DOES IFRS ADOPTION MITIGATE ACCRUAL EARNINGS MANAGEMENT? EVIDENCE FROM AN EMERGING MARKET

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Abstract

This study examined an impact of IFRS adoption on earnings management in Thailand. The Jones model (1991) modified by Kothari et al. (2005) was employed to measure earnings management. The sample contained 761 Thai listed firm-year observations in the year before (2008) and after (2011) the adoption of IFRS. Using multiple regression analysis, the research found significantly positive association between the IFRS adoption and earnings management, suggesting that Thai firms tended to engage in earnings management after the IFRS adoption more than before. This led to a question of the increasing earnings quality due to the IFRS adoption in an emerging market. Also, the model showed the significantly positive relationship of earnings management with the leverage ratio, revenue growth, profitability ratio, and negative earnings variables. In contrast, it revealed the significantly negative association of earnings management with firm size and industry type. These results were consistent with much research (Klein, 2002; Usman and Yero, 2012; Doukakis, 2014; Wan Ismail et al., 2013) and strengthen the long-established theories used in this research area (e.g. the agency theory and the positive accounting theory).

Key words: Accrual earnings management, Thailand, Modified Jones model, International Financial Reporting Standards (IFRS).

1. Introduction

Since the International Accounting Standards Board (IASB) was restructured in 2001, the International Financial Reporting Standards (henceforth "IFRS") have been worldwide accepted. Many countries decided to partly or fully adopt standards while a question of their impact on earnings quality, specifically earnings management, was arisen. Some researchers empirically showed the reduction of earnings management after the IFRS adoption (e.g., Sellami and Fakhfakh, 2013; Zèghal et al., 2011; Wan Ismail et al., 2013; Cai et al., 2012; Barth et al.,

2008; Chua et al., 2012) whereas some argued that earnings management had intensified since the adoption (Jeanjean and Stolowy, 2008; Callaoa and Jarnea, 2010; Rudra and Bhattacharjee, 2012; Li and Park, 2012). These inconclusive results were possibly due to the differences in the location of the sample. The studies (Houqe et al., 2012; Chua et al., 2012; Daske et al., 2008) suggested that a country with high investor protection right and strong legal enforcement is likely to have positive impact of the IFRS adoption on earnings management; however, some research results (Brad et al., 2014; Wan Ismail et al., 2013) argued this observation. The argument implied that the impact of IFRS adoption on earnings management in a particular country was an open empirical issue that warranted distinctive investigation.

In Thailand, IFRS have been announced to be fully adopted since 2009, and it mainly aimed to increase earnings quality, meaning reducing earnings management. However, this aim was questionable. This doubtfulness was supported by the inconclusive results stated above and the fact that Thailand seems to have high investor protection right stated in its regulatory framework but the enforcement and practices seem to be questionable because Thai financial system is a credit-based system. This characteristic might facilitate the fully IFRS adoption to either reduce or increase earnings management practices, as several studies (Chua et al., 2012) found that in a country with a capital market-based system, earnings management tended to reduce after the IFRS adoption whereas some (Zèghal et al., 2011; Zhou et al., 2010; Wan Ismail et al., 2013; Pelucio-Grecco et al., 2014) found similar impact of IFRS adoption on earnings management in a country with a credit-based system.

In addition, before the fully IFRS adoption, Thai accounting standards were based on mainly the Anglo-Saxon model, recognized as the high quality of standards. In fact, some Thai accounting standards had already followed some of IAS. Therefore, the fully IFRS adoption might result in a small or negligible impact on the changes in earnings quality in Thailand, as Chua et al. (2012) suggested that a country with high quality of the standards, the IFRS adoption might not have much impact on earnings quality.

Furthermore, after reviewing previous research, the current study found no research specifically tackling a question of the earnings quality after the adoption in Thailand. Most of the research determining earnings management in Thailand focused on the relationship between earnings management and corporate determinants (Chomchan, 2007; Eamsherangkoon, 2008; Jaitad, 2012; Kiatapiwat, 2010; Powijit, 2012; Sukeecheep, 2013; Bokkaranee, 2006; Thoopsamut, 2007; Sujirachato, 2009; Marttra, 2006) in order to indicate the motivations for earnings management. A few studies focused on the impact of other changing situations (e.g., seasoned equity offerings and initial public offerings) on earnings management (Prangthawat, 2002; Phraethong, 2009; Sriworadetpisan, 2006; Tuntana, 2011).

 Therefore, the study of IFRS adoption and earnings management in Thailand deserved to be thoroughly investigated. The main research objective was to explore an impact of IFRS adoption on earnings management in Thailand. Specifically, the research aimed to investigate whether earnings management was significantly associated with the period of IFRS adoption and if so, whether the positive or negative relationship existed. This investigation contributed several benefits to both Thailand and international discipline. For Thailand, the research reveled earnings management behavior of Thai management before and after the IFRS adoption. This behavior, specifically accruals earnings management, would notify Thai regulators to consider about the effectiveness of IFRS in increasing earnings quality. For international discipline, particularly

countries with an emerging market, this study was a good example of an impact of IFRS adoption on earnings management behavior and if there seems to have any serious negative impact, the countries with the similar characteristics should be aware and cautiously adopt the standards.

The remainder of this paper was organized as follows. Thai financial reporting standards were introduced and discussed. This was followed by a review of literature dealing with the influence of IFRS adoption on earnings management. Then, the hypotheses were developed and research methodology was described. After that, the research results and discussion were presented. Finally, the conclusion and recommendations were made.

2. Literature Review

2.1 Thai Financial Reporting Standards

Similar to other developing countries, Thai accounting standards (TAS) have been developed using western accounting standards as a model (Sutthachai, 2006). Before the fully IFRS adoption, Thai standards had a combination of accounting practices from three western accountancy bodies: those of the UK, the US, and the IASB. However, after the economic crisis in 1997, TAS had been dramatically changed as a part of financial infrastructure restructuring program required by the World Bank and the International Monetary Fund (IMF). The Thai government called on the ICAAT (the Institute of Certified Accountants and Auditors of Thailand, later changed to the Federation of Accounting Profession: FAP) to fully adopt IAS/IFRS in order to facilitate the inflow of foreign capital from both international financial institutions and foreign private investment. At first, the ICAAT responded by either adopt or adapt the IAS/IFRS. The adoption refers to the use of the standards without significant changes in their content whereas adaptation means substantial changes in content of the standards. The adaptation usually occurs when an accounting standard committee wants to issue the standards to suit a country's environment.

