA tax incentives recipients (TR companies)	48
Firm-samples otherwise – non MIDA top 500 tax incentives recipients (TR companies)	154

The data collection method employed in this study involved manually extracting financial information data from the annual reports of publicly listed companies. The manual extraction

process involved a systematic review of the reports to identify the relevant financial information. The use of this strategy was deemed appropriate for the present study due to its capacity to gather a significant volume of financial data from various companies within a certain industry (Bryman, 2016). One of the benefits of this data collection method is that it provides a standardised and consistent source of data across companies.

### The Measurement of the variable

#### **Dependent Variable: Measures of Earnings Management**

This study focuses on discretionary accruals, using the modified Jones model

$$DEM_{\{\tau\}} = TA_{\{\tau\}} - NDA_{\{\tau\}}$$

$$TA_{\{\tau\}} = a_1(\{1\}/\{A_{\{\tau-1\}}\}) + a_2(\Delta REV_{\{\tau\}}) + a_3(PPE_{\{\tau\}}) + v_{\{\tau\}}$$

$$NDA_{\{\tau\}} = \alpha_1(\{1\}/\{A_{\{\tau-1\}}\}) + \alpha_2(\Delta REV_{\{\tau\}} - \Delta REC_{\{\tau\}}) + \alpha_3(PPE_{\{\tau\}})$$

$$DA_{\{\tau\}} = [\alpha_1(\{1\}/\{A_{\{\tau-1\}}\}) + \alpha_2(\Delta REV_{\{\tau\}} + \alpha_3(PPE_{\{\tau\}}) + v_{\{\tau\}}) - [\alpha_1(\{1\}/\{A_{\{\tau-1\}}\}) + \alpha_2(\Delta REV_{\{\tau\}} - \Delta REC_{\{\tau\}}) + \alpha_3(PPE_{\{\tau\}})]]$$

Where;

- TA<sub>τ</sub> = Total accruals in year τ scaled by lagged total assets in year τ-1
- DA<sub>τ</sub> = Estimated discretionary accruals in year τ
- NDA<sub>τ</sub> = Estimated non-discretionary accruals in year τ
- ΔREV = Revenues in year τ less revenues in year τ-1 scaled by total assets at τ-1
- ΔREC = Net receivables in year τ less net receivables in year τ-1 scaled by total assets at τ -1
- PPE<sub>τ</sub> = Gross property, plant, and equipment in year τ scaled by total assets at τ-1
- A<sub>τ-1</sub> = Total assets at τ-1
- α<sub>1</sub>, α<sub>2</sub>, α<sub>3</sub> = Firm-specific parameters
- a<sub>1</sub>, a<sub>2</sub>, a<sub>3</sub> = Ordinary least squares estimates of α<sub>1</sub>, α<sub>2</sub>, α<sub>3</sub>
- v<sub>τ</sub> = Measurement error in year τ

#### **Independent Variable: The measure for Real Earnings Management:**

According to Roychowdhury (2006), normal cash flow from operation (CFO) is expressed as a linear function of sales and change in sales. Abnormal cash flow from operation (CASHABS) refers to the subtraction of the actual CFO from the normal level of CFO calculated using the estimated coefficient using the following cross-sectional regression for each industry and year:

$$\frac{CFO_{i,t}}{Assets_{i,t-1}} = k_{1t} \left( \frac{1}{Assets_{i,t-1}} \right) + k_2 \left( \frac{Sales_{i,t}}{Assets_{i,t-1}} \right) + k_3 \left( \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} \right) + \epsilon_{i,t} \quad (1)$$

Meanwhile, production costs refers to the sum of costs of good sold (COGS) and change in inventory. The overall model for production costs is expressed in the following:

$$\left[ \frac{PROD_{i,t}}{Assets_{i,t-1}} = k_{1t} \left( \frac{1}{Assets_{i,t-1}} \right) + k_2 \left( \frac{Sales_{i,t}}{Assets_{i,t-1}} \right) + k_3 \left( \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} \right) + k_4 \left( \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} \right) + \epsilon_{i,t} \right] \quad (2)$$

