The Relationship between Other Comprehensive Income and Earnings Management: Evidence from the Stock Exchange of Thailand

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Abstract

This research aims to examine the relationship between other comprehensive income (OCI) and earnings management (EM). The population in the study are the firms registered in the Stock Exchange of Thailand between 2011 and 2017. The statistical techniques consist of both descriptive statistics and inferential statistics. The study discovers a significant negative relationship between OCI and EM, where a firm which reports a high OCI sees a decrease in EM conducted by the firm executives. Such finding demonstrates that if OCI is reported correctly and comprehensively, then users of the financial statements are more confident that the firm has shown truthful accounting information in compliance with the accounting principles. It also reflects the firm's transparency, reduces the degree of asymmetric information between principals and agents, and reduces the opportunity of EM, which improves the earnings quality of the firm.
Keywords: Other Comprehensive Income, Earnings Management, Asymmetric Information

Introduction

The International Accounting Standards Board (IASB) issued the International Accounting Standards 1: Presentation of Financial Statements in 2009, which Thailand has adopted for practice, calling it the Thai Accounting Standards 1 (B.E. 2552 (2009) edition), and has enforced it for financial statements starting in B.E. 2554 (2011). An important idea of the accounting standard is to have the business present profit or loss items, OCI, and total comprehensive income, so that they systematically demonstrate the firm performance and help the users of financial statements make economic decisions. This practice is consistent with the accounting framework that encourages businesses to present total comprehensive income and components of OCI in the statement of profit or loss. It is considered the kind of reporting that are useful according to the fundamental qualitative characteristics, which include its relevance to decision-making and its being faithful representation. In the past, businesses tended to present their performance in the statement of profit or loss according to the concept of current operation of income or the dirty-surplus concept. In other words, a business's profit or loss resulted only from business transactions which produce profits or losses during that period. However, if there were other events unrelated to the transactions which may have altered the value of the business, then such events would not be reported in the statement of profit or loss. Such practice differs from the all-inclusive concept of income or the clean-surplus concept which shows the business's performance according to the concept of capital maintenance and determination of profit, where profits or losses should include items impacting the increase or decrease of the owners' equity though it would not include dividends payment and investments made by owners (Pratomsrimek &

Pacharatrakoon, 2002). Based on the all-inclusive concept is the statement of comprehensive income, which consists of two parts: profit or loss for the year and OCI. The information shown this way gives additional information for investors to consider in regards to investment decisions, because it enables investors to see changes in the owners' equity - not only in terms of profits or losses in each period but in every dimension. In case that a business reports OCI inaccurately or distortedly with the accounting standards, asymmetric information emerges between the business and the investors or the shareholders. Financial misstatement by the executives may result in wrong decisions made by the investors. For instance, the executives may fail to measure the fair value of financial assets available for sale because the assets are falling in value, although the fair value assessment and consideration may have resulted in losses reported at the end of the period. The research by Wang & Men (2011) posits that information asymmetry comes from the problem of accounting information. Specifically, the lack of quality in the accounting information may implicitly indicate that the executives may be taking unscrupulous actions or manipulating the financial statements, the latter of which is termed "earnings management: EM". This is consistent with the research by Imhoff & Thomas (1994), Hirst & Hopkins (1998), and Hunton, Libby, & Mazza (2006) which find that the quality of information in each business depends on the information disclosed, and transparent disclosure can reduce the degree of EM. Based on the asymmetric information theory, information asymmetry can cause the communication problem between the principals and the agents and, in turn, the agency problem. Often, the agency problem can be hard to eliminate or reduce because the root cause of the problem lies in EM by the executives. This brings about the study of whether OCI shown in the statement of comprehensive income would reduce asymmetry of information between the principals and the agents and deter the action of EM by the executives. The study can be done by finding a relationship between OCI and EM. In addition, the research may also produce other benefits, including (1) providing empirical evidence that may support the use of statement of comprehensive income according to the accounting standards developed by IASB to help the users of these statements make decisions, (2) building awareness among stakeholders on the level of OCI which may be related to EM conducted by the executives, and (3) helping the regulatory agencies find ways to prevent or detect EM of a registered firm as accounting information presented in financial statements affects the decisions made by investors and impacts the capital market and the country's economy.

TFRS Performance Measures

At present, firms registered in the Stock Exchange of Thailand must present their statement of comprehensive income according to the accounting standard adopted by Thailand. This statement is considered a part of complete set of financial statements. To present the statement of comprehensive income, the firms can apply either one of the two methods. First, net profit or loss and OCI can be presented consecutively in the same statement, which would result in the statement of comprehensive income. Alternatively, the net profit or loss and OCI can be separately presented, where two components are presented in two separate statements but presented consecutively. In this method, the first statement, to be called the "statement of income", shows the components of profit or loss derived from the main operations of the business; the second statement, to be called the "statement of comprehensive income", begins with the profit or loss, and is followed by components of OCI.