Nevertheless, since 2009, the FAP finally decided to fully, rather than partly, adopt the IFRS. At first, it had committed formal timelines to fully adopt IFRS for Thai companies listed in the Stock Exchange of Thailand (SET) by the year 2011 (Deloitte global services limited, 2013). The new accounting framework and 26 new TAS based fully on IAS bound volume 2009 were issued and effective in 2011. Later, 13 TAS, both new and revised version, and five Thai Financial Reporting Standards (TFRS) were published. These standards were mainly based on IAS and IFRS bound volume 2012 and were implemented in 2014. Continually, in 2014, the FAP had issued the new accounting framework, 26 TAS, and 10 TFRS based on IFRS bound volume 2013. These standards were either superseding or revised the 2009 and 2012 standards. Also, during 2014-2015, seven Thai standards interpretation (TSIC) and 12 Thai financial reporting standards interpretations (TFRIC) were introduced (FAP, 2015). The detail of the adopted IFRS and IAS can be reviewed on the FAP website.

From the chronological events, it could be seen that the first dramatic changes in accounting practices occurred in 2011 when the adopted accounting standards were legally effective. Several standards allow accounting practitioners to employ their professional judgment more than in the past. For example, the standard of property, plant and equipment (PPE) (TAS 16) applies a component approach in the asset recognition and depreciation when the PPE

condition is met certain circumstances stated in the standard. This practice permits accounting practitioners to divide one asset into several components and then each component is depreciated depending on its useful life. Furthermore, in the standard, when PPE is first recognized, its initial costs should include, apart from its purchase costs and related costs necessary for preparing an asset to be ready to use, the estimated cost of dismantling and removing an asset and restoring the site on which it is located. The practices stated above had not been applied before and necessarily require professional judgment; as a result, the value of assets and expenses presented in the financial reports are directly affected.

The standard for employee benefits (TAS 19) is also another example causing huge change in accounting practices. It had never been compulsorily applied in Thailand before. The standard employs considerable professional judgment in practices and thus affects the accounting figures in financial reports. It requires a company to recognize the expected costs of all types of employee benefits that it has committed to the staff and this requirement could cause Thai companies to recognize a substantial amount of expenses in one period which then significantly affect corporate earnings, particularly of Thai listed companies. Thus, FAP had provided Thai listed companies the four alternative accounting practices for the first-time adoption of this standard; 1) using the prospective method according to TAS 8 accounting policies, change in estimates and errors, 2) setting the provision and continually recognized an expense within five years by a straight-line method, 3) adjusting the beginning of retained earnings in the adopting year, and 4)applying the retrospective method. Thummanont and Tantiprapa(2011) had surveyed Thai listed companies which alternative chosen most and they revealed that setting the provision had been practiced by the majority, followed by the adjusting the beginning of retained earnings method. Nonetheless, any alternatives could notably affect liabilities and expenses presented in a company's financial reports.

The two examples stated above revealed the substantial changes in Thai accounting standards which possibly provided Thai management higher opportunity to manipulate financial figures by using discretionary accruals than that in the past; as a consequence, earnings quality was questioned and Thai financial reports needed to be carefully analyzed. However, the proponents of the IFRS adoption argued that the IFRS would increase earnings quality and consequently the quality of financial reports (Houqe et al., 2012; Sellami and Fakhfakh, 2013). The accounting practices indicated in the IFRS allow professional judgment of management and practitioners in order to generate financial information based on the qualitative characteristics of 'relevance' and 'faithful presentation'. These characteristics shape financial reports to be useful for users of financial reports (Houqe et al., 2012), reflecting a company's economic reality. Since the fully IFRS adoption in Thailand occurred, this argument had not been seriously investigated whereas it had been widely studied in other countries' context.

2.2 Earnings Management

Zwan (2009) reviewed 'earnings quality' and agreed that earnings quality has not been well defined, but from the previous research, Zwan suggested that earnings management, sustainability and predictability are closely related to earnings quality. As this research intended to address a question of earnings quality after the IFRS adoption in Thailand, the research has applied 'earnings management' as the representative in the investigation of earnings quality in Thailand after the IFRS adoption. According to Healy and Wahlen (1999, p. 368), earnings management is defined as:

"...the managers use their judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers."

Based on the accounting framework, financial reports are presented on the accruals basis. The accruals arise because of differences between the timing of accounting recognition and cash activities. Thus, Healy (1985) decomposed earnings into three components, namely cash flows from operations, nondiscretionary accruals, and discretionary accruals. The discretionary accruals are the one that management employs to manage earnings; therefore, the amount of discretionary accruals is used to be a proxy to measure earnings management, generally mentioned as "accrual earnings management".

Previous research (Healy, 1985, DeAngelo, 1986; Jones, 1991; Dechow, Sloan & Sweeney, 1995) categorized the measurement for accruals earnings management into two approaches: 1) an aggregate accruals model, and 2) a specific accruals model. An aggregate accruals model is the most applied method and states that discretionary accruals are the residuals between total accruals and estimated nondiscretionary accruals. The models to measure accruals earnings management have been developed continuously and can be classified into three time period: (1) before the Jones model, (2) the Jones model, and (3) the Modified Jones model.

Before the Jones model. Healy (1985) and DeAngelo (1986) are the earliest researchers who developed models to measure accruals earnings management. Healy (1985) used the mean of total accruals as a measure of nondiscretionary accruals and total accruals are calculated by the difference between accounting earnings and cash flows from operations. Cash flows from operation are estimated by working capital from operations less changes in receivables and inventory, plus changes in payables and income tax payable. DeAngelo (1986) further developed this by using the lagged total accruals as a measure of nondiscretionary accruals. However, both Healy (1985) and DeAngelo (1986) were criticized of their models that the model assumption is unrealistic. The models assumed that nondiscretionary accruals are constant from period to period and have a mean of zero in the estimation period. Therefore, if nondiscretionary accruals change from period to period, both models will tend to measure nondiscretionary accruals with errors (Dechow et al., 1995).