The equation model is then developed to estimate the normal level of production costs, where COGS is modelled as a linear function of contemporaneous sales:

$$\frac{COGS_{i,t}}{Assets_{i,t-1}} = k_{1t} \left( \frac{1}{Assets_{i,t-1}} \right) + k_2 \left( \frac{Sales_{i,t}}{Assets_{i,t-1}} \right) + \epsilon_{i,t} \quad (3)$$

In addition, inventory growth is modelled as follows:

$$\Delta INV_{i,t} = k_{1t} \left( \frac{1}{Assets_{i,t-1}} \right) + k_2 \left( \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} \right) + k_3 \left( \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} \right) + \epsilon_{i,t} \quad (4)$$

As for the curtailment of discretionary costs, the following cross-sectional models for each industry and year are estimated (Roychowdhury 2006):

$$SG\&A_{i,t} = \beta_1 + \beta_2 \left( \frac{1}{Total\ Assets_{i,t-1}} \right) + \beta_3 \left( \frac{Sales_{i,t-1}}{Total\ Assets_{i,t-1}} \right) + \epsilon_{i,t} \quad (5)$$

$$R\&D_{i,t} = \beta_1 + \beta_2 \left( \frac{1}{Total\ Assets_{i,t-1}} \right) + \beta_3 \left( \frac{Sales_{i,t-1}}{Total\ Assets_{i,t-1}} \right) + \epsilon_{i,t} \quad (6)$$

Where;

*S&GA* stands for Selling, General, and administrative expenses and *R&D* denotes as Research and Development

The inverse measurements of manipulating discretionary costs (OPERATINGABS) are the residuals. Similar to the absolute value of discretionary accruals used in measuring earnings management using DEM, this study also used the absolute value of these three measures as there is no direction of earnings manipulation was anticipated in the development of the hypotheses. In this thesis, the measures for real earnings management (REM) are represented as ABSREM\_PROD, ABSREM\_DISEXP, and ABSREM\_SALE, which correspond to (CASHABS, PRODABS, and OPERATINGABS) in later sections of the study. These terms are consistently used throughout the analysis to denote different components of REM, ensuring clarity and alignment with the empirical models.

In real earnings management (REM) research, abnormal cash flow from operations (AbnCFO) and abnormal discretionary expenses (AbnDISEXP) are typically multiplied by -1 before aggregation. This adjustment ensures that higher values of these metrics correspond to increased income-increasing earnings management activities. Specifically, lower-than-expected cash flows and reduced discretionary expenses can indicate income-increasing REM, so multiplying by -1 aligns their directionality with other REM measures.

**Moderating Variable: Tax Incentive recipients dummy variable:**

A categorical variable is created to indicate a firm's tax incentive recipient status. It is coded as 1 if the firm appears on MIDA's 2017 top 500 tax incentive recipient list, and 0 otherwise. This list was obtained directly from MIDA. The moderating variable is constructed as an interaction between MIDA status and the Effective Tax Rate (ETR), allowing assessment of how tax incentives influence the relationship between tax avoidance and earnings management

**Control Variable:**

*Audit Quality:* Audit quality is represented by a dummy variable coded "1" if the firm is audited by a Big 4 firm (Deloitte, Ernst & Young, KPMG, or PwC), and "0" otherwise. Firms audited

by Big 4 firms are more likely to demonstrate lower levels of discretionary accruals due to higher audit standards and better reputational incentives (Becker et al., 1998; Francis et al., 1999).

*Director Shareholding (Managerial Ownership):* This variable reflects the percentage of shares held by directors. Higher director ownership may align the interests of management with those of shareholders, thus influencing earnings management practices (Warfield et al., 1995; Yeo et al., 2002).

*Institutional Ownership:* Institutional ownership refers to the percentage of equity owned by institutional investors. Institutions are believed to have stronger incentives and capabilities to monitor managerial behaviour, potentially reducing earnings manipulation (Desai & Dharmapala, 2006).