OCI refers to items of income and expenses which, according to the standard prescribed for other financial reports, cannot be realized in profits or losses, because they are not derived from the main business operation. However, they may affect the increase or decrease in owners' equity. OCI can be categorized into five groups as follows.

1. Changes in revaluation surplus according to the accounting standard for property, plant and equipment and intangible assets as per accounting standards stipulated by TAS 16: Property, Plant and Equipment and TAS 38: Intangible Assets

2. Re-measurement of a defined benefit plan as per the accounting standard stipulated by TAS 19: Employee Benefit

3. Gains and losses on translation of the financial statements of a foreign operation as per accounting standards stipulated by TAS 21: Effects of Changes in Foreign Exchange Rates

4. Gains and losses on re-measuring financial assets available for sale as per accounting standards stipulated by TAS 105: Investments in Debt and Equity Securities

5. Effective portion of gains and losses on hedging instruments in cash flow hedge as per financial reporting standards stipulated by TAS 39: Financial Instruments (when effective)

Positive Accounting Theory and Agency Theory

Watts & Zimmerman (1990) refer to the positive accounting theory as an explanation as to why many businesses adopt such chosen accounting practice, which affects the way financial reports are presented to the users of financial statements. They hypothesize that the executives tend to care more about their own benefits than about the benefits of the organization as a whole, such that they often take actions that benefit themselves rather than those that best benefit the shareholders (Sawatyanont, 2008). For instance, the Bonus Plan Hypothesis posits that the benefits earned by executives are mostly tied to the firm's performance, whereby the executives may have the incentives to choose an accounting policy that would produce the performance as they desire. They may change the estimations or the accounting policies so as to produce higher profits for the current accounting period or may manipulate earnings on the discretionary accrual basis. The positive accounting theory finds that people involved in a firm can be divided into two groups. First are the owners or the shareholders, which are the employers. On the other side are the firm executives who are the employees. If the executives work for the greatest benefits of the firm and report all financial and operational information to all stakeholders, then the goods can be realized by all sides. However, in practice, each side often receives uneven, asymmetric, and imperfect information, known as the asymmetric information problem. The executives tend to have more information regarding the firm more than do the owners or the shareholders, and the shareholders often receive only partial information from the executives. Two types of conflicts arise from such asymmetric information problem. First, the moral hazard problem arises from uncertainties as to whether the agent has put the best effort to run the firm or has worked most effectively, once an agent has been selected to run the firm, because sometimes the executives, as the agents, may hide some actions from the shareholders in ways that the benefits earned by the executives themselves may be greater than the common good. Second, the adverse selection problem arises from the uncertainties as to whether the selected agents or the selected executives are capable of performing in ways that are consistent with the compensation received by the executives. Based on the positive accounting theory and the agency theory mentioned above, the executives may have various incentives to bring the greatest benefits to themselves, including choosing the accounting practice that would show the firm's performance that they desire. Therefore, by sending the correct signal or by providing the stakeholders with accurate accounting information, the executives can demonstrate the transparency of their actions and improve confidence of all stakeholders.

Earnings Management

Schipper (1989) has defined EM as the event that the executives intend to distort the accounting information shown to outsiders for personal gains as they are able to window-

dress the firm's earnings by using the accounting method adopted as the General Accepted Accounting Principles (GAAP) or other accounting principles seen by the executives as fit for the situations. Ahmed (2004) has defined the concept of EM as the event that the executives apply accounting methods on the accrual items for the benefits of making personal gains. In summary, EM happens when the executives apply discretion in the preparing of accounting information in order to distort the real economic activities of the firm, which may affect business decisions made by the stakeholders.

For EM model, Ahmed (2004) proposes that accrual management items according to the EM model can be computed from two concepts: (1) the cash-flow approach and (2) the balance-sheet approach. In this study, the researcher has chosen to use the statement of cash flows approach because it utilizes the calculation method that is not overly complicated and it can discover the event of EM more precisely than the balance-sheet approach. Operating cash flows can also better reflect the economic performance than profits on the accrual basis because the executives can perform EM through the accrual items if profits are calculated on the accrual basis.

