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## Remodelling the Earnings Management with the Appearance of Leverage, Financial Distress and Free Cash Flow: Malaysia and Thailand Evidences

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**Abstract:** This study examines the relationships between earnings management with leverage, financial distress and free cash flow for both Malaysia and Thailand. The main focus of this study is on accruals earnings management which proxy by discretionary accruals. Data is based on 335 public listed companies in Malaysia and 224 public listed companies in Thailand period from 2010-2012. The study finds that the different in mean for leverage, financial distress and earnings management between Malaysia and Thailand is significant. The study also shows that financial distress has a significant impact on earnings management for Malaysia, Thailand and full set sample of test. However, there are mix support for relationship between earnings management with leverage and free cash flow. The sensitivity analysis provides mix supports when using different earnings management detection model. These results should be of interest to public listed companies, regulators and various stakeholders to assist proper guideline and understanding on earnings management.

**Key words:** Earnings management, leverage, financial distress, free cash flow

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### INTRODUCTION

This study aims to remodel the managerial earnings management practices (proxy by discretionary accruals) of public listed companies in Malaysia and Thailand by considering the influence of leverage, financial distress and free cash flow. This study compares whether there is a significant difference in discretionary accruals, leverage, financial distress and free cash flow between Malaysia and Thailand. In the current globalized industry, it is important for all companies to oversee their business operations especially for the public listed companies around the world. The management of the company is responsible to provide a quality reporting.

The information disclosed in the financial statement is used by a variety of user in making their personal decisions. Different users need the financial reporting information for different purposes. Nonetheless, the manipulation of accounting numbers or earnings management intentionally created by managers will eradicate the reliability and quality of the financial information. According to Dechow and Skinner (2000), the most powerful tools to manage earnings are discretionary accruals. The manager may discreetly mislead stakeholders regarding the economic performance of the company by using earnings management (Healy and Wahlen, 1999). This information asymmetry offer an opportunity for managers to use discretion in preparing financial report which are supported by the loopholes in accounting

standards. There are several reasons for companies to manage earnings which include personal gains, regulatory requirement and contracting (Healy and Wahlen, 1999; Deangelo *et al.*, 2002; Srinidhi and Gul, 2007).

Since, the high-profile collapses of world large corporations which were involved in accounting fraud during 2001-2002, there has been renewed interest in the corporate governance practices of modern corporations, particularly in relation to accountability. The ASEAN Capital Markets Forum (ACMF) has established the Corporate Governance Scorecard as one of their Implementation Plan in early 2011. This ACMF was supported by the Asian Development Bank (ADB) through the "Promoting an Interlinked ASEAN Capital Market" regional with the primary objective to raise corporate governance standards and practices of ASEAN Public Listed Companies (Dezan Shira and Associates, 2013). There are several reasons why it is desirable to conduct a study on Malaysia and Thailand. First, there is limited study on the comparison between Asian countries on earnings management. Second, Malaysia and Thailand experience the same financial crisis in 1997. Third, Thailand has shown as highest score in ASEAN corporate governance scorecard and Malaysia is one of the largest market capitalization of listed companies from 2009-2012 among the Asian countries. Thus, this study conducted on two Asian countries which are Malaysia and Thailand. Prior studies has raised an issue regarding leverage, financial distress and free cash flow towards

earnings management. However, the empirical evidence regarding this is not conclusive.

### **EARNINGS MANAGEMENT AND ITS MOTIVES**

Prior studies have provided a lot of definition for earnings management. Simon (2001) proposed earnings management as application of various accounting conventions such as the matching, prudence and historic cost in the manipulation of earnings. Leuz *et al.* (2003), defined earnings management as the alteration of companies' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes. The same definition was provided in a study done by Healy and Wahlen (1999). Although, earnings management has been defined in many ways, the basic concept of earnings management underlies the manipulation of financial reporting information by management of a company for their self interests in the expense of others. Healy and Wahlen (1999) proposed that financial reports can be manipulated by complement with the manager's judgmental opinion. These can be done by selecting accounting methods which are accepted by the General Accepted Accounting Principles (GAAP) or by making changes in the ways given methods are applied as offered by accounting system (Pornsit *et al.*, 2008).

On the other hand, Kothari *et al.* (2005) argued that companies with extremely high performances are more likely to engage in earnings management compared to companies with poor performance. It has been proposed that the practice of earnings management often results in inaccurate and misleading financial reports because the financial information reported in the financial statements are not similar with the exact amount generated from the business operation (Healy and Wahlen, 1999; Dechow and Skinner, 2000). Hence, the role of accrual accounting is believed to have caused some forms of earnings management and it is difficult to distinguish between the manipulated accruals item from the appropriate accrual accounting choice (Dechow and Skinner, 2000; Aman *et al.*, 2006). Even managers prefer to use accruals accounting to manipulate earnings but not all total accruals is related to earnings management (Johl *et al.*, 2007; Aman *et al.*, 2006). The most popular techniques used to manage earnings by the management are big bath, cooking jar reserve, income maximization and income minimization (Rahman and Ali, 2006; Cornett *et al.*, 2009; Ahmad-Zaluki *et al.*, 2011; Leventis and Dimitropoulos, 2012; Tangjitprom, 2013).

In 2011, Bursa Malaysia has issued two strict requirements to all public listed companies in order to remain listed on the main market. First, public listed companies should not have an uninterrupted profit after

tax for three to five years full Financial Years ("FY"), with an aggregate exceeding RM 20 million. Second, the public listed companies should have a profit after tax of at least RM 6 million in the most recent financial years". In addition, Bursa Malaysia has also issued a listing standard in order to monitor the quality of market for listed companies. Companies which are unable to maintain their quality in the market, will be listed as financially difficult companies according to Practices Note 4 and 17 (Sadique *et al.*, 2010; Choy *et al.*, 2011). Jones and Sharma (2001) found that leverage had given different impact on earnings management while free cash flow gave the same impact before or after the establishment of the regulations. In another study, Habib *et al.* (2012) found that managers of distressed companies engage in more income-decreasing earnings management practices as compared to healthy companies and these findings are consistent even after the global financial crisis period. Sometimes, manager tend to get involved in earnings management in order to hide unlawful transactions and hence, face high litigation risk (Rahman and Ali, 2006; Jiang *et al.*, 2008). Indirectly, management intentionally tries to maintain the reputation of the company by showing that their companies are performing well in the market. As a result, management will gain better compensation such as bonus, prestige, job security, pension contributions, stock awards and future promotions (Bukit and Iskandar, 2009; Demirkan and Platt, 2009).

Chung *et al.* (2005) argued that manager in low growth companies with surplus free cash flow intentionally manage earnings because they want to avoid reporting loss and negative earnings. This low growth is accompanied with investments in negative values of net present Values (NPVs). The study found that managers tend to use accounting accruals to moving upward the income and the company will able to maintain the positive earnings pattern and influence the market perception. A study by Bukit and Iskandar (2009) reported that 43% from 225 public listed companies in Malaysia have high surplus free cash flow and more likely to use income-increasing to show better reported earnings in order to reduce the pressure on management to perform well which is contra with the low surplus free cash flow companies. However, Teoh *et al.* (1998) found that managers are motivated to inflate earnings in order to influence various stakeholders prior to seasoned public offering because no information or news regarding the companies in the years before public offering and the investors are forced to rely on the information provided in the prospectus.

Leuz *et al.* (2003), noted that managements engage in earnings management are motivated by private control benefits. They found that managers use earnings management to conceal company performance from outsiders in order to window dress their unethical activities and investor protection may limit the insiders' ability to manipulate earnings. On the other hand, Laux and Laux (2009) claimed that the management of publicly traded companies are motivated to manage earnings as to increase the stock price in order to gain high compensation. As compared to nonprofit organization, Eldenburg *et al.* (2007) reported that the management are manage accruals motivated by intention to meeting the external benchmark such as to maintain or increase the organization's donation base, to allay creditors' concerns and to reduce the cost of debt capital since they have no publicly share fund. Thus, earnings management might differ according to the technique applied, motivation, type of organization and country.

#### **LEVERAGE AND EARNINGS MANAGEMENT**

Leverage is referred to the amount of debt used to finance a companies' asset and business operation other than equity. According to Andrade and Kaplan (1998), high leverage companies faced many problems such as financially distress, defaulted on debt payments and facing bankruptcy risk. In addition, Jensen (1991) argued that the establishment of new regulation and economy downturn crisis may give significant impact on the high leverage companies. Hence, the problems facing by this high leverage companies become worst. A company are considering have high leverage if the value of company's debt is more than debt optimal value (Shubita and Alsawalhah, 2012). According to Gill *et al.* (2009), the benefit offered by tax shield would induce profitable companies to use more debt to extend the perfect market as proposed by Modigliani and Miller (1958). Thus, the higher the debt ratio, the greater the risk and the higher interest rate will be (Shubita and Alsawalhah, 2012).

Prior study has provided evidence that defaulting companies prefer to make more accounting changes as compared to non-defaulting companies (Dichev and Skinner, 2002; Beatty and Weber, 2003). Since the management are permitted to choose any allowable accounting method and estimates, manager will used this opportunity to manage the earnings because the manipulation of accounting practice is difficult to measured (Dechow and Skinner, 2000). According to Beatty and Weber (2003), the management of companies are more likely to change the accounting method in order to avoid debt covenant violation by applying

income-increasing motive. This is because the cost of technical default is too costly and it gives a significant impact to the companies' earnings and performance. Similarly, the same result are revael in the study conducted by Dichev and Skinner (2002). This is supported by Christie (1990), who claimed that leverage is one of the explanatory power in choices of accounting method. On the other hand, lenders will demand and scrutinize several measures if high leverage companies wish to take out new loan and this will put a lot of pressure to the manager to manage the earnings (Zagers-Mamedova, 2009).