*Number of Independent Directors:* The proportion of independent directors on the board is used as a proxy for board independence. Independent directors are expected to enhance oversight and curb aggressive financial reporting (Beasley, 1996; Klein, 2002; Xie et al., 2003).

*Firm Size:* Firm size is measured as the natural logarithm of total assets. Larger firms are more visible to regulators and stakeholders, which may constrain their ability to engage in earnings management (Davidson et al., 2005; Lim, 2011).

*Leverage:* Leverage is defined as the ratio of total debt to total assets. Firms with high debt levels may be pressured to meet debt covenants, encouraging earnings manipulation (Kholbadalov, 2012).

*Firm Age:* Age is measured by the number of years since the firm's incorporation. Older firms are likely to be more established and subject to higher market scrutiny, which may influence the quality of financial reporting (Dechow et al., 1995; Francis & Schipper, 1999).

*Effective Tax Rate (ETR):* ETR is calculated as the ratio of current tax expense to pre-tax profit, representing the firm's actual tax burden. This measure reflects both the use of tax incentives and avoidance strategies (Harris & Feeny, 2003; Rohaya et al., 2010).

### **Empirical Model**

A regression model was developed for this study to determine the influence of ETR (tax avoidance) on discretionary accruals (earnings management):

$$DEM = a_1ETR + a_2MIDA + a_3AUDIT + a_4DIRECTOR + a_5INSTI + a_6NOMDIRECTOR + a_7INDDIRECTOR + a_8LEV + a_9SIZE + a_{10}AGE + a_{11}ABSREM_{PROD,DISEXP,CFO} * MIDA + a_{12}ABSREM_{DISEXP} + a_{13}ABSREM_{CFO} + a_{14}ABSREM_{PROD} + \epsilon \text{-----(7)}$$

Where

- DEM = Absolute value of discretionary accruals to measure earnings management
- ETR = The ratio of current income tax expenses divided by income before interests and taxes
- MIDA = Dummy variable of "1" for tax incentive recipient status and "0" for otherwise

AUDIT	=	Dummy variable of “1” for Big Four audit firm and “0” for otherwise
DIRECTORSHOLD	=	Managerial ownership by directors (in percentage)
INSTI	=	Institutional ownership (in percentage)
NOMDIRECTOR	=	Size of the board of directors
INDDIRECTOR	=	Number of independent directors
LEV	=	Leverage or specifically, the total debt at the end of the year divided by the total assets at the end of the year
SIZE	=	The natural logarithm of total assets
AGE	=	Age of the firm from the year incorporated to the year 2017
ABSREM_PROD	=	Absolute value of real earnings management measure for abnormal production
ABSREM_DISEXP	=	Absolute value of real earnings management measure for abnormal discretionary expenses
ABSREM_SALE	=	Absolute value of real earnings management measure for abnormal cash flows
ABSREM_PROD /DISEXP/SALE *MIDA	=	Absolute value of real earnings management measure for abnormal cash flows/abnormal discretionary expenses and abnormal production x MIDA

#### 4. Results and Discussion

##### Hypothesis 1 (H1):

This section demonstrates the concern that tax incentives provided through MIDA could change the way companies participate in real earnings management, (REM). The results are reported in Table 1(a) and Table 1(b) as the follows:

**Table 1(a): Hypothesis 1 - Group Statistics**

Group Statistics					
MIDA		N	Mean	Std. Deviation	Std. Error Mean
TOTALREM	1	48	0.3385493	0.47832421	0.06904015
	0	154	0.1688371	0.18479526	0.01489123
ABSREM_PROD	1	48	0.1445135	0.26171236	0.03777493
	0	154	0.0406456	0.12082229	0.00973614
ABSREM_DISEXP	1	48	0.1301206	0.17765740	0.02564264
	0	154	0.0716397	0.05740444	0.00462578
ABSREM_SALE	1	48	0.0639152	0.08918000	0.01287202
	0	154	0.0565518	0.06306942	0.00508228