Total accrual items consist of two components, including, first, the Discretionary Accrual (DA) items and the Non-Discretionary Accrual (NDA) items, the former of which represent EM done through the use of accounting methods by the executives to distort accounting information. This can be computed from Total Accruals (TA) deducted by NDA items. These NDA items represent the normal accrual items which can be computed from a variety of models. Examples are (1) the Healy Model by Healy (1985), where NDA comes from the average of all accrual items divded by total assets of the year before, 2.) the De Angelo Model by DeAngelo (1986), which develops a model to measure NDA in the manner similar to the Healy Model, and (3) the Jones Model by Jones (1991), which develops a model mainly to control the effects of changes in business environment on NDA by adding to the model variables related to income as well as property, plant, and equipment. Extended from the Jones Model is the Modified Jones Model by Dechow, Sloan, & Sweeney (1995), an EM model which provides explanations for a firm's income as coming from sales or services in cash or in credit, and that the income from these credits may be part of earnings mnagement by increasing the number of account receivables and credits; such practice would inflate assets and incomes to a level greater than the actual value. The fifth example, the Performance-Adjusted Modified Jones Model, has been developed from the Modified Jones Model by Kothari, Leone, & Wasley (2005). This model posits that the return on Asset (ROA), from the accounting perspective, is a way to measure performance which helps control the factor of the firm's performance and its relation to EM, because if the accrual items are window-dressed, direct impacts can be seen in the firm's profitability. This research, therefore, chooses this model to measure values of the NDA, and based on the aforementioned concept of EM, the researcher is interested in examining whether complete and transparent reports of OCI is related to EM.

International & Thai Evidence

Schipper (1989) has criticized the EM practice in the article "Commentary on Earnings Management" that information asymmetry is a form of communication problems between the principal and the agent, and such problem cannot be reduced even though the principal-agent contract is adopted, because the real root cause of the problem lies with the executives who have the incentives to conduct EM for personal gains. Therefore, disclosing accounting information is an option which may help reduce the asymmetric information problem. Hirst & Hopkins (1998) has studied the effect of comprehensive income reporting on the decisions made by securities analysts. The study shows that the positions and the formats of such reporting affect the use of accounting information as a basis for decisions in various matters,

including the investment decision, the assessment of EM by the executives, and the impact on earnings quality in each firm (Yolrabil, 2006). Lobo & Zhou (2001) examine the relationship between the quality of information disclosure of a firm and EM in the U.S. between 1990 and 1995, and find that such quality is inversely related to EM. Moreover, the research by Hunton *et al.* (2006), is consistent with other researchers, shows that disclosing more information reduces EM done by the executives, based on the sample of 62 individuals in the U.S. It finds that clearly presenting OCI demonstrates transparency of a firm with regards to information disclosure, which reduces the opportunity for the executives to pursue earnings maanagement. Wang & Men (2011) have also studied the impacts of OCI disclosure on EM among firms registered in the Shanghai Stock Exchange in 2009, and found that OCI is a key component of total comprehensive income of a firm because it helps the financials users better understand the firm's performance, and thus an inverse relationship between OCI and EM. However, the research by Gul, Leung, & Srinidhi (2000) contradicts others because their research found the advantage of EM. Their study of the 9,071 firm-year from 1995 to 1997 shows that the executives using more discretion in regards to the accrual items may also reflect a higher degree of EM, and EM signals an opportunity of a firm to grow, which attracts investors to invest in such firm further.

Most research in Thailand on the information disclosure and EM produce an opposite result from the evidence from foreign countries as they often do not find the relationship between information disclosure and EM. For example, the research of Ongsit (2006) compares the effect of financial statement disclosure quality on EM before the improvement of accounting standards in 1999 and the period afterwards, using the sample of firms registered in the Stock Exchange of Thailand between 1987 and 2001. The results show that the quality of information disclosure has no impact on the EM across total accrual. Collecting data from registered firms in the Stock Exchange of Thailand between 2002 - 2006, Khawsa-Ad (2008) examines the relationship between the level of EM and the level of information disclosure in the annual information-reporting form, and finds no relationship between EM and the level of information diclosure in such form. The work by Thanjunpong (2014) studies the registered firms in the Stock Exchange of Thailand in 2011 and finds no direct impact of corporate governance on EM. Nonetheless, some research do find results which are consistent with the concept that good information disclosure contributes to a reduction in EM. For example, Intakhan (2009) uses data as of 5 April 2009 on the sample of firms registered in the Stock Exchange of Thailand, and finds that EM has a negative effect on credibility of financial reports, acceptance by stakeholders, and transparency of firms, while credibility of the financial reports and acceptance of stakeholders have a positive impact on transparency of the firms. This result provides a good recommendation to Thailand's capital market -- if a firm discloses information transparently, then the users of the financial reports will have confidence in the quality of the information and the opportunity to conduct EM will also decrease.

Based on the research mentioned above, it can be said that in Thailand there have not been studies on the effect of OCI on EM. Until now, most studies involve the effect of total comprehensive income on economic performance or the relationship between disclosure of information on governance and EM. The relevant concepts, theories, and research have, therefore, been taken as the background of the study on the relationship between OCI and EM, where it can be hypothesized that *OCI have a negative relationship with EM*.

Research Methodology

Data source: This research uses secondary data, including annual reports and annual financial statements of firms registered in the Stock Exchange of Thailand. The data are

collected from the SETSMART data base of the Stock Exchange of Thailand and the annual information reporting form (Form 56 - 1).