The Jones Model. Jones (1991) proposed a regression to estimate nondiscretionary accruals. The measure of accruals earnings management is residual between total accruals and total accruals that are estimated from a regression on changes in sales and property, plant, and equipment. Total accruals are calculated as the change in noncash working capital before income tax payable less total depreciation expense.

$$TA_t = [\Delta CA_t - \Delta Cash_t] - [\Delta CL_t - \Delta CM_t - \Delta TP_t] - Dep_t \quad \dots\dots \qquad (1)$$

where

TA_t	=	total accruals in year t;
ΔCA_t	=	current assets in year t less current assets in year t-1;
$\Delta Cash_t$	=	cash in year t less cash in year t-1;
ΔCL_t	=	current liabilities in year t less current liabilities in year t-1;
ΔCM_t	=	current maturities of long term debt in year t less current maturities of long term debt in year t-1;

$$\Delta TP_t \quad = \quad \text{income taxes payable in year t less income taxes payable in}$$
year t-1; and

$$Dep_t \quad = \quad \text{depreciation and amortization expenses in year t.}$$

The Jones model for estimating normal total accruals is as follows:

$$\frac{TA_{it}}{A_{it-1}} = \alpha_i \left(\frac{1}{A_{it-1}}\right) + \beta_{1i} \left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + \beta_{2i} \left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots \quad (2)$$

where

TA_{it}	=	total accruals in year t for firm i;
ΔREV_{it}	=	revenues in year t less revenues in year t-1 for firm i;
PPE_{it}	=	gross property plant and equipment in year t;
A_{it-1}	=	total assets at t-1;
$\alpha_i, \beta_{1i}, \beta_{2i}$	=	the firm-specific parameters;
ε_{it}	=	error term in year t for firm i;
I	=	1, 2,…, N, firm index; and
T	=	1, 2,..., T, year index for years included in the estimation period.

Jones (1991) used ordinary least square (hereafter "OLS") to obtain estimates parameters (α_i, β_{1i}, β_{2i}) in this equation. The prediction error, the residual between reported and predicted total accruals, is used as a proxy of accruals earnings management, as follows:

$$\varepsilon_{it} = \frac{TA_{it}}{A_{it-1}} - \left(a_i \left(\frac{1}{A_{it-1}}\right) + b_{1i} \left(\frac{\Delta REV_{it}}{A_{it-1}}\right) + b_{2i} \left(\frac{PPE_{it}}{A_{it-1}}\right)\right) \quad \ldots\ldots\ldots\ldots \quad (3)$$

where

ε_{it}	=	the prediction error or abnormal accruals or the level of discretionary accruals at time t for firm i and
a_i, b_{1i}, b_{2i}	=	OLS estimator of the firm-specific parameters, (α, β_1 and β_2 respectively).

Modified Jones Model. Several researchers had modified Jones model. Among these researchers, the modified Jones model of Dechow et al. (1995) and of Kothari et al. (2005) are applied the most.

Dechow et al. (1995) calculated total accruals consistent with the Jones model but replaced ΔCM_t and ΔTP_t in Equation (1) with the changes in debt in current liabilities in the event period. Also, in their model, the change in revenues is adjusted for by the change in receivables in the event period. This model implicitly assumed that all changes in credit sales in the event period result from earnings management. This modified Jones model augmented for change in net receivables to provide a powerful test of earnings management (Dechow et al., 1995).

The Modified Jones model by Kothari et al. (2005) calculated total accruals the same as Equation (1), except that it did not including ΔTP in the model. For estimating normal total

accruals, Kothari et al. (2005) includes the previous return on assets (hereafter "ROA") in the model to control for the impact of firm performance in the accruals regression. They suggested that the ROA controls the measured discretionary accruals to enhance the reliability of inferences from earnings management research.

Recently, Kothari et al. (2012) applied another modified Jones model. They used panel data models to measure accruals earnings management by adding net income in the accruals regression instead of ROA while other models are the same as the modified Jones model by Kothari et al. (2005). They suggested that the modified Jones model by Dechow et al. (1995) can be improved upon by controlling for earnings (NI).

2.3 The Influence of IFRS adoption on Earnings Management

Since the IASB financial reporting standards were internationally worldwide accepted, the standards have been either partly or fully adopted by many countries. The studies of influence of the IFRS adoption on earnings management received much attention but the results from this investigation have been inconclusive.

In empirically supporting the positive influence of IFRS adoption on earnings management (i.e. earnings quality seemed to increase after the IFRS adoption), many researchers found a significant association between the adoption of IFRS and a reduction of earnings management in several countries, such as France (Sellami and Fakhfakh, 2013; Zèghal et al., 2011), Australia (Chua et al., 2012), the UK and Ireland (Aussenegg et al., 2009), Romania (Brad et al., 2014) and Malaysia (Wan Ismail et al., 2013). Contradictorily, some studies found either the increase of earnings management or no changes in earnings management after the IFRS adoption in other countries, such as Germany (Van Tendeloo and Vanstraelen, 2005), some EU countries (Callaoa and Jarnea, 2010), China (Li and Park, 2012) and India (Rudra and Bhattacharjee, 2012). In fact, some countries were the same countries found a decrease of earning management after the IFRS adoption; for example, the UK, Australia, and France (Jeanjean and Stolowy, 2008).

The inconclusive findings were possibly due to the differences in the location of the sample. Chua et al. (2012) suggested that the differences of the IFRS impact in various countries were due to the differences of institutional structures which generally determine accounting quality. Houqe et al. (2012) empirically tested and confirmed this view that an increase of earnings quality after the IFRS adoption seemed to appear in countries where firms had incentive to be transparent in order to protect investors' benefits and where legal enforcement is strong. The studies undertaken in many countries having strong investor protection mechanism, such as Australia (Chua et al., 2012) and the UK (Aussenegg et al., 2009), were agreeable with this view. The research results in developing countries with weak investor protection mechanism, such as India (Rudra and Bhattacharjee, 2012) and China (Zhang et al., 2013) also confirmed this observation. Rudra and Bhattacharjee (2012) suggested that IFRS adoption was not an effective tool to increase earnings quality in a country with no appropriate capital market paradigm and institutional rules to support IFRS reporting principles (Sellami and Fakhfakh, 2013).