**Table 1(b): Hypothesis 1- Independent Sample Test**

Independent Samples Test						
				t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
TOTALREM	Equal variances assumed	35.768	0.000	3.632	200	0.000
	Equal variances not assumed			2.403	51.441	0.020
ABSREM_PROD	Equal variances assumed	32.479	0.000	3.805	200	0.000
	Equal variances not assumed			2.663	53.379	0.010
ABSREM_DISEXP	Equal variances assumed	25.795	0.000	3.549	200	0.000

	Equal variances not assumed			2.244	50.092	0.029
ABSREM_SALE	Equal variances assumed	2.355	0.126	0.636	200	0.526
	Equal variances not assumed			0.532	62.331	0.597

The results in Table 1(a) and 1(b) show that MIDA firms engage in significantly more REM overall and in two specific components production and discretionary expenses compared to non-MIDA firms ( $p < 0.05$ ). However, no significant difference is observed in sales-based REM. These findings support H1 and align with previous studies (Gunny, 2010; Zang, 2012), suggesting that firms facing regulatory scrutiny may favour REM due to its lower detectability. From an agency theory perspective, managers may manipulate operations to meet performance targets while avoiding attention from auditors and regulators. REM allows adjustments in actual transactions, such as sales timing or expense cuts, rather than in reported estimates. The T-test results support H1, showing that firms with MIDA status engage in significantly higher levels of total REM ( $p = 0.000$ ), production-based REM ( $p = 0.000$ ), and discretionary expense-based REM ( $p = 0.000$ ) compared to non-MIDA firms. However, no significant difference is found in sales-based REM ( $p = 0.526$ ). These results suggest that tax incentives are associated with higher REM activity, but the effect may vary depending on the specific type of operational adjustment.

### Hypothesis 1 (H2: a, b and c):

This section investigates whether the relationship between real earnings management (REM) and discretionary accruals earnings management (DEM) differs based on a firm's tax incentive status. This concern arises from the broader research problem, which questions whether tax-incentivised firms use combinations of earnings manipulation strategies to balance regulatory compliance, financial signalling, and performance pressures. The results are presented in Table 2 as the below:

**Table 2: Hypothesis 2(a), 2(b), 2(c): Individual REM**

Model 1			Model 2			Model 3		
R-square	0.426		R-Square	0.323		R-Square	0.310	
F Value	11.676		F Value	7.504		F Value	7.072	
Sig	0.000		Sig	0.000		Sig	0.000	
Variables	Beta	Sig.	Variables	Beta	Sig.	Variables	Beta	Sig.
(Constant)		0.000	(Constant)		0.000	(Constant)		0.000
AUDIT	0.093	0.114	AUDIT	0.065	0.306	AUDIT	0.084	0.189
DIRECTORSHOLD	-0.001	0.988	DIRECTORSHOLD	-0.016	0.793	DIRECTORSHOLD	-0.011	0.862
INSTI	-0.148	0.013	INSTI	-0.102	0.116	INSTI	-0.106	0.103
NOMDIRECTOR	0.121	0.049	NOMDIRECTOR	0.118	0.076	NOMDIRECTOR	0.124	0.065
INDDIRECTOR	-0.062	0.321	INDDIRECTOR	-0.065	0.334	INDDIRECTOR	-0.015	0.825
LEV	-0.074	0.214	LEV	-0.042	0.517	LEV	-0.038	0.560
SIZE	0.337	0.000	SIZE	0.362	0.000	SIZE	0.363	0.000
AGE	0.173	0.004	AGE	0.182	0.005	AGE	0.185	0.005
MIDA	-0.076	0.305	MIDA	-0.264	0.000	MIDA	-0.231	0.007
ETR	-0.117	0.044	ETR	-0.104	0.098	ETR	-0.103	0.106
ABSREM_SALE	0.553	0.000	ABSREM_PROD	0.338	0.000	ABSREM_DISEXP	0.387	0.003
ABSREMSALE_MIDA	-0.211	0.013	ABSREMPROD_MIDA	0.001	0.989	ABSREMDISEXP_MIDA	-0.097	0.520

dependent variable DEM(discretionary accruals earnings management)