Sample: The sample used in the research includes 376 firms registered in the Stock Exchange of Thailand. All firms must have complete information for the entire seven years (from 2011 to 2017). The sample is selected from all sectors, except for banking and finances, as the banking and the financial sectors are complicated and differ in structure from other sectors.

Section 1 Descriptive Analysis shows the mean, the median, the maximum, the minimum, and the standard deviation values of the data.

Section 2 Inferential Statistics are derived from regression models based on panel data, which are composed of cross-sectional data and time-series data. The estimation is done by three methods, including Pooled OLS, Fixed-Effect Model, and Random-Effect Model. To test the suitability of the model choices, Hausman test is also conducted. The two models estimated in this research are as follows.

Model 1 An independent variable measures the number of OCI, and the dependent variable is EM.

$$DA_{i,t} = b_0 + b_1(POCI_{i,t}) + b_2(SIZE_{i,t}) + b_3(RISK_{i,t}) + b_4(GROWTH_{i,t}) + b_5(CFO_{i,t})$$
$$+ b_6(IND_{i,t}) + b_7(DUALITY_{i,t}) + b_8(BSIZE_{i,t}) + b_9(PIND_{i,t})$$
$$+ b_{10}(GoodCG_{i,t}) + b_{11}(SET_{i,t}) + b_{12}(TIME_{i,t}) + \varepsilon_{i,t}$$

Model 2 An independent variable measures the OCI's materiality, and the dependent variable is EM.

$$DA_{i,t} = b_0 + b_1(MAT_{i,t}) + b_2(SIZE_{i,t}) + b_3(RISK_{i,t}) + b_4(GROWTH_{i,t}) + b_5(CFO_{i,t})$$
$$+ b_6(IND_{i,t}) + b_7(DUALITY_{i,t}) + b_8(BSIZE_{i,t}) + b_9(PIND_{i,t})$$
$$+ b_{10}(GoodCG_{i,t}) + b_{11}(SET_{i,t}) + b_{12}(TIME_{i,t}) + \varepsilon_{i,t}$$

where DA is the discretionary accrual items; POCI is the number of OCI; MAT is OCI's materiality; SIZE is the size of the firm; RISK is the firm's financial risks; GROWTH is the firm's growth; CFO is the operating cash flow; IND is the type of industry; DUALITY is the duality of the chairperson and the executive positions; BSIZE is the size of the board; PIND is the proportion of independent directors; GoodCG is the corporate governance score; SET is a firm registered in SET; TIME is the time variable, and $\varepsilon_{i,t}$ is the error term.

Determination of the Variables in the Study

Independent variables are determined as follows.

In Model 1, the number of OCI is determined by the ratio of OCI to total comprehensive income, consistent with the work by Wang & Men (2011).

In Model 2, the OCI's materiality is determined according to the work by Seong-Yeon, Hagerman, Nabar & Patterson (2003), where the average investors' materiality threshold is defined as a dummy variable. For the group with OCI greater than or equal to five percent of net profits, the dummy variable takes the value of one. For the group with OCI smaller than five percent of net profits, the dummy variable takes the value of zero.

Dependence variables, EM conducted by the executives is determined by the discretionary accrual items (DA), which is computed by the performance-adjusted modified Jones model, consistent with the work by Kothari *et al.* (2005) Thanjunpong (2014) and Siriatsawas (2015). The computation of DA can be done as follows.

Step 1: Total Accruals (TA) are computed based on the cash flow approach.

Total accruals = Reported Net Income - Cash Flows from Operations or

$$TA_{i,t} = NI_{i,t} - CFO_{i,t}$$

where $TA_{i,t}$ is total accrual items at time t; $NI_{i,t}$ is net income at time t; $CFO_{i,t}$ is cash flows from operations during year t.

Step 2: Take the results from Step 1 to estimate the coefficient by Ordinary Least Square Method, where total accruals are divided by total assets at the beginning of the period to eliminate the heteroscedasticity problem.

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_1\left(\frac{1}{A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3\left(\frac{PPE_{i,t}}{A_{i,t-1}}\right) + \alpha_4(ROA_{i,t}) + \varepsilon_{i,t}$$

$TA_{i,t}$ is total accrual items at year t; $A_{i,t-1}$ is total assets at year t-1; $\Delta REV_{i,t}$ is change in revenue in year t deducted by revenue in year t-1; $\Delta REC_{i,t}$ is change in net receivables in year t deducted by net receivables in year t-1; $PPE_{i,t}$ is net property, plant, and equipment in year t; $ROA_{i,t}$ is return on assets in year t, and $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are the corresponding coefficients, and $\varepsilon_{i,t}$ is the error term.

