

Analysis of the Factors Affecting Earnings Management in Basic Industry and Chemical Sub-Sector Companies Listed on the Indonesia and Thailand Stock Exchange 2017-2022

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DOI: <https://doi.org/10.52403/ijrr.20240810>

ABSTRACT

The purpose of this study is to find out and analyze the effect of institutional ownership, firm size, leverage, firm age, company growth, and auditor's reputation as a variable control of earnings management in companies listed in the basic and chemical industry sub-sector listed on the Indonesia Stock Exchange and Thailand for the 2017-2022 period. The population in this study was 80, and 14 companies were from Indonesia and Thailand. The sample was selected using the Purpose Sampling method, totaling 130 and 9 companies for Indonesia and Thailand. The research results in Indonesia prove that firm size and growth positively and significantly affect earnings management. The firm age has a negative and significant effect on earnings management, while institutional ownership and leverage have no significant effect on earnings management partially. The research results in Thailand showed that institutional ownership, firm size, leverage, firm age, and growth do not significantly affect earnings management.

Keywords: *earnings management, institutional ownership, firm size, leverage, firm age, growth*

INTRODUCTION

Company performance can be shown in the form of financial reports, which are the company's main product and can be used as an essential source of information for stakeholders (Samryn, 2012). Apart from that, the progress of a company's performance can be assessed through the company's ability to maximize or achieve profits because profit is one of the leading indicators used to measure performance and is also management's responsibility. When a company cannot achieve the expected profits, it can trigger managers to carry out unhealthy practices, such as earnings management. Profit information in financial reports is a significant concern when assessing how well the company's management is performing or being accountable. Financial reports are expected to provide information about the company's financial performance and how company management is responsible to the owners. The financial report is expected to provide information to investors and creditors when making decisions regarding the investment of their funds. Profit is one of the most essential pieces of information awaited by interested parties. Profit is an indicator that assesses the success or performance of a company where profit is measured on an accrual basis. However, there is flexibility in implementing generally accepted accounting

principles, which allows management to choose accounting policies from various available options so that, ultimately, it is possible for the company to carry out earnings management (Subramanyam, 1996).

Earnings management is an agency problem that often occurs in the business environment. Earnings management behavior carried out by management originates from agency conflict, namely a conflict of interest between the owner as Principal and the manager as an agent. The principal is interested in obtaining ever-increasing profitability to achieve maximum stock returns. Agents have an interest in obtaining maximum contract compensation to achieve prosperity. Thus, the company has two interests, and each party tries to achieve or maintain the desired level of prosperity. It will encourage agents to manage earnings.

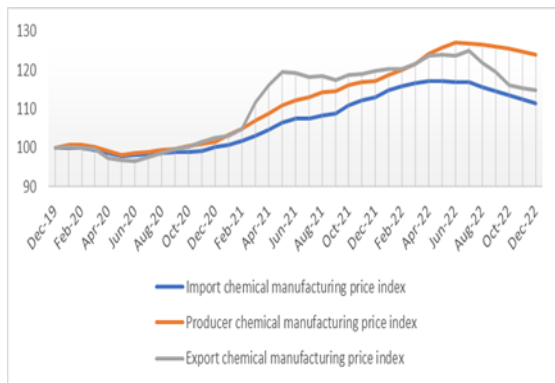
A case related to earnings management practices occurred at the State-Owned Enterprise PT Garuda Indonesia (Persero) Tbk in 2018 when PT Garuda Indonesia (Persero) Tbk collaborated with PT Mahata Aero Teknologi for in-flight connectivity and entertainment services. PT Garuda Indonesia (Persero) Tbk reported a revenue of USD 211.94 million in 2018. However, two PT Garuda Indonesia (Persero) Tbk commissioners were reluctant to sign the report. Based on a statement from the auditor of PT Garuda Indonesia (Persero) Tbk, namely BDO, this income recording follows the Statement of Financial Accounting Standards 23, but according to the Financial Services Authority, it is inappropriate. In a press release issued by OJK in 2019, OJK asked PT Garuda Indonesia (Persero) Tbk to restate its 2018 financial report so that the financial report, which initially experienced a net profit of USD 5.02 million became a net loss of USD 175 million.