As proposed by Miller (1977), the trade-off theory has provided discussing on the relationship between leverage and financial distress company. This theory proposed the concept of balancing between the tax advantage of debt and the cost of financial distress in reaching the optimal value of leverage. It assumes that high leverage companies enjoy more advantage when compared to low leverage companies because the interest on debt are tax deductible and companies can increase its debt at maximum level. However, high leverage might be risky for the companies because the companies may face difficulty in fulfilling their debt repayment (Miller, 1977). This is supported by Andrade and Kaplan (1998), as they found that high leverage is primary cause for companies to suffer financial distress. Hence, financial distress may cause the managers of the companies to commit a fraud by employed earnings management because managers can expect to have their privilege cut (Habib *et al.*, 2012).

There are mixed opinions on whether leverage may influence the potential of managers to exercise earnings management. Aman *et al.* (2006) argued that the leverage have no influence on earnings management during financial crisis because the corporate sector in Malaysia heavily dependent on commercial bank financing in order to get external funds. Thus, financial difficulties faced by companies may not transpire managers to improve upon their performance through earnings management because the companies are monitored by the bank and financial institution. Some literature claimed that debt may discourages or restrain earnings management as monitoring mechanism. By having debt, management of the companies will be disciplined in debt repayments in order to avoid debt covenant default and being used by the lenders (Stulz, 1990; Hart and Moore, 1995). Similarly, a study by Balsam *et al.* (2002) and Siregar and Utama (2008) claimed that lenders have more access to relevant and timely information that enable them to detect earnings management done by unethical managers. Therefore, this study proposes the following hypothesis:

- **H1:** There is a significant relationship between leverage (LEV) and discretionary accruals (DACC)

### **FINANCIAL DISTRESS AND EARNINGS MANAGEMENT**

There is no explicit definition of financial distress has emerged from prior study. According to Platt and Platt (2006), the definition of financial distress is less precise than the legal actions that define proceedings like liquidation and bankruptcy. Maina and Sakwa (2012), referred financial distress to several situations in which companies face some form of financial difficulty such as bankruptcy, failure, insolvency and debt repayment default. In addition, Altman (1993) provided a complete definition and description of these different terms. First, bankruptcy mostly refers to the legal definition of financial distress. Different financial conditions may offer different financial decisions. Second, Altman (1993) defines that failure situation happens when the realized rate of return on invested capital is significantly lower when compared to the prevailing rates of similar investment after considering the risk on investment. Next, insolvency is refers to a negative performance which indicates liquidity problems (Altman, 1993). According to Hotchkiss *et al.* (2008) a company is categorized as having liquidity problems when the liquid assets of the company, which refers to current assets or item that are easily converted into cash are insufficient to meet current requirements or obligations. Insolvency in bankruptcy sense indicates negative net worth. Finally, default refers to a situation where a company violates a condition in an agreement or debt covenant with a creditor which can cause a legal action (Maina and Sakwa, 2012).

Habib *et al.* (2012), strongly supported that financially distressed companies in New Zealand had a positive relationship with earnings management and they found that companies fall under financial distress condition are likely to engage earnings upward as compared to non distress companies. Habib *et al.* (2012) claimed that this distressed companies use abnormal accruals in manipulating the earnings in order to make changes in the reported earnings value. A study from Taiwan reported that the financial distress company may have substantially manipulated the earnings. However, Hsiao *et al.* (2010) reported that the substantial earnings management activity by management may cause the company to fall under category of financial distress company. On the other hand, Bursa Malaysia had issued a practice note 17/2005 in 2005 as additional requirement

for financially distressed listed companies. Companies that fall within the definition of PN17 will need to submit their proposal to the Approving Authority to restructure and revive the company in order to remain as listed companies in the Bursa Malaysia. Thus, pressure from this listing requirement will provide external motivation for earnings management and hence, provide a positive relationship between financial distress companies (Sadique *et al.*, 2010; Choy *et al.*, 2011). Besides that, Dhaliwal *et al.* (2010) supported companies that have high-institutional ownership are financially healthier than low-institutional ownership because they are able to detect earnings management early. If companies wish to appear healthier than their true condition, they may use discretionary accruals as a proxy of earnings management in order to avoid being identified as financial distressed companies and thereby avoid the financial market discount. Hence, this study proposes the following hypothesis:

- **H2:** There is a significant positive relationship between financial distress (DISTRESS) and discretionary accruals (DACC)

### **FREE CASH FLOW AND EARNINGS MANAGEMENT**

Jensen (1986) defined free cash flow as excess cash available in the business to fund all positive net present value projects and it can create an incentive to overinvest. Bukit and Iskandar (2009) argued that free cash flow is important mechanism in order to measure the growth of the companies and provide the financial flexibility signal. Thus, agency problems may arise as a result of excess free cash flow such as claimed extra money beyond the compensation (Jensen and Meckling, 1976) and not competently carrying out duties and responsibilities (Ross, 1973). According to Ross (1973), agency problems may become worst particularly if there are low investment opportunities and growth with high free cash flow because managers chose to fund unprofitable project that benefits their self-interest. As a result the manager of low growth companies need to conceal their earnings management activities via accounting discretions (Jones and Sharma, 2001; Chung *et al.*, 2005; Bukit and Iskandar, 2009).

Some previous literature states that managers will obtain their personal gain when the surplus free cash flow is high. Thus, the managers are motivated to manage the earnings in order to hide their bad performance when the growth of the company is low (Bukit and Iskandar, 2009) The findings from the study of Bukit and Iskandar (2009) reported that the surplus free cash flow may create an

incentive for the manager to engage income-increasing management. However, this earnings manipulation is moderated by a monitoring mechanism such as audit committee. Similarly, Chung *et al.* (2005) reported that audit committee and external monitoring from institutional investors moderate the income-increasing management practices from excess free cash flow. The study of Jones and Sharma (2001) reported that the surplus free cash flow company are exercise earnings management prior to the period of the implementation of the new regulations. Additionally, Stulz (1990) noted that the deficit free cash flow and low growth opportunity company are more likely to issue debt as external fund. By having this free cash flow, the manager are expected to invest in profitable project and rather than left it unexploited.

Following the agency theory, excess money from free cash flow could result in agency problems (Jensen, 1986). Thus, this theory supports the relationship between free cash flow and earnings management. Chung *et al.* (2005) posited that a minimal information disclosure by the managers may be troublesome the investors to detect any disadvantages of the project especially in maximizing shareholders' wealth. Gul (2001) found the association between free cash flow and choice of inventory methods regarding for tax purposed and for income-increasing management. Similarly, Mashayekhi *et al.* (2010) posited that managers of companies with high free cash flow and low growth probably manage their earnings in order to get some self-interest in a short time. Jensen (1986) posited that, required debt repayments may reduce the cash available to management for non-optimal spending and a levered company is often subjected to lender-induced spending restrictions. Thus, this study hypothesize:

- **H3:** There is a significant positive relationship between Free Cash Flow (FCF) and discretionary accruals (DACC)

### METHODOLOGY

**Sample selection:** Sample for this study consists of seven industrial sectors listed in Bursa Malaysia and the stock exchange of Thailand. From Malaysia, the seven sectors are: Industrial products, consumer products, trading and services, construction, properties, plantations and technology while the seven sectors involved from Thailand are: Industrials, consumer products, services, property and construction, agro and food, resources and technology. These sectors are chosen because of some homogeneous characteristic between these sectors, which will contribute to a more accurate result. This study will

Table 1: Sample selection for evidence from Malaysia and Thailand

Description	Malaysia	Thailand
Total No. of companies listed in Bursa Malaysia as at 31st July 2013	928	615
<b>Less</b>		
Banking, finance and insurance sector	59	60
Industry with less than 10 companies	11	19
Companies with missing data (Unavailable data for year end 2009, 2010, 2011 and 2012)	523	312
<b>Final sample</b>	<b>335</b>	<b>224</b>

exclude the finance, investment, trust and funds companies because of the different regulatory requirement on these industries according to Bank and Financial Institution Act 1989 (BAFIA) and different accruals behavior (Srinidhi and Gul, 2007). In addition, industries with less than ten companies are also excluded from the study because it could affect the measurement of earnings management and they are inappropriate to be generalized as an industry (Peasnell *et al.*, 2005). The observation period for this study was from 2010-2012. However the data was collected from 2009-2012. The sample selection process is summarized in Table 1.

### Measurement of variables

**Dependent variable-earnings management:** This study used discretionary accruals as a proxy for earnings management. The model employed to measure earnings management in this study is Modified Jones model as proposed by Dechow *et al.* (1995) because the model is most relevant for economic environment in Malaysia and Thailand. This model provides a cross sectional version in measuring the earnings management (Kim and Yoon, 2008; Siregar and Utama, 2008; Habib *et al.*, 2012). This study used transforms method in order to get absolute value of earnings management because it could provide the mixed effect of earnings management irrespective of whether managers are increasing or decreasing of income and it is consistent with the studies of Rahman and Ali (2006), Choi *et al.* (2010) and Joubert and Fakhfakh (2012).

Formula of estimated Total Accruals as proposed by Dechow *et al.* (1995) as follow:

$$TACC_{it} = EBEIt_{it} - CFO_{it} \quad (1)$$

Where:

EBEIt<sub>it</sub> = Income before extraordinary items of firm i in year t

CFO<sub>it</sub> = Cash flow from operation of firm i in year t

TACC<sub>it</sub> = Total accruals

Thus, the total accruals is included in the regression model to generate the normal accruals and the

residual value is represent as discretionary accruals (proxy of earnings management) with the following Eq:

$$TACC_{it}/TA_{it-1} = a_0 (1/TA_{it-1}) + a_1 [(\Delta REV_{it} - \Delta Ar_{it}) / TA_{it-1}] + a_2 (PPE_{it}/TA_{it-1}) + \epsilon_{it} \quad (2)$$

Where:

- Ta<sub>t-1</sub> = Total assets of firm i at the end of year t-1
- Δ REV<sub>it</sub> = Change in revenue from year t-1 to year t
- Δ Ar<sub>it</sub> = Change in account receivables from year t-1 to year t
- PPE<sub>it</sub> = Property, plant and equipment of firm i in year t
- TACC<sub>it</sub> = Total accruals of firm i in year t

**Independent variables:** This study will use three independent variables which consist of leverage, financial distress and free cash flow. There are mixed opinions on whether leverage may influence the potential for the manager to exercise earnings management. Based on studies in Malaysia, leverage did not affect earnings management (Aman *et al.*, 2006). There were also studies that provide evidence that high levered companies managed earnings in order to avoid debt covenant violations (Chen and Liu, 2010). Some literature suggested that debt may discourage free cash flows from business operations. Hence, debt or leverage will reduce the tendency of managers to exercise earnings management (Stulz, 1990; Hart and Moore, 1995). This current study will use debt ratio (total debt/total assets) as a measurement for leverage of the public listed companies similar to the measurements used in previous studies (Rahman and Ali, 2006; Kim and Yoon, 2008).