Step 3: Compute the Non-Discretionary Accruals (NDA) by taking the coefficients obtained from Step 2 and substituting them in the performance-adjusted modified Jones model written as the following equation.

$$NDA_{i,t} = \alpha_1\left(\frac{1}{A_{i,t-1}}\right) + \alpha_2\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}}\right) + \alpha_3\left(\frac{PPE_{i,t}}{A_{i,t-1}}\right) + \alpha_4(ROA_{i,t})$$

$NDA_{i,t}$ is all non-discretionary accrual items in year t; $A_{i,t-1}$ is total assets in year t-1; $\Delta REV_{i,t}$ is change in revenue in year t deducted by revenue in year t-1; $\Delta REC_{i,t}$ is change in net receivables in year t deducted by net receivables in year t-1; $PPE_{i,t}$ is net property, plant, and equipment in year t; $ROA_{i,t}$ is return on assets in year t; and $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ are coefficients of the variables.

Step 4: Compute the Discretionary Accruals (DA) using the following equation.

$$DA_{i,t} = (TA_{i,t}/A_{i,t-1}) - NDA_{i,t}$$

$DA_{i,t}$ is the discretionary accruals in year t; $TA_{i,t}$ is the total accruals in year t; $A_{i,t-1}$ is total assets in year t-1; and $NDA_{i,t}$ is the non discretionary accruals in year t.

Control Variables

1. Size of Firm: is measured by the logarithm of total assets. A large firm may have a higher degree of EM by executives while some research find that a larger firm has less EM due to stricter management system. The size of firm is, therefore, included as a control variable in the same manner as the research by Wang & Men (2011), Komkhuntod (2012), Ruangplod (2012), and Jaitad (2012).

2. Firm's financial risk is measured by the Debt to Equity Ratio (D/E Ratio). Defond & Park (1997) explains that the financial risks of a firm may be related to window-dressing via the accrual items, because these risks may lead to defaults on debts and failure to comply with debt covenants, according to the debt contract hypothesis. An incentive may arise for executives to window-dress the accrual items in order to avoid such incompliance. Consistent with the work by Wang & Men (2011), Komkhuntod (2012), and Ruangplod (2012), the variable of financial risks is included in the model.

3. Firm's growth is measured by [(this year's sale - previous year's sale) / previous year' sale]. Richardson, Sloan, Soliman, & Tuna (2005) find a positive relationship between the accrual management items and sale growth, and suggest that the increase in sale could have actually reflected the rush to realize incomes in the current year so that profits meet the demand of the executives. It is, therefore, possible that, the increase in sale could have come from EM by the executives as suggested in the work by Richardson *et al.* (2005), Komkhuntod (2012), and Ruangplod (2012).

4. Cash flow from operations is measured by cash flow from operations in the current year divided by total assets of the previous year. The cash flow from operation is a source of information reflecting the firm's cash inflows and outflows as a result of production, sale of goods, or rendering of services. If the cash flow from operations is too low, then it can be an incentive for the executive to window-dress the numbers via the accrual items so as to gain

acceptance from investors and shareholders. The researcher here chooses to use a control variable for cash flow from operation in the same manner as the work by Wang & Men (2011) and Komkhuntod (2012).

5. Type of industry is defined as a dummy variable. The dummy is included in the study because the sample taken from each industry sector is not the same or equivalent. Moreover, the environment and the business nature in each industry are also different.

6. Duality of the chairperson and the executive positions is defined as a dummy variable. For firms which the chairperson does not also take the top executive position, the dummy variable takes the value of zero. For firms which the chairperson also takes the top executive position, the dummy variable takes the value of one. Where the chairperson and the top executive are the same individual, he or she has an increasing power to manage and to make business decisions, which may affect the owners or the shareholders and create conflicts of interest between the principals (shareholders) and the agents (executives).

7. Proportion of independent directors is defined as the number of independent directors divided by the total number of board members. Past research finds that the presence of independent directors may reduce EM by the executives, because the independent directors do not have direct stakes in the firm, thereby performing their duty without biases. Just as in the research by Alzoubi (2015), this research includes the proportion of independent directors as a control variable.

8. Size of the board is measured by the total number of board members. A firm with larger board has more people looking after the business, which should reduce the level of EM by the executives. The size of the board is, therefore, included as a control variable, as done in the work by Peasnell et al. (2001) and Xie et al. (2003) (referenced in Jaitad, 2012).

9. Corporate governance score is collected from the Corporate Governance Report of Thai Listed Companies. Defined as a dummy variable, it takes the value of zero when the firm does not receive a corporate governance score, and takes the value of one when the firm receives an excellent, very good, or good score level.

10. Being a firm in SET is defined as a dummy variable, where the firm in SET takes the value of one and the firm in mai takes the value of zero.