The results of three regression models with discretionary accruals earnings management (DEM) as the dependent variable are shown in Table 2. There are REM components, interaction terms with MIDA, and a number of control and independent variables. With an R-squared value of 0.426 and  $F = 11.676$  ( $p = 0.000$ ), Model 1 is a significant model that explains 42.6% of the variance in DEM. By including ABSREM\_PROD, Model 2 lowers R<sup>2</sup> to 0.323 ( $F = 7.504$ ,  $p = 0.000$ ). After adding ABSREM\_DISEXP, Model 3 exhibits a further decline in R<sup>2</sup> to 0.310 ( $F = 7.072$ ,  $p = 0.000$ ). SIZE, AGE, and ABSREM\_SALE all exhibit strong and favourable relationships with DEM across models. The negative correlation between MIDA and ETR suggests that tax-incentivized firms have a lower DEM. Control variables such as AUDIT, DIRECTORSHOLD, INDDIRECTOR, and MIDA are not significant predictors in Model 1. Conversely, there are negative correlations between DEM and INSTI, NOMDIRECTOR, SIZE, AGE, and ETR. While ABSREMPROD\_MIDA is negligible ( $\beta = 0.001$ ,  $p = 0.989$ ), indicating no moderating effect, ABSREMPROD\_PROD ( $\beta = 0.338$ ,  $p = 0.000$ ) positively predicts DEM in Model 2. While ABSREMDISEXP\_MIDA is insignificant ( $\beta = -0.097$ ,  $p = 0.520$ ), Model 3 adds ABSREM\_DISEXP ( $\beta = 0.387$ ,  $p = 0.003$ ), which is also positively associated with DEM. ABSREM\_SALE is the best predictor across all models ( $\beta = 0.553$ ,  $p = 0.000$ ). MIDA status lowers DEM when firms engage in sales-related REM, according to the significant interaction term ABSREM\_SALE\_MIDA ( $\beta = -0.211$ ,  $p = 0.013$ ). It appears that MIDA status does not moderate those REM–DEM relationships, as indicated by the negligible interaction terms for production and discretionary expenses. The impact of these forms may be limited because they are more visible or regulated, especially for incentive-receiving firms. According to agency theory, MIDA firms might switch from DEM to REM because of the decreased detection risk. According to signalling theory, businesses may refrain from tampering with R&D or production in order to preserve reputational compliance. Therefore, for sales-related REM, MIDA moderates the REM–DEM relationship, but not for other components. Lastly, the MIDA  $\times$  ABSREM\_SALE coefficient ( $\beta = -0.221$ ) verifies that for every unit increase in sales-related REM, MIDA firms decrease DEM by 0.221 units. This supports the substitution effect between REM and DEM and is consistent with previous findings.

## 5. Discussion and Conclusion

The results show that firms with MIDA status engage in significantly higher levels of real earnings management (REM) than non-incentivised firms. While tax incentives aim to support real economic activity, they may also encourage firms to adjust operational decisions—such as sales, production, or discretionary spending—to manage reported performance. This reflects how policy tools, though well-intentioned, may have unintended behavioural consequences. These findings support signalling theory (Spence, 1973) which explains REM as a tool to present operational strength and compliance to external stakeholders. REM related to sales (ABSREM\_SALE) show the strongest relationship with DEM ( $\beta = 0.358$ ,  $p < 0.001$ ), followed by production ( $\beta = 0.139$ ,  $p = 0.078$ ), while discretionary expenses showed no significant effect ( $\beta = 0.066$ ,  $p = 0.406$ ). The results suggest that REM strategies such as cutting discretionary expenditures, overproducing to lower cost of goods sold (COGS), and altering sales timing remain widely used due to their perceived justifiability and lower detection risk especially under compliance expectations (Roychowdhury, 2006; Thomas & Zhang, 2002; Shah et al., 2024; Mnif & Tahri, 2023).