Altman Z-Score will be employed in order to measure the financial condition of the company as a signal for financial distress as developed by Altman (1968). Companies that have Z-scores smaller than 1.81 will be classified as financially distressed companies while companies with Z-scores over 2.67 will be classified as financially healthy. Companies will be classified as being in the gray area if their Z-scores are between the range of financially healthy and financially distressed companies as suggested by Demirkan and Platt (2009). The linear equation of Altman Z-Score model is as follows:

$$Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5 \quad (3)$$

Where:

- X<sub>1</sub> = Working capital/total assets
- X<sub>2</sub> = Retained earnings/total assets
- X<sub>3</sub> = Earnings before interest and taxes/total assets

- X<sub>4</sub> = Market value of equity/total liabilities
- X<sub>5</sub> = Sales/total assets
- Z = Overall index, the lower a company's Z-score the higher its probability to bankrupt

This study will employ the measurement of free cash flow as introduced by Lehn and Poulsen (1989). According to Lehn and Poulsen (1989) expenses such as tax expense, interest expense and dividend need to be subtracted from operating income before depreciation in order to get the value of free cash flow. Companies are categorized as having potential free cash flow agency problems when free cash flow is above-median and price to book ratio is below-median. Moreover, the manager may expect extra rewards such as bonus and other incentives if the companies have surplus cash (Chung *et al.*, 2005). The free cash flow value need to be scaled by total assets as employed by Jones and Sharma (2001) in order to standardize the value of free cash flow.

**Control variables:** This study will use four control variables which are size of companies, performance of companies, country and industry. Large companies are more scrutinized by authorities and have relatively more political exposure than small-sized companies (Liberty and Zimmerman, 1986; Xie *et al.*, 2003). Thus, the small companies are more inclined to manage earnings. This study will use the natural logarithm of market capitalization of companies for the current year as the measurement of size proposed by Kousenidis *et al.* (2013).

Prior studies have claimed that performance of the companies are closely related to the cash flow from operations and return on assets (ROA). Therefore, reporting a good ROA might be an incentive for managers to manage earnings and signal future performance of the company (Demirkan and Platt, 2009). Kothari *et al.* (2005) argued that companies with extremely high performances are more likely to engage in earnings management compared to companies with poor performance. Following study by Rahman and Ali (2006), used ROA as measurement for performance of the companies by using operating income or Earnings Before Interest and Tax (EBIT) and dividing it by total assets.

The cultural values of a country would affect various accounting decisions and choices including managers' tendencies to manage earnings (Guan *et al.*, 2005). Thus, the sample selection companies were categorized based on their country in this study. The country is coded as 1 if the company categorized as public listed companies in Malaysia and 0 if the company categorized as public listed companies in Thailand.

There is evidence that accruals may vary by industry (Gu *et al.*, 2005). According to Charoenwong and Jiraporn (2009), earnings management practices is inconsistent when considering different types of industry. Thus, the sample selection companies were categorized according to industries provided in Bursa Malaysia and SET listed companies (Stock Exchange of Thailand, 2013). The industry is coded as 1 if the company categorized as either one of the industry and 0 of otherwise. Since there are different industries for both countries, the three regression model was employed in order to examine the relationship between earnings management and the independent variables. Three different models based on Modified Jones Model will be employed as follows:

- **Model 1:** Modified Jones model for Malaysia:

$$DACC_{it} = \beta_0 + \beta_1 (LEV)_{it} + \beta_2 (DISTRESS)_{it} + \beta_3 (FCF)_{it} + \beta_4 (SIZE)_{it} + \beta_5 (ROA)_{it} + \beta_6 (CONSPROD)_{it} + \beta_7 (CONSTR)_{it} + \beta_8 (INDSPROD)_{it} + \beta_9 (PLANT)_{it} + \beta_{10} (PROPERTY)_{it} + \beta_{11} (TRDGSER)_{it} + \epsilon_{it} \quad (4)$$

- **Model 2:** Modified Jones model for Thailand:

$$DACC_{it} = \beta_0 + \beta_1 (LEV)_{it} + \beta_2 (DISTRESS)_{it} + \beta_3 (FCF)_{it} + \beta_4 (SIZE)_{it} + \beta_5 (ROA)_{it} + \beta_6 (AGRFOOD)_{it} + \beta_7 (CONSPROD)_{it} + \beta_8 (INDSPROD)_{it} + \beta_9 (PROPCONS)_{it} + \beta_{10} (SERVICES)_{it} + \beta_{11} (TECH)_{it} + \epsilon_{it} \quad (5)$$

- **Model 3:** Modified Jones model for full sample:

$$DACC_{it} = \beta_0 + \beta_1 (LEV)_{it} + \beta_2 (DISTRESS)_{it} + \beta_3 (FCF)_{it} + \beta_4 (SIZE)_{it} + \beta_5 (ROA)_{it} + \beta_6 (COUNTRY)_{it} + \beta_7 (AGRFOOD)_{it} + \beta_8 (CONSPROD)_{it} + \beta_9 (CONSTR)_{it} + \beta_{10} (INDSPROD)_{it} + \beta_{11} (PLANT)_{it} + \beta_{12} (PROPCONS)_{it} + \beta_{13} (RESOURCES)_{it} + \beta_{14} (SERVICES)_{it} + \beta_{15} (TECH)_{it} + \beta_{16} (TRDGSER)_{it} + \epsilon_{it} \quad (6)$$

Where:

DACC	= Discretionary accrual (earnings management)
LEV	= Leverage
DISTRESS	= Financial distress
FCF	= Free cash flow
SIZE	= Log of market value of equity
ROA	= Return on assets
COUNTRY	= 1 = Malaysia, 0 = Thailand
CONSPROD	= Consumer product industry
CONSTR	= Construction industry
INDSPROD	= Industrial product industry
PLANT	= Plantation industry
PROPERTY	= Property industry

TRDGSER	= Trading and services industry
AGRFOOD	= Agro and food industry
PROPCONS	= Property and construction industry
SERVICES	= Services industry
TECH	= Technology industry
RESOURCES	= Resources industry

## RESULTS

**Descriptive analysis:** Table 2 and 3 show the result of descriptive analysis for Malaysia, Thailand and full sample. For leverage (LEV) of the company, the maximum value of leverage is 0.7410 for Malaysia 3.5592 for Thailand. This indicates that Thailand have higher debt as compared to Malaysia. As a result, the maximum value of value of full sample is reported the same value as Thailand. The mean value of leverage for Malaysia and Thailand is 0.1888 and 0.2319. However, the mean value for full sample is 0.2061. For financial distress (DISTRESS), the maximum value of Z-score is 0.7410 for Malaysia and 6.1545 for Thailand. The higher of Z-score value will indicate that the company is healthier as compared to the lower value of Z-score. The mean value of Z-score for Thailand is slightly higher than Malaysia represent of 0.9993 and 0.7958, respectively. However, in average, the Z-score value is 0.8773. According to (Demirkan and Platt, 2009), the company is classified as financially distress if the Z-score value smaller than 1.8. Hence, most of the companies listed in Malaysia and Thailand are considered as financial distress company since the mean value is smaller than 1.8. For Malaysia, the result shows that free cash flow are reported in range of -0.4520-1.8480. But, free cash flow for public listed companies in Thailand is reported in range of -0.5910-0.4204.

The negative value of free cash flow indicates that the company are suffer deficit free cash flow while positive free cash flow indicates that the company are having surplus free cash flow to fund positive net present value of project and improve the company growth. As shown in Table 2 and 3, the mean value of free cash flow for Malaysia and Thailand is 0.0346 and 0.0299. However, the mean value for full sample is 0.0328.

For the SIZE, ROA and other categorical variables used in this study, the results are reported as follows. The range value of SIZE for Malaysia is 0.7800-4.6900 while the range for Thailand is 1.7372 and 5.9898. The mean value of SIZE for Malaysia is slightly lower than Thailand as at 2.4224 and 3.6432. In average, the mean value of SIZE for both countries is 2.9116. Additionally, the maximum value of ROA in Malaysia is 2.0293 while the maximum value of ROA in Thailand is 0.5817. The mean



Table 2: Descriptive statistic for Malaysia and Thailand

Variables	Malaysia				Thailand			
	Minimum	Maximum	Mean	Std. deviation	Minimum	Maximum	Mean	Std. deviation
<b>Dependent</b>								
DACC	0.0001	0.6258	0.0596	0.06810	0.0000	0.7508	0.0726	0.08778
<b>Independent</b>								
LEV	0.0000	0.7410	0.1888	0.16379	0.0000	3.5592	0.2319	0.24686
Distress	0.0070	4.4480	0.7958	0.62336	0.0114	6.1545	0.9993	0.6778
FCF	-0.4520	1.8480	0.0346	0.10365	-0.5910	0.4204	0.0300	0.09206
<b>Control</b>								
Size	0.7800	4.6900	2.4224	0.82194	1.7372	5.9898	3.6432	0.77274
ROA	-0.5249	2.0293	0.0582	0.12715	-0.5814	0.5817	0.0577	0.11001
<b>Parameters</b>	<b>Frequency</b>	<b>Percentage</b>			<b>Parameters</b>	<b>Frequency</b>	<b>Percentage</b>	
CONSPROD	234	23.3			AGRFOOD	84	12.5	
CONSTR	66	6.6			CONSPROD	72	10.7	
INDSPROD	288	28.7			INDSPROD	123	18.3	
PLANT	90	9.0			PROPCONS	105	15.6	
PROPERTY	60	6.0			RESOURCES	63	9.4	
TECH	54	5.4			SERVICES	159	23.7	
TRDGSER	213	21.2			TECH	66	9.8	