11. Time is defined as a dummy variable for the observation in the study comes from different time periods.

Research Results

From Table 1, the descriptive statistics indicate that firms in the stock exchange on average have the Discretionary Accrual at 0.07326. The average other comprehensive income (OCI) is 55 million baht, with the greatest amount of OCI of a firm being as high as 39,425 million baht and the lowest amount as low as -40,523 million baht. The average percentage of OCI's materiality is 31 percent. The net profit or loss is on average 1,356 million baht, with the maximum net profit at 185,000 million baht and the maximum net loss at 31,590 million baht. The average total comprehensive income is 1,397 million baht, not much different from the net profit or loss. The maximum total comprehensive income is 145,000 million baht, while the minimum shows loss of 15,573 million baht. On average, registered firms have the total assets of 24,762 million baht; debt-to-equity ratio of 1.16; sale growth of 14 percent; and operating cash flow at 2,390 million baht. The average percentage of CEO duality is at 14 percent, indicating that most registered firms separate the duties of the top executive and the chairperson. The average number of board members is ten, while the average proportion of independent directors is at 40 percent, conforming to the good corporate governance principle, which suggests, from the total number of board members, more than one third should be independent directors. Finally, the percentage of firms, which are received good corporate governance score are on average 69 percent.

Table 1 Descriptive Statistic (n = 2,632)

Variable	Mean	Median	Max	Min	S.D.
Discretionary Accrual	0.07326	0.04940	3.13450	0.00003	0.10155
OCI (Million Baht)	55	0.13	39,425	-40,523	2,087
Percentage of OCI's Materiality (%)	31%	0	100%	0	46%
Net Income (Million Baht)	1,356	148	185,000	-31,590	7,514
Total Comprehensive Income (Million Baht)	1,397	155	145,000	-15,573	7,535
Total Asset (Million Baht)	24,762	3,667	2,230,000	61	114,000
D/E Ratio (Times)	1.16	0.81	30.29	0.01	1.53
Sale Growth (%)	14%	4%	4,225%	-97%	119%
CFO (Million Baht)	2,390	201	306,000	-10,215	14,436
Percentage of CEO Duality, CEO also holds the position of the chairman of the board (%)	14%	0	100%	0	35%
Number Board of Director (Person)	10.19	10.00	21.00	5.00	2.50
Proportions of Independent Directors (%)	40%	38%	85%	7%	9%
Percentage of firms received Good CG Score (%)	69%	100%	100%	0	46%

Table 2 shows the correlation coefficients among independent variables, dependent variables, and control variables in all models. The correlation coefficients (r) among these variables are neither close to 1 or -1, suggesting that all variables do not have a close relationship among one another. Given this finding, multicollinearity should not present a problem in the regression analysis. Moreover, the variables of industry type and time, which are defined as dummy variables, should neither have the multicollinearity problem.

Table 2 Correlation among the variables (n = 2,632)

	DA	POCI	SIZE	RISK	GROWTH	CFO	DUALITY	BSIZE	PIND	GoodCG
POCI	- 0.030									
MAT	- 0.093									
SIZE	0.118	- 0.037								
RISK	0.096	0.006	- 0.169							
GROWTH	0.083	0.002	0.019	0.051						
CFO	- 0.092	- 0.014	0.433	- 0.119	- 0.051					
DUALITY	- 0.008	0.015	- 0.063	0.019	0.091	- 0.032				
BSIZE	- 0.080	0.013	0.034	0.021	- 0.056	0.059	- 0.133			
PIND	0.013	0.023	- 0.083	0.045	0.050	- 0.014	- 0.069	- 0.235		
GoodCG	- 0.046	- 0.017	0.008	0.012	- 0.060	0.152	- 0.107	0.142	0.090	
SET	- 0.072	0.008	- 0.047	- 0.000	- 0.039	0.055	0.037	0.171	0.007	0.132

Table 3 Relationship between OCI and Discretionary Accrual

	Pooled OLS		Fixed Effect		Random Effect	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
Intercept	0.104	9.364***	0.077	2.587***	0.107	7.334***
POCI	-0.001	-2.602***	-0.001	-2.212***	-0.001	-3.309***
SIZE	0.012	3.686***	0.008	2.445***	0.010	3.551***
RISK	0.004	2.918***	0.001	0.202	0.003	2.962***
GROWTH	0.005	1.080	0.007	1.534	0.005	1.169
CFO	-0.086	-2.179***	-0.082	-1.520	-0.084	-1.861*
IND	Yes		Yes		Yes	
DUALITY	-0.002	-0.385	-0.001	-0.504	-0.001	-0.201
BSIZE	-0.001	-1.798*	0.002	0.828	-0.000	-0.448
PIND	-0.007	-0.413	-0.018	-0.975	-0.008	-0.487
GoodCG	-0.007	-1.803*	-0.013	-3.327***	-0.010	-2.293***
SET	-0.013	-3.298***			-0.016	-3.126***
TIME	Yes		Yes		Yes	
Adjusted r-square		0.100		0.313		0.109