However, this observation was not yet firmly established because some other research empirically revealed different results. For example, in Romania (Brad et al., 2014) and Malaysia (Wan Ismail et al., 2013) with the emerging markets, the IFRS adoption had reduced earnings management in the firms' financial reports, suggesting an increase of earnings quality.

From the review, there was no consensus view about the impact of IFRS adoption on earnings management. Consequently, this research area was an open empirical issue that warrants distinctive investigation in a particular country.

3. Hypotheses Development

Thailand is one of developing countries with a weak form of capital market and concentrated ownership structure. The Thai capital market had been started since the 1960s but has been continually developed from 1975 when the Securities Exchange of Thailand (officially changed to 'the Stock Exchange of Thailand (SET)' in 1992) was introduced under the Securities Exchange of Thailand Act B.E. 2517 (1974). Although the Thai capital market has undergone both good and bad economic incidents; for example, the rapid growth of the economy in the early 1990s and the 1997 economic crisis, which were likely to strengthen the market, its role in financing Thai corporate sector has been still small, compared to the US and the UK where capital market-based financial systems exist. The World Bank reported that in 2012, Thai capital market has its capitalization around 382 hundred million dollars whereas the UK capital market capitalization was about 3,019 hundred million dollars and the US market was about 18,668 hundred million dollars, suggesting the small amount of market capitalization in Thailand compared to the developed capital market.

With an emerging capital market, it was not surprising that the ownership structure of Thai listed companies were mainly concentrated although there was a period, specifically the 1997 economic crisis period, compulsorily transforming the structure to be widely-held. After the 1997 economic crisis, several researchers (Suehiro, 2001; Khanthavit et al., 2003) confirmed that many listed companies controlled by concentrated ownership in the period before the crisis, were controlled by foreign investors, domestic financial institutions, and various widely-held group after the crisis. However, their findings showed that about 40-45 percent of their sample still had a group of related families as controlling shareholders. This characteristic is persisting in Thailand (Connelly et al., 2012).

In addition, in Thailand, the legal enforcement has still been limited. This was reflected through the Corruption Perception index (CPI), being 85 out of 175 countries, meaning that the country has been perceived having moderately high corruption in the public sector in 2014 (Transparency International organization, 2014). This suggested that there were somewhat widespread bribery, lack of punishment for corruption and public institutions that don't respond to citizens' needs.

From the notion that in a country with strong investor protection and legal enforcement, the IFRS adoption seemed to have incremental economic benefits more than that with weak ones, the IFRS adoption in Thailand, therefore, was likely to have either no or negative impact on earnings management, meaning an increase of earnings management and thus lower quality of financial reports.

However, as several researchers (Brad et al., 2014; Wan Ismail et al., 2013) found that firms in a country with an emerging capital market had decreasingly managed earnings after the IFRS adoption, Thailand which had similar institutional structure to that country possibly could then gain incremental economic benefits from the IFRS adoption, i.e. after the adoption, Thai financial reports contained less earnings management than the time before adoption.

As reviewed above, it can be seen that no clear prediction about the direction of which earnings quality had been affected by the IFRS adoption in Thailand. Hence, the research hypothesized that,

H1: there was a significant relationship between the transitional period of IFRS adoption and accrual earnings management.

4. Research Methodology

4.1 The before and after IFRS adoption periods

In order to achieve the research objective, the research divided the IFRS adoption period into two periods: the before (2008) and after (2011) IFRS adoption period. The year of 2008 was selected as the before IFRS adoption period because in this year, the FAP had not announced its fully IFRS adoption project to the public but in 2009, the FAP had revealed its plan to converging to IFRS and started to draft many of new Thai accounting and financial reporting standards and interpretations based on IFRS, IAS, SIC and IFRIC. Most of these standards and interpretations were required to be effective at beginning on or after 1 January 2011. Also, the year 2008 was three years back from the year 2011 which was the starting year of effective standards; therefore, the problem of early IFRS adopters was minimized.

For the after IFRS adoption period, the year 2011, the first year of mandatory IFRS adoption, was selected because Thai listed companies started to be alert aboutthe fully IFRS adoption since the beginning of 2009 and consequently the accounting practitioners in Thai listed companies had acknowledged this and had more than a year to understand and prepare themselves for the new standards and interpretations; in fact, several companies became early-IFRS adopter. When the standards were effective, the companies were unquestionably able to manage their earnings regarding the new standards.

4.2 Data and Sample Selection

The sample companies were selected from the listed companies of Stock Exchange of Thailand (henceforth "SET"). However, listed companies in the financial industry, property fund sector, and insurers were excluded from this study because their operation and environments differ from other businesses and the financial institutions have, in general, different accruals processes (Peasnell et al., 2000). Also, companies listed in the Market for Alternative Investment (henceforth "MAI") were excluded because of the difference in firm size (SET, 2013a).Another group of companies excluded was companies under rehabilitation plans, which had problems with their operations and finances, leading to the suspension of their trading and if a company fails to resolve its problems, the SET will proceed to consider delisting the company's securities (SET, 2013b).

Table I contains a summary of how the final sample for this study was obtained.
[INSERT TABLE I HERE]

From Table I, the total number of listed companies in 2013 was 615 and after excluding the companies, mentioned previously, the research obtained 407 companies as a sample. However, the research investigated the year 2008 (before-adoption period) and the year 2011

(after-adoption period), thus it required the companies listed in those years and among the 407 firms listed in 2013, there were 383 companies listed in 2008 and 392 companies listed in 2011.

Table II contains a summary of how the final sample for this study was obtained. The initial sample included 775 firm-years (383+392). Fourteen firm-years were eliminated due to missing data. The final sample consists of 761 firm-years, which 376 observations were drawn from the year 2008 and 385 were drawn from the year 2011.