Sample consists of 1005 firm-year observation of publiclisted companies in Malaysia and 672 firm-year observation public listed companies in Thailand for the period 2010-2012 corresponding to 335 public listed firms in Malaysia. DACC is the absolute discretionary accruals estimated using Modified Jones Model as proposed by Dechow *et al.* (1995). LEV is leverage obtained from total debt divide by total asset. Distress is financial condition measured by Altman Z-score. FCF is the free cash flow obtained from operation income before depreciation minus taxation, interest and dividend. SIZE is the natural logarithm of market capitalization. ROA is return on assets obtained from operating income divide by total assets. Consprod takes the value of 1 if the firm is consumer product, 0 otherwise. Constr takes the value of 1 if the firm is construction firm, 0 otherwise. Indsprod takes the value of 1 if the firm is industrial product, 0 otherwise. Plant takes the value of 1 if the firm is plantation, 0 otherwise. Property takes the value of 1 if the firm is property, 0 otherwise. Tradingser takes the value of 1 if the firm is trading and services, 0 otherwise. Agrfood takes the value of 1 if the firm is agro and food, 0 otherwise. Propcons takes the value of 1 if the firm is property and construction, 0 otherwise. Resources takes the value of 1 if the firm is resources, 0 otherwise. Services takes the value of 1 if the firm is services, 0 otherwise

Table 3: Descriptive statistic for full sample

Variables	Minimum	Maximum	Mean	Std. deviation
<b>Dependent</b>				
DACC	0.0000	0.7508	0.0648	0.07684
<b>Independent</b>				
LEV	0.0000	3.5592	0.2061	0.20228
Distress	0.0065	6.1545	0.8773	0.65320
FCF	-0.5910	1.8475	0.0328	0.09917
<b>Control</b>				
Size	0.7800	5.9900	2.9116	1.00095
ROA	-0.5814	2.0292	0.0580	0.12054
<b>Country</b>		<b>Frequency</b>		<b>Percentage</b>
Thailand		672		40.1
Malaysia		1005		59.9
<b>Parameters</b>				
Agrfood		84		5.0
Consprod		306		18.2
Constr		66		3.9
Indsprod		411		24.5
Plant		90		5.4
Propcons		105		6.3
Property		60		3.6
Resources		63		3.8
Services		159		9.5
Tech		120		7.2
Trdgser		213		12.7

Sample consists of 1677 firm-year observation for the period 2010-2012 corresponding to 335 and 224 public listed firms in Malaysia and Thailand. DACC is the absolute discretionary accruals estimated using Modified Jones Model as proposed by Dechow *et al.* (1995). LEV is leverage obtained from total debt divide by total asset. Distress is financial condition measured by Altman Z-score. FCF is the free cash flow obtained from operation income before depreciation minus taxation, interest and dividend. Size is the natural logarithm of market capitalization. ROA is return on assets obtained from operating income divide by total assets. Country takes the value of 1 if the firm is public listed firm in Malaysia, 0 public listed firm in Thailand. Agrfood takes the value of 1 if the firm is agro and food, 0 otherwise. Consprod takes the value of 1 if the firm is consumer product, 0 otherwise. Constr takes the value of 1 if the firm is construction, 0 otherwise. Indsprod takes the value of 1 if the firm is industrial product, 0 otherwise. Plant takes the value of 1 if the firm is plantation, 0 otherwise. Propcons takes the value of 1 if the firm is property and construction, 0 otherwise. Resources takes the value of 1 if the firm is resources, 0 otherwise. Services takes the value of 1 if the firm is services, 0 otherwise. TECH takes the value of 1 if the firm is technology, 0 otherwise. Trdgser takes the value of 1 if the firm is trading and services, 0 otherwise. If the firm is classified other than Agrfood, Consprod, Constr, Indsprod, Plant, Propcons, Resources, Services, Tech and Trdgser, it will categorized as Property

value of ROA in Malaysia, Thailand and full sample is 0.0582, 0.0577 and 0.0580. In this study, 24.5% is dominant by industrial product industry followed by consumer product at 18.2% from the full sample. On the other hand, 59.9% of sample is public listed companies from Malaysia while 40.1% is public listed companies in Thailand.

Next, the Table 2 and 3 present the standard deviation for all continuous variables used in the study. Standard deviation is defined as square root of variance. Standard deviation is used to report how much the data is spread out in the same units of measurement as the original data (Field, 2009). In this study, the result shows that SIZE have the highest standard deviation as compared to the other variables for Malaysia, Thailand and full sample. Hence, this indicates that this variable have the largest dispersion among the other variables.

Nonetheless, the analysis of skewness and kurtosis shows that the absolute discretionary accruals (DACC) measures based on Modified Jones Model is significantly non-normally distributed. To solve this problem, a method proposed by Cooke (1998) which is referred as Van der Waerden transformation was used. Using this transformation procedure, variables from the actual observations were transformed to normal distributions by dividing the distribution into the number of observations plus one region on the basis that each region has equal probability (Cooke, 1998). These procedures were done for all continuous variables with normality problem-leverage (LEV), financial distress (DISTRESS), Free Cash Flow (FCF) and Return On Assets (ROA). The empirical analysis is used these normal scores to replace the actual values of the variables. Normal data will have the standard skewness within +/-1.96 and standard kurtosis of +/-2 (Rahman and Ali, 2006).

Table 4 summarized the result of independent t-test analysis between the Malaysia and Thailand on DACC, LEV, DISTRESS and FCF. The mean difference for DACC is -0.01298 at  $p = 0.001$  ( $p < 0.05$ ). Therefore, the result indicates that there is statistically significant difference in

mean for DACC between Malaysia and Thailand. For LEV, the results showed that the mean difference is -0.04317 at  $p = 0.000$  ( $p < 0.05$ ). Therefore, the results indicate that there is statistically significant difference in mean for LEV for Malaysia and Thailand. This study also reported significant difference in mean for financial distress (DISTRESS) for Malaysia and Thailand. The mean difference for DISTRESS is -0.20355 at  $p = 0.00$  ( $p < 0.05$ ). Therefore, the result indicates that there is statistically significant difference in mean for DISTRESS between Malaysia and Thailand. However, there is no statistically difference in mean for Free Cash Flow (FCF) between Malaysia and Thailand because the mean difference is 0.00465 at  $p = 0.347$  ( $p > 0.05$ ). Thus, there is sufficient evidence at 95% confident level to conclude that there is a significant difference in mean for DACC, LEV and DISTRESS.

**Correlation analysis:** Table 5 shows the summary of result from the point-biserial correlation analysis between one variable to another for Malaysia. The result shows that most of the variables have a significant relationship and the highest correlation is between Free Cash Flow (FCF) and Return on Assets (ROA) at 0.763. This indicates that there is strong positive correlation between these two variables since the correlation value is higher than 0.5 and significant at 0.01. However, there is several pair of variables which were not-significantly correlated. The result shows that correlation between FCF and plantation industry (PLANT) and correlation between financial distress (DISTRESS) and trading and services industry (TRDGSER) have the smallest correlation at 0.002. On the other hand, the result shows that industrial product industry (INDSPROD) have significant relationship with all variables for the sample from Malaysia and the most highest correlation for this variable is between INDSPROD and consumer product industry (CONSPROD). This relationship is significant at 0.01 and has correlation value at -0.349.

Table 4: Summary results of independent t-test

Parameters	Country	N	Mean	Std. deviation	T-test for equality of means	
					Sig.	Mean difference
DACC	Malaysia	1005	0.05957	0.06810	0.001	-0.01298
	Thailand	672	0.07255	0.08778		
LEV	Malaysia	1005	0.18876	0.16379	0.000	-0.04317
	Thailand	672	0.23193	0.24686		
Distress	Malaysia	1005	0.79575	0.62336	0.000	-0.20355
	Thailand	672	0.99930	0.67781		
FCF	Malaysia	1005	0.03462	0.10365	0.347	0.00465
	Thailand	672	0.02997	0.09206		

Sample consists of 1055 and 672 firm-year observation for the period 2010-2012 corresponding to 335 and 224 public listed firms in Malaysia and Thailand. DACC is the absolute discretionary accruals estimated using Modified Jones Model as proposed by Dechow *et al.* (1995). LEV is leverage obtained from total debt divide by total asset. Distress is financial condition measured by Altman Z-score. FCF is the free cash flow obtained from operation income before depreciation minus taxation, interest and dividend

**Table 5: Correlation matrix of earnings management determinants variables for Malaysia**

	1	2	3	4	5	6	7	8	9	10
DISTRESS (2)	0.052									
FCF (3)	-0.144**	0.310**								
SIZE (4)	0.030	-0.064*	0.166**							
ROA (5)	-0.236**	0.355**	0.763**	0.405**						
CONSTR (6)	-0.004	-0.065*	-0.106**	0.033	-0.067*					
CONSPROD (7)	-0.008	0.281**	0.085**	-0.088**	0.106**	-0.146**				
INDSPROD (8)	0.093**	0.129**	0.067*	-0.145**	-0.073*	-0.168**	-0.349**			
PLANT (9)	-0.0151**	-0.300**	0.002	0.192**	0.087**	-0.083**	-0.173**	-0.199**		
PROPERTY (10)	0.010	-0.229**	-0.051	0.018	-0.014	-0.067*	-0.139**	-0.160**	-0.079*	
TRDGSER (11)	0.067*	-0.022	-0.059	0.158**	0.026	-0.137**	-0.286**	-0.329**	-0.163**	-0.131**

\*\*, \*\*Statistical significance at 0.05 and 0.01 levels, respectively (two-tailed test). (1) Is LEV. LEV is the total debt divide by total assets. DISTRESS is the normal score of Z-score using Van der Waerden's formula. FCF is the normal score of free cash flow using Van der Waerden's formula. SIZE is natural logarithm of market capitalization. ROA is the normal score of ROA using Van der Waerden's formula. CONSPROD takes the value of 1 if the firm is consumer product, 0 otherwise. CONSTR takes the value of 1 if the firm is construction firm, 0 otherwise. INDSPROD takes the value of 1 if the firm is industrial product, 0 otherwise. PLANT takes the value of 1 if the firm is plantation, 0 otherwise. PROPERTY takes the value of 1 if the firm is property, 0 otherwise. TRADINGSER takes the value of 1 if the firm is trading and services, 0 otherwise