Further, this study tested whether MIDA status moderates the REM–DEM relationship. A significant negative interaction was found between sales-based REM and DEM ( $\beta = -0.221$ ,  $p < 0.05$ ), suggesting that MIDA firms reduce DEM when engaged in REM. No moderating

effects were found for production or discretionary expense-based REM, likely due to tighter scrutiny in those areas. These findings support a dual role for REM and are consistent with both agency theory and signalling theory. From the agency theory perspective, managers switch from accrual-based to operational earnings management in order to meet performance goals and lower detection risk in the context of tax incentives (Kothari et al., 2016; Gunny, 2010). In addition, REM may also act as a signalling tool to demonstrate operational strength and regulatory compliance, especially for companies that are eligible for government incentives like those listed by the Malaysian Investment Development Authority (MIDA) (Spence, 1973; Al-Shattarat & Abood, 2018; Gunny, 2010). The results show that, only through sales-related REM, tax incentive status moderates the relationship between REM and DEM. Consistent with agency theory, viewpoint managers strategically switch from accrual-based to operational forms of earnings management in order to avoid detection when they are under performance pressure and supervision. Sales-based REM signals strong performance outcomes in a less traceable and faster manner. On the other hand, according to the signalling theory, MIDA-incentivized firms' selective use of sales-based REM may be a purposeful indication of their operational strength and tax compliance. Tax incentives, such as those administered by the MIDA often lead to reduced production costs or enhanced capacity, indirectly enabling firms to lower COGS or boost sales. This economic flexibility makes sales-based REM a more accessible and strategic option for managers aiming to meet performance expectations, especially since sales adjustments are less likely to trigger regulatory scrutiny compared to production or discretionary spending, which are typically subject to detailed compliance checks under tax incentive programs.

The findings of this study suggest that tax incentives may not merely encourage opportunistic behaviour but can also motivate firms to engage in real earnings management (REM) as a strategic signaling tool. Particularly in incentivized firms, sales-based REM appears to be used to communicate operational strength and regulatory alignment, aligning with signaling theory rather than solely agency concerns. This behaviour implies that firms may be responding to incentives not by distorting performance, but by showcasing their ability to meet expectations in real, observable ways. Nonetheless, the subtlety of REM still requires vigilant oversight to ensure that such signaling remains transparent and does not blur the line between genuine performance and impression management. Policymakers should therefore balance incentive provision with monitoring mechanisms that recognise the dual function of REM—as both a strategic signal and a potential source of misrepresentation.

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### **Conflict of Interest Statement**

The authors declare that there is no conflict of interest regarding the publication of this study.

### **References**

- Ali, A., & Kamardin, H. (2018). The impact of real earnings management on financial performance in Malaysian companies. *Asian Journal of Accounting and Governance*, 9(1), 35–46. <https://doi.org/10.17576/AJAG-2018-09-04>
- Aljifri, K., & Elrazaz, T. (2024). Effect of earnings management on earnings quality and sustainability: evidence from gulf cooperation council distressed and non-distressed companies. *Journal of Risk and Financial Management*, 17(8), 348.

