

# Monitoring Financial Risk and Earnings Manipulation Across Malaysia, Thailand and Indonesia

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## ABSTRACT

This paper discusses the significance of mean difference in free cash flow, leverage, as well financial distress between Malaysia, Thailand, and Indonesia. It involved 582 samples from Bursa Malaysia, Stock Exchange of Thailand, and Indonesia Stock Exchange on an annual basis commencing from 2015 to 2017. The purpose of this study was to determine whether the significance of variables towards earnings manipulations (by proxy of discretionary accruals) within the countries can be used to propose a new regulation that focuses more towards reducing the earning manipulation within the firm, as results might be helpful for firms in the near future. Moreover, the study aimed to identify which firm within these three countries wholly manipulated earnings more than the other. The significance difference of the of earning manipulation for the 3 countries was investigated. The descriptive statistics tells that Indonesia had the highest debt compared to two other countries. Results from one-way ANOVA, which was used to determine if there was a significant difference for free cash flow, leverage, and financial distress respectively, across these countries, showed that there were mean significant differences for all three variables.

**Keywords:** earnings manipulation, financial risk, Malaysia, Indonesia, Thailand

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## **INTRODUCTION**

Free cash flow, leverage and financial distress situations can have serious effects on the financial standings of a company where earnings management is concerned. These situations could put pressure on managers to manipulate earnings, leading companies to experience low growth, possible loss of funding and eventually bankruptcy (Habib et al., 2013; Jensen, 1986). Ever since the high-profile malfeasance of the world's renowned corporations, which were tangled in the accounting fraud between 1998-2009, there has been amendments of interest among the corporate world practices on modern establishments, particularly in relation to accountability. The ASEAN Capital Markets Forum (ACMF) has constructed the Corporate Governance Scorecard as one of their initiatives for the Implementation Plan in the beginning of 2011. ACMF was reinforced by the Asian Development Bank (ADB) advocating "Promoting an Interlinked ASEAN Capital Market" district with the main goal to raise corporate governance standards and implications of ASEAN Public Listed Companies.

Nonetheless, despite having extant studies examining the effects of free cash flow, leverage and financial distress situations towards earnings management, there has been inconclusive empirical evidence to date (Selahudin et al., 2014) especially when compared between countries (Aman et al., 2006). Historically, the three neighbouring Southeast Asian countries, especially Thailand and Indonesia, were among the worst affected by the 1997 financial crisis. Although several studies related to earnings management had been done within each country (Chung et al., 2005a; Bukit & Iskandar, 2009; Oktaviani & Mochklas, 2020), information is limited with regard to the comparison between these three countries.

Therefore, this study aimed to investigate earnings manipulation (by proxy of discretionary accruals), through the listings of public companies in Malaysia, Thailand and Indonesia, which is based on the study by Selahudin et al. (2014). Specifically, it aimed to identify whether significant differences can be tested on the variables of free cash flows, leverage and financial distress within the three countries. Discretionary accruals were chosen as it detects the sum of squares of mean variance of earnings. For extensive findings, this research pooled data on an annual basis for three years from year 2015 to 2017.

## **LITERATURE REVIEW**

Earnings management involves various accounting techniques to generate and manipulate financial reports, such as by using the General Accepted Accounting Principles (GAAP) or by following the adjustments suggested in the accounting system (Jiraporn et al., 2008). Based on early studies of Dechow and Skinner (2000), managers must be able to use their own discretion in accounting principles, which authorises them to use any standard accounting method and any projection in accounting methods. However, the weakness in the rule of accounting makes the manipulation of earnings easier to portray in their report (Mao & Renneboog, 2015). Managers may use their discretion to mislead shareholders concerning the economic performance of the company by using earnings manipulation (Di Meo et al., 2017). This is to ensure that the financial situation of a company is delivered in the best possible ways (Vagner et al., 2021).

One of the many legible proxies of earning manipulation is accruals. Previous reports (Dechow & Skinner, 2000; Selahudin et al., 2014; Ghazali et al., 2015) have found that the utmost influential element in managing earnings is discretionary accruals, that is managed by the management of accounting principles due to constraints. Discretionary accruals have been used to determine the proxy of earnings manipulation (Ecker et al., 2013; Jones et al., 2008; Nekhili, 2016). In view of companies that practice earnings manipulation, if they ever wish to appear healthier than their true condition, they may use discretionary accruals to escape from being identified as financial distressed companies and thereby avoiding financial market discount (Selahudin & Zakaria, 2014).