**Table 6: Correlation matrix of earnings management determinants variables for Thailand**

	1	2	3	4	5	6	7	8	9	10
DISTRESS (2)	-0.151**									
FCF (3)	-0.131**	0.236**								
SIZE (4)	0.171**	0.005	0.225**							
ROA (5)	-0.219**	0.295**	0.792**	0.353**						
AGRFOOD (6)	-0.039	0.248**	0.073	0.029	0.096*					
CONSPROD (7)	-0.219**	-0.016	-0.128**	-0.245**	-0.118**	-0.131**				
INDSPROD (8)	-0.130**	0.087*	0.090*	-0.164**	0.023	-0.179**	-0.164**			
PROPCONS (9)	0.162**	-0.223**	-0.111**	0.061	-0.049	-0.163**	-0.149**	-0.204**		
SERVICES (10)	-0.039	-0.132**	0.002	0.003	0.002	-0.210**	-0.193**	-0.264**	-0.240**	
TECH (11)	0.149**	0.070	0.035	0.111**	-0.008	-0.125**	-0.114**	-0.156**	-0.142**	-0.184**

\*\*, \*\*Statistical significance at 0.05 and 0.01 levels, respectively (two-tailed test). (1) Is LEV. LEV is the normal score of debt ratio using Van der Waerden's formula. DISTRESS is the normal score of Z-score using Van der Waerden's formula. FCF is the normal score of free cash flow using Van der Waerden's formula. SIZE is natural logarithm of market capitalization. ROA is the normal score of ROA using Van der Waerden's formula. AGRFOOD takes the value of 1 if the firm is agro and food, 0 otherwise. CONSPROD takes the value of 1 if the firm is consumer product, 0 otherwise. INDSPROD takes the value of 1 if the firm is industrial product, 0 otherwise. PROPCONS takes the value of 1 if the firm is property and construction, 0 otherwise. SERVICES takes the value of 1 if the firm is services, 0 otherwise. TECH takes the value of 1 if the firm is technology, 0 otherwise

Table 6 shows the summary of result from point-biserial correlation analysis between variables for Thailand. From the results presented in the Table 6, all variables tested in correlation analysis have a relationship and majority of variables have significant relationship. The highest correlation is between FCF and ROA at 0.792. Since the correlation value is more than 0.5, this indicates that the correlation between FCF and ROA have a strong positive correlation and significant at 0.01 level. However, the smallest correlations are correlation between services industry (SERVICES) and FCF and SERVICES and ROA at 0.002. On the other hand, the result also shows that DISTRESS has significant relationship with all variables except for correlation between DISTRESS and SERVICES and DISTRESS and agro and food industry (AGRFOOD).

Table 7 shows the result of point-biserial correlation analysis for the full sample of Malaysia and Thailand. From the analysis, the result shows that most of the variables have a significant relationship between variables consistent with the result in Table 5 and 6. The highest correlation for full sample is between FCF and ROA at 0.763. This indicates that there is strong positive correlation and significant at 0.01 levels. This result is

consistent with the first two samples which were the samples from Malaysia and Thailand. Table 7 shows the second highest correlation in the full sample is between dummy variable for country (COUNTRY) and size of the companies (SIZE) at -0.598 and significant at 0.01 levels. This indicates that there is strong negative relationship between COUNTRY and SIZE. Overall, all variables has relationship and has no problem to be tested in the multiple regression analysis.

**Multiple regression analysis:** This study hypothesized leverage may have significant impact on earnings management. Table 8 presents the coefficient value of LEV for Malaysia, Thailand and full sample. The result shows that there is no significant relationship between LEV and DACC in Malaysia, therefore, hypothesis 1 is not supported. However, the result shows that there is significant positive relationship between LEV and DACC for Thailand and full sample. This means that for every unit increase in LEV will result in increase of every unit in discretionary accruals. The standard coefficient of LEV in Thailand is 0.0072 and t-value is indicated at 1.714. Since the p-value is 0.087 (p<0.10), there is sufficient evidence

Table 7: Correlation matrix of earnings management determinants variables for full sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
DISTRESS (2)	-0.084**														
FCF (3)	-0.103**	0.281**													
Size (4)	0.004	-0.030	0.151**												
ROA (5)	-0.171**	0.331**	0.775**	0.309**											
COUNTRY (6)	0.136**	0.001	0.001	-0.598**	0.001										
AGRFOOD (7)	-0.075**	0.151**	0.044	0.182**	0.058*	-0.281**									
CONSPROD (8)	-0.087**	0.180**	0.015	-0.204**	0.032	0.159**	-0.108**								
CONSTR (9)	0.022	-0.050*	-0.081**	-0.078**	-0.051*	0.166**	-0.046	-0.096**							
INDSPROD (10)	-0.040	0.113**	0.074**	-0.191**	-0.038	0.118**	-0.131**	-0.269**	-0.115**						
PLANT (11)	-0.004	-0.228**	0.001	0.003	0.066**	0.195**	-0.055*	-0.113**	-0.048*	-0.136**					
PROPCONS (12)	0.106**	-0.134**	-0.067**	0.217**	-0.029	-0.316**	-0.059*	-0.122**	-0.052*	-0.147**	-0.062*				
RESOURCES (13)	0.110**	0.011	0.021	0.263**	0.032	-0.242**	-0.045	-0.093**	-0.040	-0.113**	-0.047	-0.051*			
SERVICES (14)	-0.088**	-0.076**	0.001	0.238**	0.001	-0.396**	-0.074**	-0.153**	-0.066**	-0.184**	-0.077**	-0.084**	-0.064**		
TECH (15)	0.079**	0.004	0.007	0.035	-0.068**	-0.085**	-0.064**	-0.131**	-0.056*	-0.158**	-0.066**	-0.072**	-0.055*	-0.090**	
TRDGSER (16)	0.055*	-0.016	-0.044	-0.091**	0.019	0.312**	-0.088**	-0.180**	-0.077**	-0.217**	-0.091**	-0.099**	-0.075**	-0.123**	-0.106**

\*, \*\*, Statistically significant at 0.05 and 0.01 levels, respectively (two-tailed test). (1) Is LEV, LEV is the normal score of debt ratio using Van der Waerden's formula. Distress is the normal score of Z-score using Van der Waerden's formula. FCF is the normal score of free cash flow using Van der Waerden's formula. SIZE is natural logarithm of market capitalization. ROA is the normal score of ROA using Van der Waerden's formula. COUNTRY takes the value of 1 if the firm is public listed in Malaysia; 0 if the firm is public listed in Thailand. AGRFOOD takes the value of 1 if the firm is agro and food; 0 otherwise. CONSPROD takes the value of 1 if the firm is consumer product; 0 otherwise. CONSTR takes the value of 1 if the firm is construction; 0 otherwise. INDSPROD takes the value of 1 if the firm is industrial product; 0 otherwise. PLANT takes the value of 1 if the firm is plantation; 0 otherwise. PROPCONS takes the value of 1 if the firm is property and construction; 0 otherwise. RESOURCES takes the value of 1 if the firm is resources; 0 otherwise. SERVICES takes the value of 1 if the firm is services; 0 otherwise. TECH takes the value of 1 if the firm is technology; 0 otherwise. TRDGser takes the value of 1 if the firm is trading and services; 0 otherwise.

at 90% confident level to conclude that there is a significant relationship between LEV and DACC in Thailand. On the other hand, the standard coefficient value of LEV for full sample is 0.0062. The t-value for LEV is indicated as 2.402 and the p-value is 0.016 (p<0.05). Thus, there is sufficient evidence at 95% to conclude that there is a significant relationship between LEV and DACC. Therefore, hypothesis 1 is supported for Thailand and full set sample.

For hypothesis 2, this study hypothesized that there is a significant positive relationship between financial distress and discretionary accruals. From Table 8, the coefficient value of DISTRESS is significant for three model tested in the multiple regression analysis. Meaning to say, the financial distress has significant and positive relationship with discretionary accruals (DACC) for Malaysia, Thailand and full sample. The coefficient value of DISTRESS is reported at 0.095 and t-value at 2.430 for Malaysia.

Since the p-value is 0.015 (p<0.05), there is sufficient evidence at 95% confidence level to conclude there is a significant positive relationship between DISTRESS and DACC. However, the results show that the standard coefficients for sample from Thailand and full sample have significant positive relationship between DISTRESS and DACC at value of 0.121 and 0.077. The t-value of DISTRESS for Thailand is shows at 2.888 (p= 0.004) while the t-value of DISTRESS for full sample is 2.751 (0.006). Thus, this indicates that there is significant positive relationship between DISTRESS and DACC for Thailand and full sample at 99% confidence level. Hence, hypothesis 2 is supported for Malaysia, Thailand and full sample. The positive relationship between DISTRESS and DACC explained that, companies that facing financial distress condition contributes to higher discretionary accruals. Therefore, hypothesis 2 is supported for all models tested.

This study expects that there is positive relationship between Free Cash Flow (FCF) and earnings management as proxy by discretionary accruals (DACC). As presented in the Table 8, the relationship between FCF and DACC is significant in Thailand only. The standard coefficient value for FCF in Thailand is -0.114. This indicates that there is significant negative relationship between FCF and DACC. The t-value of coefficient is -1.820 and p-value at 0.069 (p<0.10). Since p value is lower than 0.10 and have 90% confident level, there is no sufficient evidence to support the hypothesis 3. Thus, the FCF could not show significant positive relationship between FCF and DACC. Therefore, hypothesis 3 is rejected.