- Al-Shattarat, W., & Abood, M. (2018). Real earnings management, corporate reputation, and market valuation: Evidence from Jordan. *International Journal of Business and Social Science*, 9(6), 73-88.
- Armstrong, C. S., Blouin, J. L., & Larcker, D. F. (2015). The incentives for tax avoidance and earnings management. *Journal of Accounting and Economics*, 60(1), 41-62.
- Azizah, I., & Mappanyukki, R. (2023). Tax incentives and earnings management during the pandemic: Evidence from Indonesian listed firms. *International Journal of Business, Economics and Law*, 30(2), 49–57.
- Baber, W. R., Fairfield, P. M., & Haggard, J. A. (1991). The effect of concern about reported income on discretionary spending decisions: The case of research and development. *Accounting review*, 818-829.
- Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, 71(4), 443–465.
- Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research*, 15(1), 1–24.
- Beuselinck, C., & Deloof, M. (2014). Earnings management in business groups: Tax incentives or expropriation concealment?. *The International Journal of Accounting*, 49(1), 27-52.
- Brown, J. L., & Krull, L. K. (2008). Stock options, R&D, and the R&D tax credit. *The Accounting Review*, 83(3), 705-734.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Chan, H. C., Marino, A. R., & Wang, J. J. (2025). Temporary tax benefits and real earnings management: Evidence from the Tax Cuts and Jobs Act. *Journal of Accounting and Taxation*, 17(1), 1–14.
- Chan, L. H., Chen, K. C., Chen, T. Y., & Yu, Y. (2015). Substitution between real and accruals-based earnings management after voluntary adoption of compensation clawback provisions. *The Accounting Review*, 90(1), 147-174.
- Chi, W., Liscic, L. L., & Pevzner, M. (2011). Is enhanced audit quality associated with greater real earnings management? *Accounting Horizons*, 25(2), 315–335.
- Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1), 2–19. <https://doi.org/10.1016/j.jacceco.2010.01.002>
- Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre- and post-Sarbanes–Oxley periods. *The Accounting Review*, 83(3), 757–787. <https://doi.org/10.2308/accr.2008.83.3.757>
- Comporek, M. (2020). Earnings management through accruals in the manufacturing sector in Poland. *Sustainability*, 12(3), 1057. <https://doi.org/10.3390/su12031057>
- Davidson, R., Goodwin-Stewart, J., & Kent, P. (2005). Internal governance structures and earnings management. *Accounting & Finance*, 45(2), 241–267.
- De Simone, L., Piotroski, J. D., & Tomy, R. E. (2019). Repatriation taxes and foreign cash holdings: The impact of anticipated tax reform. *The Review of Financial Studies*, 32(8), 3105-3143.
- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70(2), 193–225.
- Dechow, P., & Skinner, D. (2000). Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, 14(2), 235-250.
- Delgado, F. J., Fernández-Rodríguez, E., García-Fernández, R., Landajo, M., & Martínez-Arias, A. (2023). Tax avoidance and earnings management: A neural network approach for the largest European economies. *Financial Innovation*, 9(1), 19.
- Desai, M. A., & Dharmapala, D. (2006). Corporate tax avoidance and firm value. *The Review of Economics and Statistics*, 91(3), 537–546.

- Floropoulos, S., Tsipouridou, M., & Spathis, C. (2024). Book-tax conformity and earnings management: A research agenda. *Journal of International Accounting, Auditing and Taxation*, 54, 100603.
- Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory*, 18(2), 17–34.
- Gaertner, F. B. (2014). CEO after-tax compensation incentives and corporate tax avoidance. *Contemporary Accounting Research*, 31(4), 1077-1102.
- Garcia Osma, B., Guillamón Saorín, E., & Mercado, F. (2023). Quarterly earnings guidance and real earnings management. *Journal of Business Finance & Accounting*, 50(5-6), 1029–1059
- Garfatta, T., Ben Othman, H., & Mnif, Y. (2022). Do tax cuts lead to earnings management? Evidence from Tunisia. *Journal of Accounting in Emerging Economies*, 12(1), 149–158. <https://doi.org/10.1108/JAEE-02-2021-0045>
- Guenther, D. A., Krull, L. K., & Williams, B. (2017). Measuring corporate tax avoidance: Effective tax rates and book-tax differences. *The Accounting Review*, 92(4), 1271-1295.
- Guenther, D. A., Matsunaga, S. R., & Williams, B. M. (2017). Is tax avoidance related to earnings management and firm size? *The Accounting Review*, 92(1), 101–127.
- Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research*, 27(3), 855–888. <https://doi.org/10.1111/j.1911-3846.2010.01029.x>
- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50(2-3), 127-178.
- Harris, M. N., & Feeny, S. (2003). Habit persistence in the use of fiscal incentives: Evidence from Australian manufacturing. *International Journal of the Economics of Business*, 10(2), 127–144.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360.
- Kholbadalov, U. (2012). The relationship of corporate tax avoidance, cost of debt and institutional ownership: Evidence from Russia. *Journal of Management and Business Research*, 1(1), 1–7.
- Kim, J. B., & Sohn, B. C. (2013). Real earnings management and cost of capital. *Journal of Accounting and Public Policy*, 32(6), 518–543. <https://doi.org/10.1016/j.jaccpubpol.2013.08.002>
- Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, 33(3), 375–400.
- Kong, D. (2022). Tax reduction and earnings management in private firms: Evidence from China. *China Journal of Accounting Research*, 15(2), 75–92. <https://doi.org/10.1016/j.cjar.2022.01.002>
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2016). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163–197. <https://doi.org/10.1016/j.jacceco.2004.11.002>
- Lanis, R., & Richardson, G. (2015). Is corporate social responsibility performance associated with tax avoidance? *Journal of Business Ethics*, 127(2), 439–457.
- Lim, C. Y. (2011). Tax avoidance, cost of debt and corporate governance: Evidence from Malaysia. *Asian Journal of Business and Accounting*, 4(1), 123–147.
- Malik, M. (2015). Real earnings management and investment efficiency: Evidence from a UK market. *International Journal of Accounting and Financial Reporting*, 5(1), 106–124. <https://doi.org/10.5296/ijaf.v5i1.7117>