The earnings management case occurred in Indonesia and Thailand, namely by a company named Stark Corporation in 2021. One of the manipulation tactics carried out by this company is to recognize fictitious sales and buy their own company's products

to increase the company's sales figures. A total of 200 suspicious transactions were found in special audits. The company experienced failure, and the company's shares dropped dramatically by 99%, so a suspension was carried out by the Stock Exchange of Thailand (SET). This case also raises questions related to the failure of the Stark Corporation acquisition plan and resignation in large quantities. In this case, Stark Corporation must re-present the financial statements from the beginning of the profit as a loss.

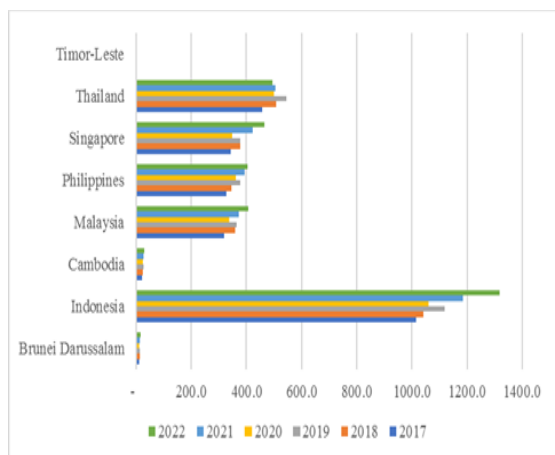
From some of the cases above, it can be concluded that earnings management practices are not new in economic development. Earnings management actions are carried out so that the company's financial statements always look good so that investors do not provide a wrong view and will be interested in investing. So, education is needed for investors to understand better what earnings management is and the various elements that can affect earnings management so that investors are not wrong in carrying out their investment activities on the stock exchange floor.

The chemical industry has an essential role in the global economy. Chemical goods are used in various sectors, from construction to manufacturing, such as fertilizers, pharmacy, food, beverages, energy, and fuel. Companies classified in this sector greatly depend on raw material prices, geopolitical risk, and competition between companies. The picture below shows that the price of chemicals tends to increase, primarily due to the Russian and Ukraine war, which began again in 2021 and caused disruption in supply chain management.



Source: U.S. Bureau of Labor Statistics (2023)
Figure 1. Chemical Price Index

Indonesia and Thailand have the most enormous economic powers in Southeast Asia and consistently occupy first and second positions. In 2022, Indonesia will have a GDP of \$1.3 trillion, and Thailand will have a GDP of \$0.495 trillion. In 2021, Thailand's petrochemical sector production will be the largest in Southeast Asia, with 35 million tons annually. However, Indonesia will only be able to produce 7.1 million tons annually. Indonesia itself is targeting to become a player in the largest petrochemical sector in the world, according to Luhut Binsar Pandjaitan, Coordinating Minister for Political, Legal, and Security Affairs.



Source: World Bank (2024)
Figure 2.State Gross Domestic Product in Southeast Asia 2017-2022 (Trillion U.S. Dollars)

Several previous studies have been conducted regarding the factors that influence earnings management. Azis (2013) found that partially managerial ownership, institutional ownership, and audit quality had

a negative and insignificant effect on earnings management. Nayiroh (2012) found that family ownership audit quality significantly affected earnings management practices. However, institutional ownership, independent commissioners, audit committees, firm size, debt, growth, and year of observation did not affect earnings management practices.

Yanuar et al. (2010) show that firm size, KAP size, and operating cash flow can influence earnings management. However, managerial ownership structure, proportion of independent board of commissioners, and leverage do not significantly influence earnings management. Widayati et al. (2012) concluded that leverage (debt to assets ratio), profitability (return on equity, earnings per share), and firm size (total assets) have a significant negative influence on earnings management. However, profitability (net profit margin) and earnings management have a significant positive influence. Muid (2009) states that institutional ownership, the proportion of independent commissioners, the size of the board of commissioners, the existence of an audit committee, and firm size do not partially affect earnings management in banking companies on the IDX.

Ramadhani (2019) states that the size of a company's growth has a positive and significant impact on earnings management, but firm age has a negative effect on earnings management. Swastika (2013) states that the board of directors, audit quality, and firm size significantly influence earnings management as measured by discretionary accruals. Sarah et al. (2016) stated that a significant positive relationship exists between a company's financial leverage and earnings management. Meanwhile, firm size, firm age, and audit quality have an insignificant relationship with earnings management. Tondang (2018) concluded that firm size, institutional ownership, and leverage positively and significantly affect earnings management, while the proportion of the board of commissioners, audit committee, and audit quality as control

variables do not significantly affect earnings management.