**Sensitivity analysis:** The sensitivity analysis has been carried out in order to examine the robustness of the

Table 8: Multiple linear regression for Malaysia, Thailand and full sample set

Parameters	Malaysia		Thailand		Full sample	
	Standardized coefficients	t	Standardized coefficients	t	Standardized coefficients	t
Intercept		2.837		2.064		5.584
LEV	0.014	0.421	0.072	1.714*	0.062	2.402**
DISTRESS	0.095	2.430**	0.121	2.888***	0.077	2.751***
FCF	0.030	0.579	-0.114	-1.820*	-0.054	-1.385
SIZE	-0.015	-0.411	-0.108	-2.443**	-0.069	-1.973**
ROA	-0.130	-2.162**	0.110	1.611	-0.030	-0.684
COUNTRY					-0.118	-2.755***
AGRFOOD			-0.093	-1.688*	-0.030	-0.746
CONSPROD	-0.218	-3.356***	-0.104	-1.845*	-0.004	-0.065
CONSTR	-0.072	-1.572			0.026	0.764
INDSPROD	-0.227	-3.375***	-0.056	-0.912	0.024	0.400
PLANT	-0.187	-3.653***			-0.023	-0.626
POPCONST			0.109	1.900*	0.099	2.327**
PROPERTY	-0.117	-2.588**				
RESOURCES					0.028	0.758
SERVICES			-0.059	-0.933	-0.025	-0.505
TECH			0.121	2.374**	0.158	3.764***
TRDGSER	-0.149	-2.342**			0.055	1.137
R-square	4.2%		7.9%		6.6%	
Adj. R-square	3.1%		6.4%		5.7%	
F-value	3.919		5.145		7.284	
N	1005		672		1677	

\*, \*\*, \*\*\*Statistical significance at 0.10, 0.05 and 0.01 levels, respectively (two-tailed test). DACC is the normal score of DACC using Van der Waerden's formula. DACC is the absolute value of firm discretionary accruals estimated using Modified Jones Model as proposed by Dechow *et al.* (1995). LEV is the normal score of debt ratio using Van der Waerden's formula. DISTRESS is the normal score of Z-score using Van der Waerden's formula. FCF is the normal score of free cash flow using Van der Waerden's formula. Size is natural logarithm of market capitalization. ROA is the normal score of ROA using Van der Waerden's formula. COUNTRY takes the value of 1 if the firm is public listed in Malaysia, 0 if the firm public listed in Thailand. AGRFOOD takes the value of 1 if the firm is agro and food, 0 otherwise. CONSPROD takes the value of 1 if the firm is consumer product, 0 otherwise. CONSTR takes the value of 1 if the firm is construction, 0 otherwise. INDSPROD takes the value of 1 if the firm is industrial product, 0 otherwise. PLANT takes the value of 1 if the firm is plantation, 0 otherwise. PROPCONS takes the value of 1 if the firm is property and construction, 0 otherwise. PROPERTY takes the value of 1 if the firm is property, 0 otherwise. RESOURCES takes the value of 1 if the firm is resources, 0 otherwise. SERVICES takes the value of 1 if the firm is services, 0 otherwise. TECH takes the value of 1 if the firm is technology, 0 otherwise. TRDGSER takes the value of 1 if the firm is trading and services, 0 otherwise

earlier regression models and to determine any alternative explanation for the findings in earlier regression models. Sensitivity analysis was conducted based on the most recent earnings management measurement model developed by Kothari *et al.* (2005). The performance matched of discretionary accruals proposed in this model is represented by Return on Assets (ROA) and it could mitigate heteroscedasticity and misspecification issues as compared to other aggregate accrual model. This study used transforms method consistently with the previous earnings management detection model in order to get absolute value of earnings management. There is no multicollinearity problem exists for the model tested when using Kothari *et al.* (2005) method. Model for measurement of earnings management. Formula of estimated Total accruals as proposed by Kothari *et al.* (2005) is as follow:

$$TACC_{it} = \frac{[(\Delta \text{ non-cash current asset}_{it}) - (\Delta \text{ current liabilities}_{it} \text{ excluding the current portion of long term debt}) - (\text{Depreciation and amortization}_{it})]}{\text{Total assets}_{it-1}} \quad (7)$$

Where:

$\Delta$  Non-cash current asset<sub>it</sub> = Changes in non-cash current assets in current year of respective firm

$\Delta$  Current liabilities<sub>it</sub> = Changes in current liabilities after excluding the portion of long term debt in current year of respective firm  
 Depreciation and amortization<sub>it</sub> = Depreciation and amortization recognized in current year of respective firm  
 Total assets<sub>it-1</sub> = Total assets for last year of respective firm  
 TACC<sub>it</sub> = Total accruals which consist of discretionary accruals and non discretionary accruals

The total accruals is then regressed upon the independent variables proposed by Kothari *et al.* (2005) to generate the normal or non-discretionary proxy as the following regression equation:

$$TACC_{it} = a_0 + a_1 (1/ASSETS_{it-1}) + a_2 (\Delta SALES_{it}) + a_3 PPE_{it} + a_4 ROA_{it} \text{ (or } it-1) + \epsilon_{it} \quad (8)$$

Where:

ASSETS<sub>it-1</sub> = Total assets of firm i at the end of year t-1  
 $\Delta$  SALES<sub>it</sub> = Sales change in net of the change of account receivable of firm i between years t and t-1

Table 9: Summary results of sensitivity analysis

	Malaysia		Thailand		Full sample	
	Standardized coefficients	t	Standardized coefficients	t	Standardized coefficients	t
Intercept		5.435		0.539		2.484
LEV	-0.040	-1.201	0.059	1.371	0.006	0.240
DISTRESS	-0.089	-2.318**	-0.037	-0.866	-0.081	-2.874***
FCF	-0.165	-3.285***	-0.093	-1.447	-0.138	-3.469***
Size	-0.104	-2.817***	-0.066	-1.455	-0.128	-3.628***
ROA	0.062	1.052	0.129	1.840*	0.093	2.105**
COUNTRY					-0.071	-1.629
AGRFOOD			-0.006	-0.114	-0.035	-0.849
CONSPROD	-0.214	-3.359***	0.124	2.143**	0.009	0.168
CONSTR	-0.138	-3.091***			-0.005	-0.151
INDSPROD	-0.294	-4.447***	0.034	0.534	-0.057	-0.938
PLANT	-0.265	-5.274***			-0.090	-2.419**
POPCONST			0.090	1.526	0.012	0.277
PROPERTY	-0.124	-2.787***				
RESOURCES					-0.023	-0.619
SERVICES			0.068	1.035	-0.011	-0.230
TECH			0.089	1.701*	0.087	2.042**
TRDGSER	-0.176	-2.813***			0.026	0.535
R-square	7.6%		2.8%		4.7%	
Adj. R-square	6.6%		1.2%		3.7%	
F-value	7.444		1.721		5.064	
N	1005		672		1677	

\*, \*\* and \*\*\*Statistical significance at 0.10, 0.05 and 0.01 levels, respectively (two-tailed test). DACC is the normal score of DACC using Van der Waerden's formula. DACC is the absolute value of firm discretionary accruals estimated using Kothari *et al.* (2005) Model. LEV is the normal score of debt ratio using Van der Waerden's formula. DISTRESS is the normal score of Z-score using Van der Waerden's formula. FCF is the normal score of free cash flow using Van der Waerden's formula. Size is natural logarithm of market capitalization. ROA is the normal score of ROA using Van der Waerden's formula. COUNTRY takes the value of 1 if the firm is public listed in Malaysia, 0 if the firm public listed in Thailand. AGRFOOD takes the value of 1 if the firm is agro and food, 0 otherwise. CONSPROD takes the value of 1 if the firm is consumer product, 0 otherwise. CONSTR takes the value of 1 if the firm is construction, 0 otherwise. Indsprod takes the value of 1 if the firm is industrial product, 0 otherwise. PLANT takes the value of 1 if the firm is plantation, 0 otherwise. PROPCONS takes the value of 1 if the firm is property and construction, 0 otherwise. PROPERTY takes the value of 1 if the firm is property, 0 otherwise. RESOURCES takes the value of 1 if the firm is resources, 0 otherwise. SERVICES takes the value of 1 if the firm is services, 0 otherwise. TECH takes the value of 1 if the firm is technology, 0 otherwise. TRDGSER takes the value of 1 if the firm is trading and services, 0 otherwise

PPE<sub>it</sub> = Level of gross property, plant and equipment of firm i in year t  
 ROA<sub>it</sub> = ROA of firm i at the end of year t  
 (or it -1) (ROA of firm i at the end of year t-1)  
 TACC<sub>it</sub> = Total accruals of firm i in year t

Table 9 shows the regression results based on Kothari *et al.* (2005). Model. When the variable of DACC is measured by Kothari *et al.* (2005). Model, DISTRESS and FCF show significant relationships to the earnings management in Malaysia and full sample. As compared to Thailand, all independent variables are not significant. Therefore, hypothesis 1 is rejected. DISTRESS has significant relationship on DACC at 0.05 levels. Since the standard coefficient value shows the negative sign, this indicates that there is significant negative relationship between DISTRESS and earnings management (DACC). The standard coefficient value for DISTRESS in Malaysia is -0.089 and the t value at -0.037. Thus, this provides 95% confidence level that there is significant relationship between DISTRESS and DACC. As compared to full sample, the standard coefficient value for DISTRESS is -0.081 and the t-value is -2.874. From the result shows in the Table 9, there is significant negative relationship

between DISTERSS and DACC since the variable is significant at 0.001 levels which is provides 99% confidence level. However, the direction has changed from positive relationship to negative relationship as compared to multiple regression analysis results in modified Jones Model. Therefore, hypothesis 2 is rejected.

For FCF, the results show that there is significant negative relationship between FCF and DACC for Malaysia and full sample. The standard coefficient value for Malaysia is -0.165 and -0.138 for full sample. The t-value for both Malaysia and full sample also support the significant level at -1.447 and -3.469. Since the standard coefficient value shows negative sign, this can indicates that there is significant negative relationship between FCF and DACC at 99% confidence levels for Malaysia and full sample. Even the direction is similar to the analysis before, the result is not consistent with modified Jones Model. Therefore, hypothesis 3 is not supported because the direction of relationship is negative.