Studies suggest that regulatory influence considerations can induce firms to manipulate earnings. As there is distortion in evidence, solidifying studies should be extensive through different forms of earnings manipulation throughout corporations.

## **Relationship between Free Cash Flow, Leverage, Financial Distress and Earnings Management**

Free cash flow (FCF onwards) was conceptualized by Jensen (1986) to refer to residual cash flow after a project funding. However, it gives managers choices to invest on unproven investments just to benefit their self-interest as they will by using legal techniques (Al-khabash & Al-Thuneibat, 2009). FCF is an important mechanism in measuring the growth of a firm and offers the signs of financial flexibility (Bukit & Iskandar, 2009). Chung et al. (2005b) found that companies with high FCF and low growth opportunities use discretionary accruals to downgrade their earnings levels. The positive relationship between FCF and earnings management was demonstrated in studies involving various companies in several Southeast Asian countries (Chung et al., 2005a; Bukit & Iskandar, 2009; Rusmin et al., 2014; Oktaviani & Mochklas, 2020).

Leverage (LEV, onwards), on the other hand, is defined by the amount of debt accumulated in funding business operations and assets, apart from equities (Selahudin & Zakaria, 2014). A study by Becker et al. (2003) highlighted the association between LEV and discretionary accruals, which resulted in statistically insignificant difference through groups of models. A comparison was made by Jones, Krishnan, and Melendrez (2008), by using nine contending models detection of discretionary accruals variables of FCF and LEV. Significant results of the act on abnormal accruals (also known as discretionary accruals) were shown. High LEV is reflected on whether a company's worth of debt is greater than its debt-to-equity range as where LEV increases, the potential return of the company and increases and a firm's ability to manage its debt decreases (Shubita & Alswalhah, 2012).

Lastly, financial distress may refer to liquidation or bankruptcy although the condition of being financially distressed varies from normality of corporate that is similar to bankruptcy. Financial distress is alarming to governments and other stakeholders because poor financial performance could lead a company to bankruptcy (Habib, Uddin Bhuiyan, & Islam, 2013). Andrade and Kaplan (1998) noted that there is a positive relationship between a firm's leverage and its probability of financial distress. In another study, Habib et al. (2013) found that income-decreasing earnings manipulation are more prevalent in distressed firms compared to healthy ones.

Based upon the literature reviewed, the study developed the following hypotheses:

- H1:** There is mean significant difference for FCF across Malaysia, Indonesia, and Thailand
- H2:** There is mean significant difference for LEV across Malaysia, Indonesia, and Thailand
- H3:** There is mean significant difference for financial distress across Malaysia, Indonesia, and Thailand

## **METHODOLOGY**

### **Data Collection Method**

In this research, we collected the data from Thomson Reuters' Data Stream for the stock exchange of Bursa Malaysia, Stock Exchange of Thailand (SET), and Indonesia Stock Exchange respectively. Some sectors were chosen for each country. For Malaysia, sectors chosen were consumer products, construction, industrial products, plantations, properties, technology, trading and services. For Thailand, the sectors chosen were agriculture and food, consumer products, industrial products, property and construction, resources, services, and technology. Meanwhile for Indonesia, we chose agriculture, basic industry and chemicals, consumer products, textile and apparel, a combination of sectors comprising; infrastructure, utilities and transportation, mining, and combination of properties and building construction. Those sectors were chosen to have homogenous properties among sectors that could contribute to more precise results. Besides, industry sectors that consisted of ten firms and below were excluded from the sample as the numbers of firms within the sector were not fit to be an industry due to lack of firm participant enrolment generally within an industry (Peasnell, Pope, & Young, 2005). The data was for 2015 to 2017. The selection of sample data is shown below in Table 1:

**Table 1: Sample selection across Malaysia, Indonesia, and Thailand**

|   | Malaysia | Indonesia | Thailand |
|---|----------|-----------|----------|
| Total sum of firms listed in public listed companies as at 22nd July 2018 | 926      | 756       | 567      |
| Deduct:   |          |           |          |
| Banking, finance, investment, and insurance sectors.                      | (541)    | (306)     | (18)     |
| Less than 10 firms within an industry.                                    |          |           |          |
| Firms with unavailable data for year end of 2014, 2015, 2016, and 2017.   | (56)     | (62)      | (28)     |
|   | (135)    | (194)     | (327)    |
| Final sample  | 194      | 194       | 194      |