[INSERT TABLE II HERE]

Financial and non-financial data of these sample companies was collected from corporate annual report available to the public via the Thai Securities and Exchange Commission of Thailand's (SEC) website and the SET Market Analysis and Reporting Tool's (SETSMART) website.

4.3 Model Specification

4.3.1 Earnings Management model

The research employed the absolute value of abnormal accruals to represent the level of earnings management. This absolute value was calculated from the Jones (1991) model modified by Kothari et al. (2005). First, the total accruals (TA) were computed. The model was illustrated that,

$$TA_{it} = [\Delta CA_{it} - \Delta Cash_{it}] - [\Delta CL_{it} - \Delta CM_{it}] - Dep_{it} \qquad \text{............... (4)}$$

Where TA_{it} is total accruals for firm i in year t; ΔCA_{it} is current assets for firm i in year t less current assets in year t-1; $\Delta Cash_{it}$ is cash in year t less cash in year t-1; ΔCL_{it} is current liabilities for firm i in year t less current liabilities in year t-1; ΔCM_{it} is current maturities of long term debt for firm i in year t less current maturities of long term debt in year t-1; Dep_{it} is depreciation and amortization expenses for firm i in year t; i is 1, 2,…, N , firm index; and t is 1, 2,…, T, year index for the years included in the estimation period.

Then, the model coefficients were estimated by running the following cross-sectional regression.

$$\frac{TA_{it}}{A_{it-1}} = \beta_1 + \beta_2 \cdot \frac{1}{A_{it-1}} + \beta_1 \cdot \frac{\Delta Sales_{it} - \Delta Rec_{it}}{A_{it-1}} + \beta_2 \cdot \frac{PPE_{it}}{A_{it-1}} + \beta_3 \cdot \frac{NI_{it}}{A_{it-1}} + \varepsilon_{it} \qquad \text{............... (5)}$$

where TA_{it} is the total accruals in year t for firm i; A_{it-1} is the total assets at t-1; $\Delta Sales_{it}$ is the change in sales in year t for firm i; ΔRec_{it} is the change in receivables in year t for firm i; PPE_{it} is the net property plant and equipment in year t; NI_{it} is the net income in year t for firm i; ε_{it} (labeled as AEM) is the abnormal total accruals in year t for firm i.

Finally, data calculated from the first and second models was replaced in the following model in order to find the accrual earnings management (AEM), the abnormal accruals of firms. From the model, the AEM was actually the residual generated from the regression.

$$AEM_{it} = \frac{TA_{it}}{A_{it-1}} - \left[\gamma_{1it} + \gamma_{2it} \cdot \frac{1}{A_{it-1}} + \gamma_{31it} \cdot \frac{\Delta Sales_{it} - \Delta Rec_{it}}{A_{it-1}} + \gamma_{32it} \cdot \frac{PPE_{it}}{A_{it-1}} + \gamma_{33it} \cdot \frac{NI_{it}}{A_{it-1}} \right] \qquad \text{............... (6)}$$

4.3.2 The Regression Model

In order to determine the influence of IFRS adoption on earnings management, the research employed the multiple regression analysis. The independent variable which the research focused was the IFRS adoption period. This research divided the IFRs adoption period into two periods: 1) before the IFRS adoption (2008) and 2) after the IFRS adoption (2011) and in the model, the variable was assigned 1 representing the after-adoption period and 0 otherwise.

Apart from the IFRS adoption period variable, other factors found to be related to earnings management were also included in the model in order to control for their effect on earnings management similar to other previous research (Wan Ismail et al., 2013; Doukakis, 2013; Zèghal et al., 2011; Al-Fayoumi et al., 2010; Yang et al., 2008; Farooq and El Jai, 2012). These variables included:

1.) Firm size. Generally, large firms tend to have a high proportion of outside ownership and also tend to separate between ownership and management. Based on an agency theory, these firms need a strong internal control system to supervise management performance, suggesting that management would have difficulties in managing earnings. Therefore, an association between firm size and the level of earnings management is negative. Many studies (Sun & Rath, 2009; Swastika, 2013) empirically confirmed this significantly negative association.

2.) Profitability ratio and Revenue growth. In the capital market, earnings is one of the information accounted by investors in their decision making and consequently, managers manipulate earnings for capital market purposes in order to obtain capital with low cost (DeAngelo, 1986; Cohen & Zarowin, 2008; Kothari et al., 2012). Companies with revenue growth tend to maintain this sustainable growth to keep investors' expectation and some even more increase more growth to raise the value of their shares and attract more investors to meet firms capital needs (Doukakis, 2013). Previous studies (Wan Ismail et al., 2013; Doukakis, 2013) found that earnings management is positively related to firm growth and their profitability.

3.) Leverage. Based on an agency theory (Jensen and Meckling, 1976), management is motivated to manage earnings for debt covenant purpose. Watts and Zimmerman (1990) further explain that highly leveraged firms are more likely to engage in earnings management upwards to avoid violating debt covenants. Many studies (Klein, 2002; Usman & Yero, 2012) confirmed this statement as they found that firm leverage has a positive impact on earnings management.

4.) Auditor types. An agency theory states that in order to reduce agency costs, the control system is required to monitor management work. External auditors are also considered as a monitoring device in this control system. Furthermore, high standards of auditing performance are likely to strictly observe management work (Chung et al., 2005; Johl et al., 2007). Therefore, this study predicts that the high audit quality is negatively associated with earnings management. In this study, the high audit quality refers to a big four international auditing firms (i.e. Deloitte, KPMG, Earnst & Young, and Pricewaterhouse Coopers).

5.) Board of directors. The board of directors is directly responsible for overseeing all work done by management. It is viewed as the ultimate internal monitor of management. Therefore, the independent and efficient board of directors plays an important role in income-increasing discretionary accruals constraint for management (Peasnell et al., 2005). Therefore, the number of board of directors possibly has a negative association with earnings management.