This phenomenon occurs not only in Indonesia but also in Thailand. Sabsombat's research (2019) states that firm size and leverage positively affect earnings management, while growth, the proportion of independent directors, and the duality of executives and chairman do not affect earnings management. Research from Suebsri and Srijunpetch (2020) found that financial distress and profits significantly affected earnings management, but leverage and firm size did not. Attarit (2018) concluded that institutional ownership and the number of shareholders influence earnings management, while the number of directors, audit reputation, and audit and chairman quality do not influence earnings management.

The difference between this research and previous research is the change in research method, namely changing the auditor's reputation as a control variable for earnings management and adding firm age and growth as independent variables by reducing the proportion of the board of commissioners, audit committee and profitability as independent variables for earnings management. as the dependent variable. So, the factors used as a reference for measuring earnings management in this research are institutional ownership, firm size, leverage, firm age, and growth. The addition of firm age and growth as independent variables in this research as a comparison with several previous studies to prove whether firm age and growth can influence earnings management refers to several previous studies that have produced positive and negative influences from firm age and growth to earnings management.

Based on the description above, the researcher is interested in researching: "Analysis of Factors that Influence Earnings Management in Companies Registered in the Basic Industry and Chemical Sub-Sectors Listed on the Indonesia and Thailand Stock Exchanges for 2017 - 2022".

LITERATURE REVIEW

Earnings Management

Earnings management is a series of actions that influence profits reported in financial reports so that they can reduce company value (Tran and Dang, 2022). This practice often occurs in low-efficiency companies (Fasoulas et al., 2024). To avoid earnings management, managers must maintain suitable internal governance mechanisms (Sukhai et al., 2024), improve the audit committee's financial capabilities (Rudyanto, 2024), and various investor identities help limit managers' opportunistic behavior (Al-Shouha et al., 2024).

Earnings management is classified into two categories, namely accrual earnings management and real earnings management (Alhadab & Nguyen, 2018). Accrual earnings management is the action and practice of manipulating a company's operational activities, which directly impacts cash flow (Susanto, 2017). Real earnings management is handling earnings through achieving standard transactions and influencing reporting through various procedures such as trade manipulation, overproduction, discretionary spending, and increases in non-current assets and sales. Real earnings management occurs when managers continuously make operational choices that affect actual cash flows to change reported profits (Alhadab & Nguyen, 2018).

This research measures earnings management using the Modified Jones Model approach. The modified Jones model approach by Dechow et al. (1995) determines earnings management and is identified with the discretionary accrual score.

Institutional Ownership

Institutional ownership refers to the company's share ownership by the institution (Panayiotis et al., 2021). It is essential in influencing various aspects of operations and company performance.

Research shows that temporary or non-temporary investors' composition of institutional ownership can impact the company's culture and strategic decisions (Tanno, 2023). Institutional ownership weakens the impact of transactions related to earnings management (Jao et al., 2023). Indicators in measuring institutional ownership are comparing institutional ownership of shares with total company share capital (Welvin and Herawati, 2010).

Firm Size

The firm size refers to the amount of company operations, usually measured by total assets or market capitalization. Firm size has a significant impact on various aspects of business. Large companies benefit from economic scale, higher resources, and technical potential (Dzeraviaha, 2022). Small companies show a higher growth rate but are more varied than large companies, thus impacting moral hazards and investment decisions based on production efficiency, wage structure, and investment rates (Chi & Choi, 2017). Different firm sizes, such as total assets, total sales, and market capitalization, affect empirical results in company finances (Dang et al., 2018). This study measured firm size by the total number of assets logged.

Leverage

Leverage involves the use of loan funds to finance assets, which have the potential to increase profits but also raise the risk of financial difficulties (Kaur, 2018). Leverage refers to the ratio between assets borrowed from others and their assets. Increasing profits when returning exceeds the cost of integration but also can increase losses, especially when there is security vulnerability (Massacci & Pashchenko, 2021).

Leverage plays an essential role in decision-making in financial management. It balances the benefits of increasing profit on equity with the risk of liquidation potential if the

obligation to flower remains incomplete (Bertang, 2015). According to Hasibuan and Tinambunan (2024), excessive use of debt can increase the company's capital and interest costs. Muhtaseb et al. (2024) state that long-term debt is inversely related to earnings management. Companies with many debts tend to maintain the objectivity and credibility of their financial statements. This study measured leverage using the Debt to Assets Ratio (DAR), which calculates the value of the company's assets financed by debt.