### Dependent Variable

The proxy used to determine earnings manipulation was discretionary accruals, where the most used model proposed by Dechow et al. (2012) called the Modified Jones Model, was used as this model was stated to be the most relevant across previous studies (Selahudin et al., 2014). Previously, in a study by Habib, Uddin Bhuiyan, and Islam (2013), this model consists of cross sectional on measuring earnings manipulation. The transformation made by the study was to the real value of earnings manipulation. This is because of the mixed effect of the results on earnings management whether there is an indication of increment or decrement of income by the manager, and consistent with the study by Abdul Rahman and Mohamed Ali (2006). The estimated formula for total accruals as suggested by (Dechow et al., 2000) is:

$$TACC_{it} = EBEIt_{it} - CFO_{it}$$

The short forms are explained as:

- $EBEIt_{it}$  : Income before extraordinary items of firm  $i$  in year  $t$
- $CFO_{it}$  : Cash flow from operation of firm  $i$  in year  $t$
- $TACC_{it}$  : Total accruals

Next, the total accruals are were further included in the regression model to be regressed as plain accruals and the residual variance value was signified as discretionary accruals (proxy of earnings manipulation) with the equation below:

$$TACC_{it}/TA_{it-1} = a_0 (1/TA_{it-1}) + a_1 [(\Delta REV_{it} - \Delta AR_{it})/TA_{it-1}] + a_2 (PPE_{it}/TA_{it-1}) + \epsilon_{it}$$

- $TA_{it-1}$  : Total assets of firm i at the end of year t -1  
 $\Delta REV_{it}$  : Change in revenue from year t – 1to year t  
 $\Delta AR_{it}$  : Change in account receivables from year t – 1to year t  
 $PPE_{it}$  : Property, plant, and equipment of firm i in year t  
 $TACC_{it}$  : Total accruals of firm i in year t

## Independent Variables

The independent variables comprised free cash flow, leverage, and financial distress. For leverage, the debt ratio formula (Total debt/Total assets) was used as a proxy for leverage. As for financial distress, the Altman z-score was used as a proxy for financial distress where the indicator of firms with Z-scores smaller than 1.81 were classified as financially distressed firms while firms with Z-scores over 2.67 were classified as financially healthy. The linear equation of Altman Z-Score model is shown below:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5$$

- $X_1$  : Working capital / Total assets  
 $X_2$  : Retained earnings / Total assets  
 $X_3$  : Earnings before interest and taxes / Total assets  
 $X_4$  : Market value of equity / Total liabilities  
 $X_5$  : Sales / Total assets

Z-Score overall index states; the lower a firm's Z-score the higher its probability to bankrupt.

Next, for free cash flow, the proxy used is:

$$\text{Free Cash Flow} = \text{Operating income before depreciation} - (\text{Tax expense} + \text{interest expense} + \text{dividend}) / \text{total asset}$$

Firms were categorized as having potential free cash flow agency problems when free cash flow was above-median and the price to book ratio was below-median.

## Control Variables

To further specify the control variables, two dummies were used that were categorised by Country and Industry. The dummy for the tested country, such as Indonesia, was coded as 1 and other countries were coded as 0. Next, Malaysia was coded as 1 and 0 for other countries, and later, Thailand was coded as 1 and 0 for other countries. Next, the Industry was coded numerically as 1 or 0 based upon the respective countries' industries. Within Indonesia, the industries covered were consumer products, properties and building construction, basic industry and chemicals, infrastructure, utilities and construction, agriculture, textile and apparel, as well as the mining industries. As for Malaysia, consumer products, construction, industrial products, plantations, properties, technology, as well as trading and services industries were included. For Thailand, consumer products, industrial products, property and construction, technology, services, resources as well as agricultural and food industries were examined.

## RESULTS AND DISCUSSION

In this study, the sample size of 582 firms were analysed from each country, which contributed to 33.3% percent for the entire sample size. Table 2 shows the frequency and the percentage of the sample from each country.

**Table 2: Sample Selection Across Malaysia, Indonesia, and Thailand**

| Country   | Frequency | Percentage |
|-----------|-----------|------------|
| Malaysia  | 582       | 33.3       |
| Indonesia | 582       | 33.3       |
| Thailand  | 582       | 33.3       |
| Total     | 1746      | 100.0      |

The empirical findings of the firms for Malaysia, Indonesia and Thailand are described statistically in Tables 3, 4, and 5, respectively.