6.) Ownership structure. The ownership structure, including block-holder ownership, insiders ownership, and free-holding share ownership, is related to management incentives to manipulate reported earnings. Block holders refer to shareholders having the highest proportion of total shares of a firm. Therefore, the degree of separation between management and ownership is low and consequently, earnings can be managed intentionally for the benefits of management. Thus, there is possibly positive relationship between earnings management and block shareholders. The insider ownership is also expected to have a positive association with earnings management. Based on a positive accounting theory, when management benefits are associated with firm performance, management tends to increase firm performance (Watts and Zimmerman, 1990) and earnings management is one of the tools applied for this purpose. Al-Fayoumi et al. (2010) and Yang et al. (2008) had tested this positive relationship between earnings management and insider ownership. On the other hand, free-holding share ownership is expected to have negative relationship with earnings management. Free-holding share ownership indicates a high degree of separation between ownership and control. Therefore, high free-holding share ownership requires efficient monitoring tool and thus, management is overseen closely. Al-Fayoumi et al. (2010) and Yang et al. (2008) had investigated this negative association between the two variables.

7.) Negative earnings. Regarding the signaling theory, companies tend to avoid signaling their negative performance to investor because the message can lead the investor to have negative attitude to the company's corporate financial position, with the result that the cost of capital increase (Ross, 1977). Previous studies (Burgstahler & Dichev, 1997; Jaggi & Leaung, 2007) agreed with this statement as they found the significantly positive relationship between earnings management and negative earnings.

8.) Industry types. Each industry has its own environment, particularly regulatory environment. The regulations can be employed by the government to transfer wealth from firms and thus cause political costs to the firms. Therefore, based on the political cost hypothesis (Watts & Zimmerman, 1986) management is motivated to manage discretionary accounting methods to reduce their political costs. The research expected the significant relationship between industry and earnings management.

Therefore, a cross-sectional multiple regression model was structured as follow.

$$Abs\_AEM_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 Size_{it} + \beta_3 Growth_{it} + \beta_4 ROE_{it} + \beta_5 AUD_{it} + \beta_6 LOSS_{it} + \beta_7 INDS_{it}$$
$$+ \beta_8 TK_{it} + \beta_9 AK_{it} + \beta_{10} BPB_{it} + \beta_{11} DBP_{it} + \sum_{G} TK_{it} + \varepsilon_{it} \qquad .... \ (7)$$

Where

Abs_AEM$_{it}$	=	the absolute abnormal accruals in year t for firm i
LEV$_{it}$	=	the total debt to total asset in year t for firm i;
Size$_{it}$	=	the nature logarithm of the total asset in year t for
Growth$_{it}$	=	the growth of total revenue in year t for firm i;
ROE$_{it}$	=	the return on equity in year t for firm i;
AUD$_{it}$	=	a dummy variable equal to 1 if the firm are audited by a big four audit firm in year t for firm i, 0 is otherwise;
LOSS$_{it}$	=	the absolute value of negative earnings in year t for firm i;

BOD$_{it}$	=	the number of directors on BOD in year t for firm i;
INS$_{it}$	=	the number of shares held by the insider (chairman and CEO) at year-end scaled by total outstanding shares of the firm in year t for firm i;
CONC$_{it}$	=	the number of shares held by highest block-holding scaled by total outstanding shares of the firm in year t for firm i;
FREE$_{it}$	=	the number of shares held by free float-holding scaled by total outstanding shares of the firm in year t for firm i;
IFRS$_i$	=	a dummy variable that is equal to 1 for the years 2011 (the financial report is prepared under IFRS representing the IFRS adoption period) for firm i, 0 is otherwise;
INDUS$_{ki}$	=	a dummy variable for industry k for firm i, 0 is otherwise (the industries included agribusiness, consumer, industrial, property, natural resource, service, and technology sectors but in the model, technology sector was excluded as the reference category in order to avoid the perfect collinearity).

5. Research Results and Discussion

5.1 The Descriptive Statistics

Table III presented the descriptive statistics of the variables used in this study across the before and after IFRS adoption periods. In both periods, the sample companies seemed to manage earnings either downward or upward, as the minimum and maximum values of accrual earnings management showed the negative values (-1.80 and -1.04) and the positive sign (2.09 and 0.83) respectively.

Also, the results of the magnitude of earnings management, the absolute abnormal accruals (Abs_EM), revealed that after the IFRS adoption, accrual earnings management increased as the Abs_EMgrew from 0.08 to 0.091. The results of other variables showed that the sample's characteristics were varied. For example, in the before IFRS adoption period, the sample had the minimum leverage ratio of 0.005 and the maximum of 3.623.

[INSERT TABLE III HERE]

5.2 The Pearson Correlation

The research used the Pearson correlation to test the degree of relationship among the variables in the model. Table IV showed that there were statistically significant relationships between earnings management and other variables, either negative or positive relationship. These variables were such as the leverage ratio, the revenue growth, the auditor type, and the negative or small profit. However, the IFRS adoption period seemed to have no significant associated with the Abs_EM. Also, the result revealed that there were statistically associations among the independent variables but the correlation was unlikely to be strong enough to cause a serious problem of multicollinearity, as Field (2004) suggested that the degree of correlation reaching eight or nine could bring the serious concern.

[INSERT TABLE IV HERE]

5.3 The Influence of IFRS Adoption on Earnings Management

Table V presented the results of the multicollinearity test and the OLS regression model. From the table, the Tolerance and the Variance Inflator Factor (VIF) values statistically confirmed that the regression model had no serious multicollinearity problem, because the values were not greater than 10 for the VIF values and more than 0.20 for the Tolerance values (Field, 2004).

Overall, the independent variables in the regression model successfully explained the variation of earnings management for 34.3 percent (R square). The adjusted R square confirmed that the model seemed to be well generalized as the R square differed from the adjusted R square for only 1.5 percent (34.3 less 32.8 percent). The F test was also statistically significant (p < 0.000), meaning that the model significantly helped to improve the ability to explain the outcome variable. Furthermore, as the Durbin-Watson statistic was 1.804, which was close to 2, the assumption of independent errors had almost certainly been met.