For control variables, the results show that all industries in Malaysia and size of the company (SIZE) give significant impact on (DACC) at 0.01 significant levels. This is supported by the large

sample of public listed companies in Malaysia. In addition, ROA, CONSPROD and TECH have significant impact on earnings management, but only CONSPROD shows consistent result between Modified Jones and Kothari *et al.* (2005). Models. when compared to the result for Thailand. However, the analysis on the full sample shows that there are four control variables that have significant impact on earnings management-SIZE, ROA, PLANT and TECH. From four significant control variables, only technology industry shows consistent result between the two models. Overall, modified Jones and Kothari *et al.* (2005) models revealed different findings. The sensitivity test results indicate that the proxies of earnings management by using Kothari *et al.* (2005). model provide different result for both countries and full sample.

## DISCUSSION

Firstly, the independent t-test analysis found that there is statistically a significant different in mean for discretionary accruals as a proxy for earnings management, leverage and financial distress for both Malaysia and Thailand. However, there is no statistically significant different in mean for free cash flow between Malaysia and Thailand. This is supported by the number of companies in Malaysia is higher than Thailand. As provided the descriptive statistics analysis, 59.9% of the full sample of the study is dominant by companies from Malaysia. This is supported by study of Simon (2001) which proposed that culture of the country will contribute significant impact to the attitude of managers on earnings management.

From the empirical tests, the relationship between leverage and earnings management showed that there is significant positive relationship between leverage and earnings management in Thailand and for the full sample set. Meaning to say, the more company increase its leverage, the manager are more encourage exercising an earnings management in the companies. The result of the study is consistent with the previous study such as Chen and Liu (2010). Supported by the study of Dichev and Skinner (2002) and Beatty and Weber (2003), they found that firms with high leverage engaged in earnings management to avoid debt covenant violation. Thus, the hypothesis 1 is partially supported. However, the result is inconsistent with the sensitivity analysis. The regression result on sensitivity analysis shown that leverage is not significant for three models. These inconsistent results may be supported by two distinct roles of leverage on earnings management. First, leverage may become part of monitoring mechanism of earnings management activity

because the lenders naturally monitor the performance of the companies that make a loan from them in order to ensure that the companies are able to fulfill their responsibility regarding to debt repayment (Balsam *et al.*, 2002; Siregar and Utama, 2008). Since responsibility on the repayment of debt may reduce the cash available in the companies, it may discourage the managers to exercise earnings management (Stulz, 1990; Hart and Moore, 1995). Second, high leverage may provide incentive to the manager of companies to engage earnings management because the cost of debt covenant violation is too high and it may cause the company facing financial difficulties. Thus, managers of the companies need to exercise earnings management in order to show good performance to the outsiders (Sweeney, 1994; Beatty and Weber, 2003; Zagers-Mamedova, 2009).

This study has also found that there is a significant positive relationship between financial distress and discretionary accruals. In the other words, financial distress companies are expect to exercise earnings management. This study is consistent with Habib *et al.* (2012) study which found that companies that financially distress are exercise earnings management in order to change the actual reported income. Usually, the companies wish to appear healthier than their true condition in order to be seen as high performance companies. Thus, it may attract the potential investors to invest in the companies and used the money to fund their business operation (Sadique *et al.*, 2010). Altman (1993) supported that the companies that financially distress avoid to filing bankruptcy as compared to the companies that have a good financial condition because the companies that financially distress used earnings management to avoid the legal action from court. Hence, the study supported the positive relationship between financial distress and earnings management. Therefore, hypothesis 2 is supported.

Nevertheless, the sensitivity analysis is inconsistent with the primary regression result. The result shown that there is significant negative relationship between financial distress and earnings management for Malaysia and full set sample. Meaning to say, the more companies fall under financial distress condition, it may discourage the manager of the companies to engage earnings management. Due to the bad financial condition, being caught by doing earnings management may influence the performance of the company become worst because financial distress companies may suffer a lot of consequences such as being categorized as PN17 companies, being suspension or delisted from Bursa Malaysia. Thus, managers will avoid getting involved in any earnings management activities when the companies

are financially distressed. Companies that have high leverage may cause the financial difficulty because they need to pay high repayment of debt and high interest (Andrade and Kaplan, 1998). Thus, it leads to the financial distress. Usually, the management of financially distressed companies will discuss with their lenders on loan restructuring. Hence, these companies will be tightly monitored by their lenders in managing their business operation.

This study identified that there is significant positive relationship between free cash flow and earnings management. This study found that there is significant negative relationship between free cash flow and earnings management and the result is significant for Thailand only. Additionally, the result is consistent in sensitivity analysis but the relationship between free cash flow and earnings management is only significant for Malaysia and full sample. This result is not supported by Bukit and Iskandar (2009) and they reported that public listed companies in Malaysia that have surplus free cash flow manage to involve in earnings management activity in order to increase income upward. Besides that, Jones and Sharma (2001) reported that companies that have excess free cash flow exercising earnings management prior to the establishment of the new requirement. Thus, this supported that the relationship between free cash flow and earnings management are not significant for both countries because of different regulation and requirement for the companies applied. Thus, the hypothesis 3 is not supported for the both country and analysis. On the other hand, the results between the primary regression analysis and sensitivity analysis are inconsistent and provide mixed results due to the different earnings management models applied. Modified Jones model is relevant for Thailand. Alternatively, Kothari *et al.* (2005) model is only relevant for Malaysian economic environment.

The overall results indicated that the earnings management model is significantly affected by leverage (positively), financial distress (positively) and free cash flow (negatively).

## CONCLUSION

Earnings management will overwhelm the value of information in financial report that helps the communication among investors, shareholders and the public. This study has presented the evidences that leverage gave significant impact to earnings management and the managers of the financial distressed condition are encouraged to exercise earnings management in order to window dress their real financial condition. Furthermore

standard setters and regulators should aware on the earnings management practices which has a greater impact on the reliability and credibility of the accounting information. There should be more effective regulation in terms of legislation enforcement, reprimand and protecting the interest of minority shareholders. In particular, the enforcement of legislation is important because it may discourage the manager of the companies to involve in any earnings management activities.

There are some limitations listed in this section which could help the underlying factors for the rejection of the hypothesis in this study. Firstly, the study used a sample of three years period with final sample of 1005 firm-year observation for Malaysia and 672 firm-year observations for Thailand. The sample of year used this study is considered to short as compared to the previous study that used the sample at least 10 years period. Thus, the result cannot be generalized as a whole. Second, this study only covers seven industries of public listed companies in Malaysia and Thailand and the financial institution has been excluded from the sample of the study because of the different of regulatory requirement on this industries. Thus, the result from this study cannot be generalized for the financial institution. Third, this study only used two different accruals models which are modified Jones model proposed by Dechow *et al.* (1995) and performance-matched discretionary-accrual approach by Kothari *et al.* (2005). By using more accruals models, the possibility for the findings to be significant could be higher and different accruals models will reduce errors in calculating discretionary accruals. Since the study is conducted based on two different countries, different accruals model could be relevant for different economy of the country because traditional factors might affect the choices of accounting accruals for earnings management.

## FUTURE STUDY

There are many opportunistic for future research. The alternative study for this is having a qualitative study regarding to the perception of the regulator, users of financial report and the managers of the companies. Broader scope and constraint on the issues could be analyzed more extensively. Future research also needs to be done to examine to which extent earnings management is harmful or beneficial to the stakeholders. This study can be extend regarding to the sample size and time frame of study because it might be able to find more significant results and can be generalized for several situations. It is strongly encouraged to use the latest studies and new earnings detection model in order to get the most accurate measurement for earnings



management. In addition, this study also can be extended to applied different measurement for financial distress.

## REFERENCES

- Ahmad-Zaluki, N.A., K. Campbell and A. Goodacre, 2011. Earnings management in Malaysian IPOs: The East Asian crisis, ownership control and post-IPO performance. *Int. J. Accounting*, 46: 111-137.
- Altman, E.I., 1968. Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *J. Finance*, 23: 589-609.
- Altman, E.I., 1993. *Corporate Financial Distress and Bankruptcy: A Complete Guide to Predicting and Avoiding Distress and Profiting from Bankruptcy*. 2nd Edn., John Wiley Sons Inc., USA., ISBN-13: 9780471552536, Pages: 384.
- Aman, A., T.M. Iskandar, H. Pourjalali and J. Teruya, 2006. Earnings management in Malaysia: A study on effects of accounting choices. *Malaysian Accounting Rev.*, 5: 185-209.
- Andrade, G. and S.N. Kaplan, 1998. How costly is financial (not economic) distress? Evidence from highly leveraged transactions that became distressed. *J. Finance*, 53: 1443-1493.
- Balsam, S., E. Bartov and C. Marquardt, 2002. Accruals management, investor sophistication, and equity valuation: Evidence from 10-Q filings. *J. Accounting Res.*, 40: 987-1011.
- Beatty, A. and J. Weber, 2003. The effects of debt contracting on voluntary accounting method changes. *Accounting Rev.*, 78: 119-142.
- Bukit, R.B. and T.M. Iskandar, 2009. Surplus free cash flow, earnings management and audit committee. *Int. J. Econ. Manage.*, 3: 204-223.
- Charoenwong, C. and P. Jiraporn, 2009. Earnings management to exceed thresholds: Evidence from Singapore and Thailand. *J. Multinat. Financial Manage.*, 19: 221-236.
- Chen, K. Y. and J.L. Liu, 2010. Earnings management, CEO domination and growth opportunities-evidence from Taiwan. *Int. J. Public Inform. Syst.*, 1: 43-69.
- Choi, J.H., J.B.V. Kim, C. Kim and Y. Zhang, 2010. Auditor office size, audit quality and audit pricing. *Auditing: J. Pract. Theo.*, 29: 73-97.
- Choy, S.L.W., J. Munusamy, S. Chelliah and A. Mandari, 2011. Effects of financial distress condition on the company performance: A Malaysian perspective. *Rev. Econ. Finance*, 4: 85-99.
- Christie, A.A., 1990. Aggregation of test statistics: An evaluation of the evidence on contracting and size hypotheses. *J. Accounting Econ.*, 12: 15-36.
- Chung, R., M. Firth and J.B. Kim, 2005. Earnings management, surplus free cash flow and external monitoring. *J. Bus. Res.*, 58: 766-776.
- Cooke, T.E., 1998. Regression analysis in accounting disclosure studies. *Accounting Bus. Res.*, 28: 209-224.
- Cornett, M.M., J.J. McNutt and H. Tehranian, 2009. Corporate governance and earnings management at large U.S. Bank holding companies. *J. Corporate Finance*, 15: 412-430.
- Deangelo, H., L. Deangelo and K.H. Wruck, 2002. Asset liquidity, debt covenants and managerial discretion in financial distress: The collapse of L.A. Gear. *J. Financial Econ.*, 64: 3-34.
- Dechow, P.M., R.G. Sloan and A.P. Sweeney, 1995. Detecting earnings management. *Account. Rev.*, 70: 193-225.
- Dechow, P.M. and D.J. Skinner, 2000. Earnings management: Reconciling the views of accounting academics, practitioners and regulators. *Accounting Horizons*, 14: 235-250.
- Demirkan, S. and H. Platt, 2009. Financial status, corporate governance quality and the likelihood of managers using discretionary accruals. *Accounting Res. J.*, 22: 93-117.
- Dezan Shira and Associates, 2013. *ASEAN Corporate Governance Scorecard: Country Reports and Assessments 2012-2013*. Asian Development Bank. <http://www.adb.org/publications/asean-corporate-governance-scorecard-country-reports-and-assessments-2012-2013>.
- Dhaliwal, D.S., O.Z. Li and H. Xie, 2010. Institutional investors, financial health and equity valuation. *Asia-Pac. J. Accounting Econ.*, 17: 151-173.
- Dichev, I.D. and D.J. Skinner, 2002. Large-sample evidence on the debt covenant hypothesis. *J. Account. Res.*, 40: 1091-1123.
- Eldenburg, L., K. Gunny, K. Hee and N. Soderstrom, 2007. Earnings management through real activities manipulation: Evidence from nonprofit hospital. August 24, 2007. <http://www3.nd.edu/~carecob/Workshops/07-08%20Workshops/SoderstromPaper.pdf>
- Field, A., 2009. *Discovering Statistics using SPSS*. 3 Edn., SAGE Publication, USA., ISBN-13: 9781847879073, Pages: 856.
- Gill, A., N. Biger, C. Pai and S. Bhutani, 2009. The determinants of capital structure in the service industry: Evidence from United States. *Open Bus. J.*, 2: 48-53.
- Gu, Z., C.W.J. Lee and J.G. Rosett, 2005. What determines the variability of accounting accruals? *Rev. Quant. Finance Account.*, 24: 313-334.