Firm Age

The concept of firm age refers to the length of a standing company, which plays a vital role in the company's financial and economic studies. Understanding the company's age is crucial to evaluating company performance, financial structure, and credit feasibility. Firm age is essential in various aspects of financial and company behavior (Brusov et al., 2015).

Previous research shows that the company's age can affect positive earnings management (Putra & Malau, 2023). Other studies emphasize that the company's age negatively and significantly affects earnings management (Hutauruk et al., 2022). Increasing firm age tends to have a different influence on earnings management practices, thus emphasizing the importance of considering firm age when analyzing financial performance and management strategies. The firm age is measured from the date of its establishment. This study is based on the IDX's registered date.

Growth

Company growth can be defined as a process in which the company increases size, income, market share, and overall performance. It is a fundamental aspect of the company's strategy. It is essential to encourage income, create jobs, and maintain competitiveness in dynamic markets. Growth can be achieved in various ways, such as organic expansion or strategic partnerships with other market

players, depending on competitive landscapes and industrial conditions. Growth also results in the effectiveness of corporate governance supervision (Nguyen et al., 2024).

Research by Marchellina and Firnanti (2021) showed that growth positively affected earnings management, and companies that experience higher growth tend to improve the practice of laboratory management. Furthermore, Febriani (2023) shows that sales growth is related to earnings management. Therefore, it can be concluded that company growth, especially sales growth, is essential in influencing earnings management practices. Growth measurement in this study was calculated by comparing sales in the year T after being reduced by sales in the previous period divided by sales in the previous year (Sartono, 2008).

Auditor Reputation

The auditor's reputation refers to the perception and recognition of professional integrity, competence, and trust in audit markets (Wati et al., 2022). The auditor's reputation influences various aspects of the process and audit results. Well-trained audit workers will improve audit quality results (Mwangi, 2024). The auditor's reputation and the reputation of the audit company where they are located can impact the disclosure of the company's risk (Barnes et al., 2021). In addition, the auditor's reputation is known to affect market responses, audit costs, and assessment of market income, showing the importance of an auditor's reputation in the capital market (Tamba & Sipahutar, 2022). In this study, the auditor's reputation was measured using the dummy variable with a value of 0 for company samples that the Big Four did not audit. 1 for the company audited by the Big Four.

Framework

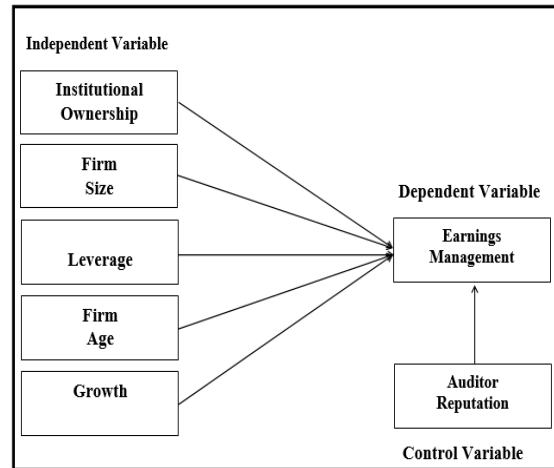


Figure 3. Conceptual Framework

H1: Institutional ownership has a positive effect on earnings management in Indonesia and Thailand

H2: Firm size has a positive effect on earnings management in Indonesia and Thailand

H3: Leverage has a positive effect on earnings management in Indonesia and Thailand

H4: Firm age has a positive effect on earnings management in Indonesia and Thailand

H5: Growth (growth) has a positive effect on earnings management in Indonesia and Thailand

MATERIALS & METHODS

This research uses a type of causal research. Causal research aims to identify the causal relationship between the variables under study. This study aims to identify the effect of institutional ownership, firm size, leverage, firm age, and growth of earnings management with an auditor's reputation as a control variable.

The population used in this study was the manufacturing company of basic and chemical industry sub-sectors listed on the Indonesia Stock Exchange (IDX) and the Thai Stock Exchange. The company sampling in this study uses the non-probability sampling method with

purposive sampling techniques. Sampling criteria used for research or other:

Table 1. Sample Selection Results

Description	Indonesia	Thailand
1. Companies listed on the IDX and SET per 2017-2022	80	14
2. Companies that did not issue financial reports during 2017-2022	(14)	(1)
3. The company does not have complete data	0	(2)
4. Outlier data	(2)	(2)
Sample Period	6	6
Total Sample	384	54

The data analysis technique used in this research is the EViews 13 program.