**Table 3: Descriptive Statistics for Malaysia**

| MALAYSIA |           |            |         |                    |
|----------|-----------|------------|---------|--------------------|
|          | Frequency | Percentage | Mean    | Standard Deviation |
| Residual | -2.8300   | 1.2200     | 0.0000  | 0.49035            |
| FCF      | -0.6100   | 0.3500     | -0.0053 | 0.07573            |
| Leverage | 0.0000    | 0.6900     | 0.2112  | 0.15723            |
| Distress | 0.0000    | 36.7200    | 0.9245  | 1.76454            |
| Industry | 1.0000    | 7.0000     | 3.6546  | 2.13873            |

**Table 4: Descriptive Statistics for Indonesia**

| INDONESIA |           |            |        |                    |
|-----------|-----------|------------|--------|--------------------|
|           | Frequency | Percentage | Mean   | Standard Deviation |
| Residual  | 0.0000    | 0.5400     | 0.0000 | 0.11428            |
| FCF       | -0.4500   | 0.4900     | 0.0224 | 0.08365            |
| Leverage  | 0.0000    | 4.7800     | 0.3272 | 0.41734            |
| Distress  | -0.1900   | 5.2700     | 3.2110 | 0.36800            |
| Industry  | 1.0000    | 7.0000     | 4.2784 | 2.16406            |

**Table 5: Descriptive Statistics for Thailand**

| THAILAND |           |            |         |                    |
|----------|-----------|------------|---------|--------------------|
|          | Frequency | Percentage | Mean    | Standard Deviation |
| Residual | -2.6300   | 1.1000     | 0.0000  | 0.16168            |
| FCF      | -0.8100   | 0.2400     | -0.0205 | 0.10249            |
| Leverage | 0.0000    | 1.0700     | 0.2658  | 0.18430            |
| Distress | 0.0500    | 61.5700    | 1.5170  | 4.65492            |
| Industry | 1.0000    | 7.0000     | 3.9845  | 1.92674            |

From Tables 3 to 5, we can see that the maximum values for firm leverage in Indonesia, Malaysia, and Thailand were 4.7800, 0.6900, and 1.0700, respectively. This shows that Indonesia has the greatest debt in comparison to the other two countries. Meanwhile the mean of the leverage for Malaysia, Indonesia and Thailand were 0.2112, 0.3272 and 0.2658, respectively.

The mean of Z-score values of financial distress (Distress) were 0.9245 for Malaysia, 3.2110 for Indonesia and 1.5170 for Thailand. Healthier firms have higher Z-score values. This indicated that Indonesia was the healthiest with the highest Z-score mean of financial distress at 3.2110. Demirkan (2009) stated that firms with a Z-score value that is smaller than 1.8 could be classified as financially distressed. Hence, most firms in Malaysia, Indonesia and Thailand were considered as financially distressed firms.

The FCF range for Malaysia was between -0.6100 to 0.3500. Meanwhile for public listed firms in Thailand, the reported free cash flow in range was between -0.81 to 0.24 meanwhile, for Indonesia; the range was from -0.0450 to 0.4900. Negative free cash flow indicated that the firms were suffering from deficit free cash flow. On the other hand, free cash flow that is positive indicates that the firms have surplus free cash flow to fund positive net present value of project and improve the firms' growth. As shown in Tables 4.1, 4.2 and 4.3, the mean value of free cash flow for Indonesia, Malaysia and Thailand was 0.0224, -0.0053 and -0.0205 respectively.

Analysis of variance (ANOVA) was carried out to test whether there was a mean significant difference in earnings manipulation between Malaysia, Thailand and Indonesia through a three-year observation from 2015 to 2017. We examined the mean difference of free cash flow, leverage, and financial distress between the three countries.

**Table 6: Descriptive Statistics for Full Sample**

|          | Minimum | Maximum | Mean   | Standard Deviation |
|----------|---------|---------|--------|--------------------|
| Residual | -4.59   | 2.20    | .0000  | .47534             |
| FCF      | -.81    | .49     | -.0011 | .08974             |
| Leverage | .00     | 4.78    | .2681  | .28245             |
| Distress | -.19    | 61.57   | .8406  | 2.94007            |
| Country  | 1.00    | 3.00    | 2.0000 | .81673             |
| Industry | 1.00    | 7.00    | 3.9725 | 2.09361            |

From Table 7, we can say that the highest percentage of the firms from all three countries was conquered by the industrial products with 22.0%. Meanwhile, the lowest percentage was construction firms with 7.2%.