Focusing on the IFRS adoption period variable (IFRS), the results showed that the coefficient of the IFRS variable, 0.017, was statistically significant at 95% confidence interval, suggesting that the IFRS adoption was positively associated with earnings management. This suggested that Thai firms tended to engage in earnings management more after the IFRS adoption, implying that the adoption in Thailand was likely to decrease earnings quality of Thai firms rather than increase and consequently, possibly reduced the quality of financial reports. This implication possibly initiated a warning sign to the Thai regulators that their expectation to increase the creditability of Thai financial reports might not be reached effortlessly by just fully adopting the IFRS.

The significant relationship between the IFRS adoption and earnings management was also consistent with previous researchers (e.g. Callaoa and Jarnea, 2010; Li and Park, 2012). This provided supporting empirical evidence that a country with an emerging capital market and concentrated ownership structure was likely to unsuccessfully increase earnings quality by adopting IFRS. This was probably because Thai institutional structure provided Thai firms' management little incentive to prepare financial reports for firm's economic purpose. Chua et al. (2012) reviewed literature and suggested that accounting quality was determined by a country's institutional structure, for the structure framed management incentives to prepare financial reports; therefore, in countries where firms have no incentive to be transparent and weak investors' protection, management would have less incentive to adopt the IFRS for companies' benefits but apply the standards for management opportunistic purposes.

Several controlled variables in the regression model were also statistically significant associated with earnings management. The leverage ratio, revenue growth, profitability ratio and negative earnings variables had a significant positive relationship with earnings management, suggesting that if firms have a high value of these variables, they are likely to increase earnings management behavior. These results were consistent with much research (Klein, 2002; Usman and Yero, 2012; Doukakis, 2014; Wan Ismail et al., 2013) and strengthen the long-established theories used in this research area (e.g. the agency theory and the positive accounting theory). Noticeably, both profitability ratio (ROE) and negative earnings have a significantly positive relationship with earnings management whereas these two variables represent contrasting performance of the company. The results suggest that both a company with high profitability and

a company with high loss are likely to manage earnings. This is because these two kinds of company have the same incentive to manage earnings, i.e. for the capital market purpose. A company with high profit manages earnings to maintain its consistent profit while a company with high loss manages earnings to increase profit. Also, the research applied the absolute abnormal accruals, representing magnitude of earnings management, in the regression model, did not indicate the sign of either upward or downward earnings management.

Other controlled variables, including firm size and industry type, showed a statistically negative relationship with earnings management. For the firm size variable, the negative coefficients indicated that small firms engaged in high accrual earnings management practices, consistent with previous research (Swastika, 2013; Sun and Rath, 2012; Doukakis, 2014).

Considering the statistical significance of the industry variable, the research revealed that firms in an agribusiness sector was likely to manage earnings significantly less than the benchmark sector, i.e. the technology sector, as the coefficient of this sector was statistically significant less than 10% interval. The results implied that companies in different industries would have different earnings management behaviors.

[INSERT TABLE V HERE]

6. Conclusion and Recommendations

Thailand where the IFRS had been fully adopted since 2011 was questioned of earnings quality after the adoption, as it had an emerging capital market and concentrated ownership structure of which some researchers (Rudra and Bhattacharjee, 2012) suggested that the IFRS adoption was not an effective tool to increase earnings quality in a country. To address the question, the research employed the modified Jones model (1991) by Kothari et al. (2005) to measure accrual earnings management, representing the earnings quality, and the multiple regression analysis to determine the influence of IFRS adoption on earnings management. The data of the sample of listed companies in the before and after IFRS adoption period was gathered. There were 761 Thai listed firm-year observations, which 376 observations were drawn from the year 2008 and 385 were drawn from the year 2011.

The descriptive statistics showed that the magnitude of earnings management in the after adoption period was higher than the before adoption period. The regression models confirmed that the IFRS adoption influenced earnings management in Thai firms, as the model showed the statistically significant association between earnings management and the IFRS adoption period, suggesting that the different periods could explain the variation of earnings management of Thai companies.

The findings notified Thai regulators to rethink about the effectiveness of IFRS in increasing earnings quality, i.e. reducing earnings management. The IFRS could be either the effective tool in enhancing the earnings quality because the standards provided financial information on the basis of relevance to economic decisions and faithful presentation, or the selective tool providing the discretion for management to prepare financial reports for its opportunism. From the research results, currently, Thai firms were likely to employ the IFRS as the latter tool.

In emerging countries, their institutional structure seemed to be the main obstacle in effectively adopting IFRS. The structure, specifically with an emerging market and concentrated shareholders, has not sufficiently encouraged firms to concerned with investors' interests and thus management has no incentive to prepare financial reports in order to protect investors' benefits. Nevertheless, many developing countries which decided to fully adopt the IFRS had acknowledged this problem and paid much effort to boost their capital market and issued the regulations for investors' right protection with rigorous compliance.

These efforts were also arisen in Thailand but their impact has not been clearly emerged since Thai firms are still in the credit-based financial system and the regulatory framework for investors' protection has not been rigorous complied. The research results showed the increasing earnings management after the IFRS adoption, implying that earnings quality might partly reflect economic reality of Thai firms and some business transactions possibly realized and measured due to the management discretion in order to gain its opportunism. As such, users of financial reports, particularly Thais, were required to be cautiously in analyzing financial reports.

The results from the regression model also strengthened the long-established theories (e.g. agency theory and positive accounting theory) relating to earnings management and its incentives. The results showed that the controlled factors were statistically significant associated with earnings management and this was consistent with several prior studies (Swastika, 2013; Sun and Rath, 2012; Doukakis, 2014).

Although the research greatly contributed to the international discipline, particularly for the IFRS adoption in emerging countries, it has some limitations needed to be concerned. This research was concerned with the influence of IFRS adoption on earnings quality and used accrual earnings management to reflect the quality. The earnings quality might not be reflected in its multiple attributes, as Chua et al. (2012) suggested that earnings quality was a multi-dimensional concept and might require earnings quality metrics in the measurement. However, the current research was considered to be a pioneer study of this particular issue in Thailand, since currently no research had specifically investigated a question of the earnings quality after the adoption in Thailand. The use of accrual earnings management would encourage other researchers to undertake future research in order to further confirm the results.