RESULT

A. Selection Of Panel Data Regression Models

Three models can be used in panel data regression: common, random, and fixed effects. Various tests, including the Chow Test, Hausman Test, and Multiplier Lagrange Test, are used to determine the regression model. The details of the test results are as follows:

1. Chow Test

The Chow test determines the selected regression model between Fixed Effect and Common Effect. The Chow test hypothesizes that the selected model is the common effect when the probability value is less than 0.05. In contrast, the selected model has a fixed effect if the probability value exceeds 0.05.

Table 2. Chow Test Results - Indonesia

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.792256	(63,314)	0.0000

Source: Data Processing Results with EViews Software 13 (2024)

Table 3. Chow Test Results - Thailand

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1.908249	(8,39)	0.0864
Cross-section Chi-square	17.838152	8	0.0225

Source: Data Processing Results with EViews Software 13 (2024)

Based on the table above, the Chow test results for the Indonesian and Thailand

regression models show the numbers of 0,000 and 0.023. Thus, the zero Chow test hypothesis is not accepted, so the model used in the study is the fixed effect model.

2. Hausman Test

The Hausman test determines the selected Fixed Effect and Random Effect regression model. The Hausman test hypothesizes that the selected model has a fixed effect when the probability value is less than 0.05. In contrast, the selected model has a random effect if the probability value is more than 0.05.

Table 4. Hausman Test Results - Indonesia

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	27.710597	6	0.0001

Source: Data Processing Results with EViews Software 13 (2024)

Table 5. Hausman Test Results – Thailand

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.635554	6	0.7259

Source: Data Processing Results with EViews Software 13 (2024)

Based on the table above, the results of the Hausman test for the Indonesian and Thailand regression models showed the numbers of 0,000 and 0.726. Thus, the regression model for Indonesia that is appropriate to use is a fixed effect, while the regression model for Thailand is a random effect.

3. Multiplier Lagrange Test

The multiplier lagrange test determines the selected regression model between the random and common effects. The multiplier lagrange test hypothesizes that when the probability value is less than 0.05, the selected model is the random effect. In contrast, the selected model is the common effect if the probability value exceeds 0.05.

Table 6. Multiplier Lagrange Test Results - Indonesia

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.339685 (0.5600)	46.54018 (0.0000)	46.87986 (0.0000)
Honda	0.582825 (0.2800)	6.822036 (0.0000)	5.236028 (0.0000)
King-Wu	0.582825 (0.2800)	6.822036 (0.0000)	6.724479 (0.0000)
Standardized Honda	1.099905 (0.1357)	7.787798 (0.0000)	0.180115 (0.4285)
Standardized King-Wu	1.099905 (0.1357)	7.787798 (0.0000)	4.165631 (0.0000)
Gourieroux, et al.	--	--	46.87986 (0.0000)

Source: Data Processing Results with EViews Software 13 (2024)

Table 7. Multiplier Lagrange Test Results - Thailand

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.394667 (0.5299)	1.308889 (0.2526)	1.703556 (0.1918)
Honda	0.628226 (0.2649)	-1.144067 (0.8737)	-0.364755 (0.6424)
King-Wu	0.628226 (0.2649)	-1.144067 (0.8737)	-0.507871 (0.6942)
Standardized Honda	2.583807 (0.0049)	-0.975609 (0.8354)	-2.879349 (0.9980)
Standardized King-Wu	2.583807 (0.0049)	-0.975609 (0.8354)	-2.975089 (0.9985)
Gourieroux, et al.	--	--	0.394667 (0.4702)

Source: Data Processing Results with EViews Software 13 (2024)

Based on the table above, the results of the Lagrange Multiplier test for the Indonesian and Thailand regression models showed the numbers of 0.560 and 0.530. Thus, the regression model for Indonesia that is appropriate to use is the common effect, while the regression model for Thailand is the common effect. Details of the multiplier lagrange test results can be seen in the appendix.

Based on the tests conducted, it can be determined that the Indonesian model uses a fixed effect model while the Thai model uses the common effect model.