Dependent Variable: DA (Discretionary Accrual)
*** significant at 0.01 level, ** significant at 0.05 level, * significant at 0.10 level

Table 4 Relationship between OCI's Materiality and Discretionary Accrual

	Pooled OLS		Fixed Effect		Random Effect	
	Coef	T-Stat	Coef	T-Stat	Coef	T-Stat
Intercept	0.111	9.381***	0.035	1.166	0.109	8.030***
MAT	-0.012	-3.770***	-0.007	-2.469***	-0.011	-3.236***
SIZE	0.025	3.345***	0.022	2.858***	0.025	3.084***
RISK	0.003	2.944***	-0.001	-0.504	0.001	1.187
GROWTH	0.006	7.010***	0.006	4.188***	0.006	6.456***
CFO	-0.328	-3.106***	-0.355	-3.087***	-0.340	-3.023***
IND	Yes		Yes		Yes	
DUALITY	-0.002	-0.442	0.001	0.165	-0.002	-0.206
BSIZE	-0.001	-1.876*	0.005	1.742*	0.000	-0.487
PIND	0.005	0.269	0.005	0.168	0.003	0.118
GoodCG	0.002	0.475	-0.001	-0.202	0.001	0.252
SET	-0.005	-0.585			-0.006	-0.575
TIME	Yes		Yes		Yes	
Adjusted r-square		0.285		0.391		0.290

Dependent Variable: DA (Discretionary Accrual)
*** significant at 0.01 level, ** significant at 0.05 level, * significant at 0.10 level

Table 5 Correlated Random Effects-Hausman Test

Model 1: OCI & DA				Model 2: MAT & DA		
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	15	1.0000	0.000000	15	1.0000

The estimation and the test results of Pooled OLS, Fixed Effect Model, and Random Effect Model are shown in Tables 3 and 4. It cannot be concluded as to which estimation model is the most credible or efficient. The Pooled OLS method does not take into account of whether the cross-section unit may be impacted by different individual factors or the individual-specific effect and how different the length of time which the time-series data have been recorded for each individual may be. Because the Pooled OLS method does not consider the differences among the cross-sectional units, it may not be the most appropriate or the most credible model. The Hausman test is then conducted to select which model between the fixed-effect and the random-effect models is most credible, most efficient, and best explains the study results. The test results are shown in Tables 5, where the Hausman test chi-squared statistic has the value of zero and the P-value takes the value of one, which means that the null hypothesis (H_0) that the random-effects model is appropriate and efficient can be accepted at the 0.01 significance level. Therefore, it can be said that the random-effect model is the most appropriate model, and the discussions of this research will take after the results of the random-effects model.

Table 3 shows the results from the analysis of the relationship between the number of OCI and EM. The adjusted R Squared is found be 10.90 percent, and the negative relationship between number of OCI and EM is found to be statistically significant. Some control variables, including the size of the firm and the firm's financial risks, are positively related to EM, while some control variables, including operating cash flow, the dummy of corporate governance score, and the dummy for the firm being in SET, are inversely related to EM.

Table 4 shows the results from the analysis of the relationship between OCI's materiality and EM. The adjusted R Squared is found to be 29.00 percent, and the negative relationship between OCI's materiality and EM is found to be statistically significant. The size of the firm and the firm's growth are found to be positively related to EM, while cash flow from operation is negatively related with EM.

Discussion of Research Findings

This study finds that OCI has a statistically significant, negative relationship with EM. In other words, a firm which presents a greater amount of OCI has a lower degree of EM. This result is consistent with the study's hypothesis and the study by Wang & Men (2011), which have also found a negative relationship between OCI and EM. It is also consistent with the work by Schipper (1989), which finds that transparent disclosure of accounting information reduces the asymmetric information problem and, thus, EM conducted by the executives. Also supporting the findings of this study is the work of Lobo & Zhow (2001), which finds that the quality of information disclosure has a negative relationship with EM. However, much of the research in Thailand obtain a result which contradicts the research from foreign countries. For example, Ongsit (2006) finds no relationship between the quality of information disclosure and EM; the research by Khawsa-Ad (2008) finds no relationship between EM and the level of information disclosure in the annual information reporting form. While most of the past research in Thailand have studied the relationship between total comprehensive income and the earnings quality, where the earnings quality is based on the