- Guan, L., H. Pourjalali, P. Sengupta and J. Teruya, 2005. Effect of cultural environment on earnings manipulation: A five asia-pacific country analysis. *Multinat. Bus. Rev.*, 13: 23-41.
- Gul, F.A., 2001. Free cash flow, debt-monitoring and managers' LIFO/FIFO policy choice. *J. Corporate Finance*, 7: 475-492.
- Habib, A., M.B.U. Bhuiyan and A. Islam, 2012. Financial distress, earnings management and market pricing of accruals during the global financial crisis. *Manage. Finance*, 39: 155-180.
- Hart, O. and J. Moore, 1995. Debt seniority: An analysis of the role of hard claims in constraining management. *Am. Econ. Rev.*, 85: 567-585.
- Healy, P.M. and J. Wahlen, 1999. A review of the earnings management literature and its implications for standard setting. *Account. Horizons*, 13: 365-383.
- Hotchkiss, E.S., K. John, K.S. Thorburn and R.M. Mooradian, 2008. Bankruptcy and the Resolution of Financial Distress. In: *Handbook of Empirical Corporate Finance*, Volume 2, Eckbom, B.E. (Ed.). 1st Edn., Chapter 14, North Holland, USA., ISBN-13: 9780444532657, pp: 235-290.
- Hsiao, H.F., S.H. Lin and A.C. Hsu, 2010. Earnings management, corporate governance and Auditor's opinions: A financial distress prediction model. *Investment Manage. Fin. Innovat.*, 7: 29-40.
- Jensen, M.C. and W.H. Meckling, 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *J. Financial Econ.*, 3: 305-360.
- Jensen, M.C., 1986. Agency cost of free cash flow, corporate finance and takeovers. *Am. Econ. Rev.*, 76: 323-329.
- Jensen, M.C., 1991. Corporate control and the politics of finance. *J. Applied Corporate Fin.*, 4: 13-34.
- Jiang, W., P. Lee and A. Anandarajan, 2008. The association between corporate governance and earnings quality: Further evidence using the GOV-Score. *Adv. Account.*, 24: 191-201.
- Johl, S., C.A. Jubb and K.A. Houghton, 2007. Earnings management and the audit opinion: Evidence from Malaysia. *Managerial Audit. J.*, 22: 688-715.
- Jones, S. and R. Sharma, 2001. The impact of free cash flow, financial leverage and accounting regulation on earnings management in Australia's old and new economies. *Managerial Fin.*, 27: 18-39.
- Jouber, H. and H. Fakhfakh, 2012. Earnings management and board oversight: An international comparison. *Managerial Audit. J.*, 27: 66-86.
- Kim, H.J. and S.S. Yoon, 2008. The impact of corporate governance on earnings management in Korea. *Malaysian Accounting Rev.*, 7: 43-59.
- Kothari, S.P., A.J. Leone and C.E. Wasley, 2005. Performance matched discretionary accrual measures. *J. Account. Econ.*, 39: 163-197.
- Kousenidis, D.V., A.C. Ladas and C.I. Negakis, 2013. The effects of the European debt crisis on earnings quality. *Int. Rev. Fin. Anal.*, 30: 351-362.
- Laux, C. and V. Laux, 2009. Board committees, CEO compensation and earnings management. *Account. Rev.*, 84: 869-891.
- Lehn, K. and A. Poulsen, 1989. Free cash flow and stakeholder gains in going private transactions. *J. Fin.*, 44: 771-787.
- Leuz, C., D. Nanda and P.D. Wysocki, 2003. Earnings management and investor protection: An international comparison. *J. Financ. Econ.*, 69: 505-527.
- Leventis, S. and P. Dimitropoulos, 2012. The role of corporate governance in earnings management: Experience from US banks. *J. Applied Account. Res.*, 13: 161-177.
- Liberty, S. and J. Zimmerman, 1986. Labor union contract negotiations and accounting choice. *Account. Rev.*, 61: 692-712.
- Maina, F.G. and M.M. Sakwa, 2012. Understanding financial distress among listed firms in Nairobi stock exchange: A quantitative approach using the z-score multi-discriminant financial analysis model. *Proceedings of the JKUAT Scientific, Technological and Industrialization Conference*, November 15-16, 2012, Nairobi, Kenya, pp: 482.
- Mashayekhi, B., B. Bagheri and A. Tahriri, 2010. Free cash flows, financial leverage and earnings management: The case of Iran. *Int. J. Account. Inform. Manage.*, 18: 5-13.
- Modigliani, F. and M.H. Miller, 1958. The cost of capital, corporation finance and the theory of investment. *Am. Econ. Rev.*, 48: 261-297.
- Miller, M.H., 1977. Debt and taxes. *J. Finance*, 32: 261-275.
- Peasnell, K.V., P.F. Pope and S. Young, 2005. Board monitoring and earnings management: Do outside directors influence abnormal accruals. *J. Bus. Finance Account.*, 32: 1311-1346.
- Platt, H.D. and M.B. Platt, 2006. Understanding differences between financial distress and bankruptcy. *J. Rev. Applied Econ.*, 2: 141-157.
- Pornsit, J., G.A. Miller, S.S. Yoon and Y.S. Kim, 2008. Is earnings management opportunistic or beneficial? An agency theory perspective. *Int. Rev. Fin. Anal.*, 17: 622-634.
- Rahman, R.A. and F.H.M. Ali, 2006. Board, audit committee, culture and earnings management: Malaysian evidence. *Manage. Auditing J.*, 21: 783-804.

- Ross, S.A., 1973. The economic theory of agency: Principal's problem. *Am. Econ. Assoc.*, 63: 134-139.
- Sadique, R.B.M., J. Roudaki, M.B. Clark and N. Alias, 2010. Corporate fraud: An analysis of Malaysian securities commission enforcement releases. *World Acad. Sci. Eng. Technol.*, 42: 1199-1208.
- Shubita, M.F. and J.M. Alsawalhah, 2012. The relationship between capital structure and profitability. *Int. J. Bus. Soc. Sci.*, 3: 104-112.
- Simon, J., 2001. Ethical perceptions of earnings management in Malaysia, Singapore, Hong Kong, Thailand and the UK. *Asian Rev. Accounting*, 9: 1-28.
- Siregar, S.V. and S. Utama, 2008. Type of earnings management and the effect of ownership structure, firm size and corporate-governance practices: Evidence from Indonesia. *Int. J. Accounting*, 43: 1-27.
- Srinidhi, B.N. and F.A. Gul, 2007. The differential effects of auditors' nonaudit and audit fees on accrual quality. *Contemp. Accounting Res.*, 24: 595-629.
- Stock Exchange of Thailand, 2013. The stock exchange of Thailand listing companies 2013. [https://www.set.or.th/en/company/ipo/stat\\_ipo\\_p1.html](https://www.set.or.th/en/company/ipo/stat_ipo_p1.html)
- Stulz, R.M., 1990. Managerial discretion and optimal financing policies. *J. Financ. Econ.*, 26: 3-27.
- Sweeney, A.P., 1994. Debt-covenant violations and managers' accounting responses. *J. Accounting Econ.*, 17: 281-308.
- Tangjitprom, N., 2013. The role of corporate governance in reducing the negative effect of earnings management. *Int. J. Econ. Finance*, 5: 213-221.
- Teoh, S.H., I.V.O. Welch and T.J. Wong, 1998. Earnings management and the long-run market performance of initial public offerings. *J. Finance*, 53: 1935-1974.
- Xie, B., N.W. Davidson and P. DaDalt, 2003. Earnings management and corporate governance: The role of the board and the audit committee. *J. Corporate Finance*, 9: 295-316.
- Zagers-Mamedova, I., 2009. The effect of leverage increases on real earnings management. Master Thesis, Erasmus University, Netherlands.