B. Selection of Panel Data Regression

Models

1. Unit Root Test (Unit Root Test)

The regression equation using non -non-stationary variables will produce fake regression. The ADF (Augmented Dickey-Fuller) test is used with the model to detect stationary data for each variable and ADF stationary test results. Each variable is presented in the following table:

Table 8. Root Test Unit Results - Indonesia

Method	Statistic	Prob.**
ADF - Fisher Chi-square	340.668	0.0000
ADF - Choi Z-stat	-16.1534	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results UNTITLED

Series	Prob.	Lag	Max Lag	Obs
DAR	0.0000	0	16	383
GROWTH	0.0000	3	16	380
IO	0.0000	0	16	383
EM	0.0000	0	16	383
AR	0.0000	6	16	377
FS	0.0000	6	16	377
FA	0.0000	0	16	383

Source: Data Processing Results with EViews Software 13 (2024)

Table 9. Root Test Unit Results – Thailand

Method	Statistic	Prob.**
ADF - Fisher Chi-square	73.8499	0.0000
ADF - Choi Z-stat	-4.78687	0.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Intermediate ADF test results UNTITLED

Series	Prob.	Lag	Max Lag	Obs
DAR	0.1433	0	10	53
GROWTH	0.0000	0	10	53
IO	0.0390	0	10	53
EM	0.0000	0	10	53
AR	0.0446	0	10	53
FS	0.7186	6	10	47
FA	0.8043	0	10	53

Source: Data Processing Results with EViews Software 13 (2024)

The ADF probability value of the Indonesian and Thailand regression models shows a value of 0,000 below the significance value of 0.05, H0 is received, and H1 is rejected, or with other meanings, the data used is stationary.

2. Cointegration test

One method for testing cointegration is to use the Johansen cointegration test. The cointegration test in this study used Johansen's approach to comparing trace statistics with a critical value at a five percent significance level. If Trace Statistics

exceeds a critical value of 5%, this shows the presence of cointegration in the equation system.

Table 10. Cointegration Test Results - Indonesia

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.228222	396.5098	125.6154	0.0000
At most 1 *	0.207421	298.3266	95.75366	0.0000
At most 2 *	0.169000	210.2233	69.81889	0.0000
At most 3 *	0.119854	140.0608	47.85613	0.0000
At most 4 *	0.098851	91.67475	29.79707	0.0000
At most 5 *	0.080149	52.22657	15.49471	0.0000
At most 6 *	0.052812	20.56369	3.841466	0.0000

Source: Data Processing Results with EViews Software 13 (2024)

Table 11. Cointegration Test Results – Thailand

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.657255	153.8243	125.6154	0.0003
At most 1 *	0.507910	99.21516	95.75366	0.0283
At most 2	0.341116	63.05141	69.81889	0.1538
At most 3	0.297902	41.77385	47.85613	0.1651
At most 4	0.252439	23.73608	29.79707	0.2118
At most 5	0.159127	8.898141	15.49471	0.3749
At most 6	0.001158	0.059105	3.841466	0.8079

Source: Data Processing Results with EViews Software 13 (2024)

The table above shows that at a significance value of 5%, six rank variables related to cointegration that can be seen in the trace statistical value are greater than the critical value in each Indonesian and Thailand model. Thus, the variables used in this study have a long-term relationship or cointegration between one another.

C. Classic Assumption Test

1. Normality test

The normality test is used by the Jarque-Bera test, where if the probability value is smaller than 0.05, then it means that the model in the study is not normally distributed, while if the probability value is greater than 0.05, then it means that the model in the study is normally distributed.

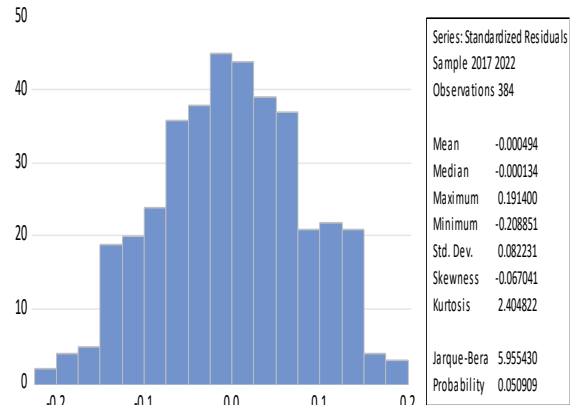


Figure 4. Indonesian Normality Test Results
Source: Data Processing Results with EViews Software 13 (2024)