**Table 7: Frequency and Percentage of Industry for Three Countries**

| Industry           | Frequency | Percentage (%) |
|--------------------|-----------|----------------|
| Consumer Product   | 291       | 16.7           |
| Technology         | 174       | 10.0           |
| Industrial Product | 384       | 22.0           |
| Trading & Services | 216       | 12.4           |
| Construction       | 126       | 7.2            |
| Plant              | 234       | 13.4           |
| Properties         | 321       | 18.4           |
| TOTAL              | 1746      | 100.0          |

One-way ANOVA test was carried out to study the hypotheses stated in the previous section. 582 firms were tested from the three countries Malaysia, Indonesia and Thailand. Table 8 illustrates the results of one-way ANOVA analysis between Malaysia, Indonesia and Thailand on FCF, LEV, and DISTRESS.

**Table 8: Summary Result of One-way ANOVA**

|                 | Country   | N   | Mean    | Standard Deviation | Sig   |
|-----------------|-----------|-----|---------|--------------------|-------|
| <b>FCF</b>      | Malaysia  |     | 0.9245  | 1.76454            |       |
|                 | Indonesia |     | 0.0803  | 0.36800            | 0.000 |
|                 | Thailand  |     | 1.5170  | 4.65492            |       |
| <b>LEV</b>      | Malaysia  |     | 0.2112  | 0.15723            |       |
|                 | Indonesia | 582 | 0.3273  | 0.41734            | 0.000 |
|                 | Thailand  |     | 0.2658  | 0.18430            |       |
| <b>DISTRESS</b> | Malaysia  |     | -0.0053 | 0.07573            |       |
|                 | Indonesia |     | 0.0224  | 0.08365            | 0.000 |
|                 | Thailand  |     | -0.0205 | 0.10249            |       |

As shown in the Table, there was a difference in mean for FCF between Malaysia and Thailand because the mean difference at  $p = 0.0000$  ( $p < 0.05$ ). The result informed that the respective mean values are: Malaysia (Mean=0.9245, SD=1.76454), Indonesia (Mean=0.0803, SD=0.36800) and Thailand (Mean=1.5170, SD=4.65492). Thus, H1 was accepted.

The mean value for LEV for Malaysia was (Mean= 0.2112, SD = 0.15723), Indonesia (Mean= 0.3273, SD= 0.41734) and Thailand is (Mean= 0.2658, SD = 0.18430). The mean difference for LEV was at  $p = 0.000$  ( $p < 0.05$ ). Therefore, the effect indicated that there was a statistically significant difference in mean for LEV for Malaysia, Indonesia and Thailand. Therefore, H2 was accepted.

Lastly, this study also reported significant difference in the mean value for financial distress (DISTRESS) for Malaysia, Indonesia and Thailand. The mean value of DISTRESS for Malaysia was (Mean= -0.053, SD= 0.07573), Indonesia (Mean= -0.0224, SD=0.08365) and for Thailand (Mean=0.0205, SD=0.10249). The mean difference for DISTRESS was at  $p = 0.0000$  ( $p < 0.05$ ). For that reason, the result showed that there was a statistically significant difference in mean for DISTRESS between Malaysia, Indonesia and Thailand. Therefore, H3 was accepted.

## CONCLUSION

To conclude, this study tested and found that there were mean significant differences between FCF, leverage, and financial distress with earnings manipulation between Malaysia, Indonesia and Thailand. Thus, all hypotheses were accepted.

The validity of the difference in mean of FCF, LEV, and financial distress between those three countries was significant because of the cultural differences according to countries, which may affect the way managers give judgmental opinion and choose the accounting method. The mechanism to control management act should therefore be enhanced (Juliarto, Tower, Van der Zahn, & Rusmin, 2013). The enforcement of legislation is vital to dissuade any earnings management activities and can mitigate arising issues.

Future studies should look into adding more variables and observing longer periods as this helps to give a better pattern and projection in tracking the act of manipulation through countries as this testing showed a very short possibility of events.

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