- Mills, L. F., & Newberry, K. J. (2004). Do foreign multinationals' tax incentives influence their US income reporting and debt policy?. *National Tax Journal*, 57(1), 89-107.
- Mnif, Y., & Tahri, Y. (2023). Managerial behavior and substitution between accrual and real earnings management: A comparative analysis. *Journal of Accounting in Emerging Economies*, 13(1), 144-168. <https://doi.org/10.1108/JAEE-01-2022-0012>
- Pappas, S., & Kothari, S. P. (2019). Real earnings management: A comprehensive review. *Review of Financial Studies*, 32(4), 1101-1135. <https://doi.org/10.1093/rfs/hhy098>
- Rohaya, M. D., Nurmazilah, M. A., & Nor'Azam, M. A. (2010). Corporate tax planning: A study on corporate effective tax rates of Malaysian listed companies. *International Journal of Trade, Economics and Finance*, 1(2), 189-193.
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335-370. <https://doi.org/10.1016/j.jacceco.2006.01.002>
- Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons*, 3(4), 91-102.
- Shah, A., Rizvi, R., & Hussain, A. (2024). Real earnings management and firm performance: Post-pandemic evidence from emerging markets. *Emerging Markets Review*, 58, 100900. <https://doi.org/10.1016/j.ememar.2023.100900>
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355-374.
- Thomas, J. K., & Zhang, H. (2002). Inventory changes and future returns. *Review of Accounting Studies*, 7(2-3), 163-187. <https://doi.org/10.1023/A:1020213127084>
- Viana Jr, D. B. C., Lourenço, I., Black, E. L., & Martins, O. S. (2023). Macroeconomic instability, institutions, and earnings management: An analysis in developed and emerging market countries. *Journal of International Accounting, Auditing and Taxation*, 51, 100544.
- Warfield, T. D., Wild, J. J., & Wild, K. L. (1995). Managerial ownership, accounting choices, and informativeness of earnings. *Journal of Accounting and Economics*, 20(1), 61-91.
- Watts, R. L., & Zimmerman, J. L. (1990). Positive accounting theory: A ten year perspective. *The Accounting Review*, 65(1), 131-156.
- Xie, B., Davidson, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, 9(3), 295-316.
- Xu, N., Zhang, J., & Yuan, Q. (2007). Earnings management in Chinese listed companies: Evidence from split share structure reform. *Accounting Research*, 5(1), 13-20.
- Yeo, G. H. H., Tan, P. M. S., Ho, K. W., & Chen, S. S. (2002). Corporate ownership structure and the informativeness of earnings. *Journal of Business Finance & Accounting*, 29(7-8), 1023-1046.
- Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), 675-703.
- Zhang, J. (2024). The Impact of Digitization of Tax Collection and Administration on Earnings Management of Companies. *Frontiers in Business, Economics and Management*, 17(3), 154-157. <https://doi.org/10.54097/8dkxeb04>