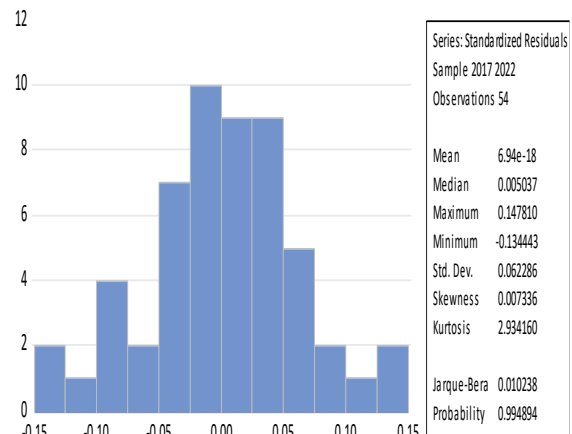


Figure 5. Thailand Normality Test Results
Source: Data Processing Results with EViews Software 13 (2024)

Figures 4 and 5 show that the probability values of the Jarque-Bera normality test for Indonesian and Thailand data show the probability values of 0.051 and 0.995. It indicates that data from Indonesia and Thailand are normally distributed.

2. Multicollinearity Test

Multicollinearity testing looks at the variance inflation factor (VIF) value. If the VIF value is less than 10, the regression model does not experience multicollinearity, but if the VIF value is greater than 10, the regression model experiences multicollinearity.

Table 12. Multicollinearity Test Results - Indonesia

Variable	Coefficient Variance	Uncentered VIF	Centred VIF
C	0.080665	16165.74	NA
IO	0.005589	481.3786	1.089885
FS	0.000393	17525.70	1.529124
DAR	1.58E-05	24.07685	1.044283
FA	2.63E-06	244.0000	1.536568
GROWTH	3.53E-05	1.181346	1.039691
AR	0.000370	12.56882	1.089428

Source: Data Processing Results with EViews Software 13 (2024)

Table 13. Multicollinearity Test Results – Thailand

Variable	Coefficient Variance	Uncentered VIF	Centred VIF
C	0.009210	177.7168	NA
IO	0.007444	84.23233	1.137161
FS	1.55E-05	164.8153	2.392593
DAR	0.001929	6.268539	1.636019
FA	5.53E-07	6.225090	2.099980
GROWTH	0.000902	1.436757	1.350314
AR	0.000785	13.24713	1.662019

Source: Data Processing Results with EViews Software 13 (2024)

In the table of multicollinearity test results above, the centred VIF value for each independent variable used in this study in Indonesia and Thailand shows a centred VIF value of less than 10, so the Indonesian and Thailand research models used do not experience multicollinearity.

D. Panel Data Regression Analysis

Table 14. Indonesian Data Panel Regression Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.321450	0.284017	-4.652722	0.0000
IO	0.006880	0.074762	0.092027	0.9267
FS	0.092805	0.019823	4.681604	0.0000
DAR	0.002369	0.003969	0.596760	0.5511
FA	-0.004308	0.001621	-2.657185	0.0083
GROWTH	0.011753	0.005944	1.977212	0.0489
AR	0.046219	0.019247	2.401392	0.0169

Effects Specification			
Cross-section fixed (dummy variables)			
Weighted Statistics			
R-squared	0.393700	Mean dependent var	0.003437
Adjusted R-squared	0.260468	S.D. dependent var	0.093506
S.E. of regression	0.080358	Sum squared resid	2.027643
F-statistic	2.955005	Durbin-Watson stat	2.199879
Prob(F-statistic)	0.000000		

Source: Data Processing Results with EViews Software 13 (2024)

Based on the results of the Indonesian Panel Data Regression Analysis, the following regression equation can be made:

$$EM = -1,321 + 0,007 IO + 0,093 FS + 0,002 DAR - 0,004 FA + 0,012 GROWTH + 0,046 AR$$

1. The coefficient value of -1,321 indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 1,321.
2. The coefficient value of the K.I. variable is 0.007, which indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.007.
3. The coefficient value of the UP variable is 0.093, which indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.093.
4. The coefficient value of the DAR variable is 0.002, which indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.002.
5. The coefficient value of the age variable is -0.004, which indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 0.004.
6. The coefficient value of the growth variable of 0.012 indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.012.
7. The R.A. variable coefficient value of 0.046 indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.046.