Furthermore, as stated above that during the period studied, the rigorous compliance and the process of transforming financial system to the capital market-based system was still carried out, the research results probably showed unfavour empirical evidence for the proponent of the IFRS adoption. Nevertheless, in the future when the systems in Thailand are completely transformed, the country will be a good object of the research in this area again in order to verify whether or not a country with a strong capital market and widespread shareholders will fully gain incremental economic benefits from the IFRS adoption. The future research in this area in Thailand possibly reveals the different results from this current research, which may be strengthen the proponent of the IFRS adoption.

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Appendices

Table 1: The sample selection.

	No. of Firms
SET listed companies*	615
Exclude	
Financial industry	(57)
Property fund	(43)
Medium-sized enterprise	(87)
Rehabilitation plan	(21)
Total Sample	407

*Total SET's listed companies as of August 8, 2013.

Table 2: Sample selection procedure.

	No. of Firms	Total
Pre- IFRSs adoption period:		
Sample as of December 31, 2008	383	
Post- IFRSs adoption period:		
Sample as of December 31, 2011	392	
Firms included in this study		775
Less: Firms due to missing data		(14)
Final Sample: Number of Firm-Year Observations		761

Table 3: Descriptive statistics.

	IFRS									
	Before IFRS adoption (2008) (n=376)					After IFRS adoption (2011) (n=385)				
	Mean	Median	Standard Deviation	Min	Max	Mean	Median	Standard Deviation	Min	Max
Abs_EM	0.08	0.05	0.15	0.00	2.09	0.09	0.06	0.11	0.00	1.04
EM	-0.05	-0.04	0.17	-1.80	2.09	0.00	0.01	0.15	-1.04	0.83
Lev	0.44	0.44	0.28	0.01	3.62	0.46	0.46	0.25	0.00	1.60
Size	3.54	3.44	0.63	2.17	5.95	3.63	3.54	0.66	2.17	6.15
Growth	15.48	6.49	51.87	-68.74	406.99	11.35	3.96	47.56	-61.63	718.76
ROE	0.01	0.05	0.50	-8.50	3.67	0.04	0.04	0.11	-0.87	0.63
Loss	0.05	0.00	0.45	0.00	8.50	0.02	0.00	0.08	0.00	0.87
BOD	10.59	10.00	2.71	4.00	23.00	10.37	10.00	2.64	5.00	21.00
INS	18.07	9.82	21.30	0.00	76.24	18.02	8.72	20.98	0.00	77.71
CONC	35.77	32.53	18.27	4.25	92.92	36.26	33.12	17.98	4.25	95.76
Free	38.32	34.31	17.97	2.20	100.00	39.83	37.15	18.17	2.21	100.00

Table 4: Pearson Correlation Matrix

	Abs_AEM	Lev	size2	Growth	ROE	AUD	loss3	BOD	INS	CONC	Free	IFRS	Agro	Cons	Indus	Prop	Res	Ser
Abs_AEM	1																	
Lev	.190**	1																
size2	-.055	.159**	1															
Growth	.170**	.002	.089*	1														
ROE	-.001	-.487**	.082*	.165**	1													
AUD	-.085*	-.027	.365**	.011	.083*	1												
loss3	.212**	.478**	-.114**	-.071	-.913**	-.077*	1											
BOD	-.078*	-.107**	.333**	.012	.089*	.210**	-.115**	1										
INS	-.073*	-.096**	-.264**	-.019	.039	-.216**	-.044	-.222**	1									
CONC	-.053	-.133**	.041	.026	.088*	.105**	-.085*	-.121**	.299**	1								
Free	.150**	.239**	.063	.038	-.117**	-.145**	-.130**	-.088*	.191**	-.605**	1							
IFRS	.043	.040	.068	-.041	.041	.011	-.060	-.041	-.001	.014	.042	1						
Agro	-.080*	-.057	-.025	.073*	.057	.160**	-.027	.070	.096**	.075*	.143**	-.004	1					
Cons	-.095**	-.192**	-.165**	-.061	.014	-.044	-.028	.122**	.012	-.049	.146**	-.004	-.117**	1				
Indus	-.034	-.027	-.108**	-.004	-.057	.006	.063	-.058	.068	.102**	.108**	-.012	-.174**	-.169**	1			
Prop	.016	.182**	.096**	-.041	.013	-.031	-.027	-.144**	-.002	-.092*	.197**	-.003	-.180**	-.175**	.259**	1		
Res	.074*	.029	.227**	.135**	.014	.038	-.018	.091*	-.111**	-.019	.130**	.018	-.094**	-.092*	-.135**	-.140**	1	
Ser	.054	-.060	-.043	-.002	.010	-.156**	-.009	.109**	-.049	-.040	.021	.000	-.182**	-.177**	-.262**	-.272**	-.142**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5: OLS regressions of abnormal accruals on IFRS

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.073	.037		1.975	.049		
Lev	.086	.019	.171	4.592	.000**	.636	1.572
Size	-.019	.008	-.093	-2.470	.014*	.624	1.603
Growth	1.747E-04	8.533E-05	.064	2.047	.041*	.893	1.120
ROE	.444	.029	1.190	15.489	.000**	.150	6.680
AUD	-.016	.009	-.058	-1.696	.090	.756	1.323
Loss	.502	.032	1.204	15.833	.000**	.153	6.540
BOD	.001	.002	.028	.785	.433	.713	1.403
INS	-3.659E-04	2.148E-04	-.057	-1.703	.089	.781	1.280
CONC	3.384E-04	3.032E-04	.045	1.116	.265	.533	1.875
Free	.001	3.061E-04	.069	1.688	.092	.526	1.903
IFRS	.017	.008	.063	2.105	.036*	.976	1.024
Agro	-.065	.019	-.150	-3.501	.000*	.482	2.074
Consumer	-.048	.019	-.108	-2.466	.014	.459	2.177
Industrials	-.039	.016	-.116	-2.394	.017	.379	2.636
Property	-.027	.016	-.082	-1.713	.087	.382	2.617
Resourse	.006	.021	.012	.299	.765	.581	1.723
Service	-.017	.016	-.052	-1.044	.297	.353	2.835

** Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary	R	R square	Adjusted R square	F	Sig.
	0.586	.343	0.328	22.847	0.000