stock exchange's data or the market-based earnings attribute measure, this study utilizes that the idea that OCI has a relationship with EM, which is an indicator of the earnings quality based on the accounting-based earnings attribute measure. The results support the idea that the statement of comprehensive income according to the accounting framework, where OCI is separate from the normal profit or loss items, should be adopted in order to prevent misunderstandings among the users of financial statements and reduce the fluctuations in the statement of profit or loss as OCI items are not directly related to the business's main operations. The concept of OCI according to the accounting framework answers to the need for current financial statements to reflect fair values of assets and liabilities, because the derivation of OCI is based on a re-measurement, where even though these items has not happened - assets have not been sold or liabilities have not been paid, their fair values are measured at the end of the accounting period. This practice enables the users of financial statements to better utilize the information for business decision-making. If the executives manipulate the financial statements via OCI items, it may be because they find the changes in fair values of assets and liabilities to be harmful to the business. For example, the executives may avoid recognizing losses from the re-measurement of employee's benefit plans in accordance with the actuarial principle, or they may not measure fair values of fixed assets because of the drastic drop in value. In these cases, the number of OCI may be unrecognizable, which can be considered a distortion of accounting information and a form of EM. This research finds that accurately and thoroughly presenting OCI may reduce the practice of EM by the executives. In other words, a business which measures and reports OCI for their actual fair values should present a greater number of OCI than the business which does not recognize the fair value or measure the fair value less than it actually needs to.

Among the control variables, the size of the firm has a statistically significant, positive relationship with EM, consistent with the positive accounting theory on the political cost, where a larger firm tends to have a greater performance than a smaller firm, and the executives of a larger firm tend to report a lower profit than it actually is in order to avoid the political cost. This is a form of EM, which the executives themselves refrain from reporting too great a performance. This is consistent with the work by Marttra (2006).

For the control variable with regards to the firm's financial risk, a statistically significant, positive relationship with EM is found because a financially riskier business may have a greater risk in failing to meet the conditions in the debt covenants. Consistent with the positive accounting theory on debt covenants and with the research by Sarkar, Sarkar, & Sen (2006) and Marttra (2006), the executives may have incentives to conduct EM.

The control variable on the firm's growth also has a statistically significant, positive relationship with EM, where the more-rapidly growing firm's revenue tends to report a higher profit. Such may have resulted from EM of the executives. The result is consistent with the work by Alzoubi (2015), Gul, Fung & Jaggi (2009), and Marttra (2006).

The control variable for cash flow from operations has a negative relationship with EM because a lower operating cash flow may reflect mainly higher accrual items, which present an opportunity for the executives to conduct EM. The result is consistent with the work by Bokkaranee (2006), Marttra (2006), and Wang & Men (2011).

Moreover, most of the control variables regarding the firm's governance, including CEO duality, number board directors, and proportion of independent directors are found to have no relationship with EM. However, the corporate governance score has a statistically significant, negative relationship with EM. This result is consistent with the corporate governance principle which suggests each firm establishes a mechanism to control the derivation of information in the financial statements, so that the performance is correctly reported and that the report adds values to the shareholders in the long run. Therefore, if a firm complies with the good governance principle, the financial reporting and the information disclosure should

be credible and reduce the degree of EM by the executives (The Securities and Exchange Commission, Thailand, 2017). The result also indicates that firms in SET tend to conduct EM to a lesser degree than firms in mai. This is consistent with the fact that firms having received the excellent, very good, or good corporate governance score mostly belong in SET (91.91 percent of all registered firms). The reason could be because firms in SET tend to have multiple groups of stakeholders, such that they are strictly regulated and feel the need to take careful as well as transparent actions. Firms in SET, therefore, tend to comply with the good governance principle, which reduce the opportunity of the executives to conduct EM.

Research Conclusion and Recommendation

This study aims to examine the relationship between OCI and EM, using the sample of firms registered in the Stock Exchange of Thailand between the year 2011 and 2017. The sample consists of 376 firms in the period of seven years, or equivalently 2,632 firm-years. The analyses by the pooled OLS, the fixed-effect, and the random-effect method all produce the same results, which is the negative relationship between OCI and EM. The more OCI is reported, the less is EM, because accurate and complete presenting of OCI contributes to the confidence among the users of financial statements that the firm reports accounting information accurately according to the accounting principle. Accurate and complete presenting also adds to the firm's transparency, reduces the asymmetric information problem between the principal and the agent, and reduces the opportunity to conduct EM to portray the earnings quality in better light. The result also confirms the idea of all-inclusive concept of income, which suggests OCI be included in the statement of comprehensive income as it provides useful information for the decision-making by the users of financial statements.

This study has used the cost-based measurement of EM. As most information in the financial statements are measured on the cost basis, Discretionary Accruals obtained from financial statements are used to compute the degree of EM. In future research, the degree of EM may be measured on the fair-value basis in the same manner as Defond (2010), in order to consider whether and how the results may be similar to or different from this study. Moreover, in this research, the analysis has been done for OCI as a whole but not for each component thereof, because some components, such as the effective portion of gains and losses on hedging instruments in cash flow hedge, are not commonly found in the sample. Should firms produce more information of these components, the future research may analyze the components of OCI separately, which may produce similar or different results from this study. The future research may also consider, in addition, the sample from the banking and finance sectors, where the similarities or the differences of these sectors in relation to the other sectors may be examined.

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