The probability value of F of 0,000 indicates that the independent variable jointly affects earnings management. The coefficient of determination seen from R2 is 0.260, which

indicates that 26.0% of the independent variables used in this study affect earnings management. In comparison, the remaining 74.0% of other variables outside the study affect earnings management.

Table 15. Thailand Panel Data Regression Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003366	0.095970	0.035069	0.9722
IO	0.048793	0.086278	0.565525	0.5744
FS	-0.004661	0.003936	-1.184189	0.2423
DAR	-0.008997	0.043919	-0.204851	0.8386
FA	0.000246	0.000744	0.331185	0.7420
GROWTH	0.025814	0.030041	0.859280	0.3945
AR	0.073161	0.028018	2.611179	0.0121
Weighted Statistics				
R-squared	0.247061	Mean dependent var		-0.002481
Adjusted R-squared	0.150941	S.D. dependent var		0.070782
S.E. of regression	0.065258	Sum squared resid		0.200152
F-statistic	2.570345	Durbin-Watson stat		1.773885
Prob(F-statistic)	0.030963			

Source: Data Processing Results with EViews Software 13 (2024)

Based on the results of the Thai panel data regression analysis, the regression equation can be made as follows:

$$EM = 0,003 + 0,049 IO - 0,005 FS - 0,009 DAR + 0,0002 FA + 0,026 GROWTH + 0,073 AR$$

1. The coefficient value of 0.003 indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 0.003.
2. The coefficient value of the K.I. variable is 0.049, which indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.049.
3. The UP variable coefficient value of -0.005 indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 0.005.
4. DAR variable coefficient value of -0.009 indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 0.009.

5. The coefficient value of the age variable is 0,0002, which indicates that if other variables do not experience changes or are constant, the value of earnings management will decrease by 0,0002.
6. The coefficient value of the growth variable of 0.026 indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.026.
7. The RA variable coefficient value is 0.073, which indicates that if other variables do not experience changes or are constant, the value of earnings management will increase by 0.073.

The probability value of F of 0.031 indicates that the independent variable jointly affects earnings management. The coefficient of determination seen from R2 is 0.151, which indicates that 15.1% of the independent variables used in this study affect earnings management. In comparison, the remaining 84.9% of other variables outside the study affect earnings management.

CONCLUSION

Based on the results of research and discussion in the previous chapter, several conclusions can be drawn as follows:

1. Institutional ownership does not affect earnings management in Indonesia and Thailand. Institutional investors do not directly supervise company operations, focus on short-term profits, and only act as temporary owners.
2. Firm Size has a positive and significant effect on earnings management in Indonesia but is not significant in Thailand. In Indonesia, large companies tend to carry out earnings management to maintain earnings stability due to the attention of investors. Conversely, in Thailand, the company's size does not affect earnings management, which may be caused by managing less-than-optimal assets in large companies.
3. Leverage has no significant influence on earnings management in Indonesia and Thailand. Although high leverage shows the risk of bankruptcy due to

significant debt, earnings management is not always considered an effective strategy to avoid bankruptcy. Companies with safe leverage tend to be less motivated to do earnings management.

4. Firm age positively and significantly affects earnings management in Indonesia but not in Thailand. In Indonesia, older companies tend to be more able to increase profits and compete well. Conversely, Firm Age does not affect earnings management in Thailand because other factors, such as management decisions and financial stability, dominate.
5. Growth significantly affects earnings management in Indonesia but not in Thailand. In Indonesia, stable companies do not need to manipulate profits because they focus on expenses and maintain sales. In Thailand, growth does not affect earnings management because managers do not feel the need to manipulate income.

SUGGESTIONS

Based on the results of research that has been done, suggestions that can be given from researchers for this study are as follows:

1. For the company, it can increase transparency in delivering financial statements and reduce the practice of earnings management to become a company that investors trust.
2. For investors, researchers can analyze financial statements to find out the factors that influence earnings management, which can be an indicator to determine the direction of investor investment.
3. For subsequent researchers, this study can add variables not used in this study, such as dividend policy or ownership structure, and expand the company sector from the primary and chemical industries into the manufacturing sector.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

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How to cite this article: Intan Parulian Esther Fransisca, Iskandar Muda, Abdhy Aulia Adnans. Analysis of the factors affecting earnings management in basic industry and chemical sub-sector companies listed on the Indonesia and Thailand Stock Exchange 2017-2022. *International Journal of Research and Review*. 2024; 11(8): 83-96. DOI: <https://doi.org/10.52403/ijrr.20240810>
