Equity and Cost Methods in Reported Earnings: The Case of Thai Listed Firms

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ABSTRACT

This research examines the property of earnings which are reported by Thai listed firms through the equity and cost methods. The property of earnings is examined in terms of the persistence and value-relevance of earnings information. In the persistence of earnings information, the change model is employed for the main analysis. Results show that earnings information which is prepared through the equity method is more persistent and more value-relevant than that prepared through using the cost method. The outcome of this research provides the Thai accounting authority with empirical evidence which suggests that the equity method earnings are of higher quality than the cost method earnings. Further, the findings also reveal that the latter provides opportunities to firms to manage their earnings.

Keywords: Earnings Management, Earnings Persistence, IFRS, Thailand, Value Relevance
JEL Classification: M41

1. Introduction

After its economic crisis in 1997, Thailand revised its accounting standards so as to improve information reliability within Thai firms. Since the year 2000, the Thai accounting standard setter, known as

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the Federation of Accounting Professions (FAP), announced and implemented a set of new Thai accounting standards which was adopted from the International Financial Reporting Standards (IFRS). The transition from the old to the new Thai accounting standards has been gradual as a result of the adoption of selected IFRS which were dependent on the importance and urgency of the issues as determined by the FAP and other relevant authorities in the country. Like China (Olesen & Cheng, 2011) and Malaysia (Phang & Mahzan, 2013), the new Thai accounting standards are not fully aligned with the IFRS because of the uniqueness of the Thai context. One issue raised in this paper is the requirement set by the Thai accounting standard setter which insists that a Thai firm listed on the Stock Exchange of Thailand (SET) has to use both equity and cost methods in reporting its investments in associates.

In general, a firm may employ either the equity or cost method when reporting investments held by the firm. In Thailand, there are a number of accounting standards pertaining to the reporting of the firm's investments. They include the International Accounting Standard (IAS) No. 27 (Consolidated and Separate Financial Statements), IAS No. 28 (Investments in Associates), IAS No. 31 (Interests in Joint Venture), IFRS No. 10 (Consolidated Financial Statements), and IFRS No. 11 (Joint Arrangements). Currently, the FAP is revising and streamlining these standards in the following manner: IFRS No. 10 will be used for consolidated financial statements; IAS No. 27 will be revised and used for separate financial statements; IFRS No. 11 will supersede IAS No. 31; and IAS No. 28 will be revised to include reporting on joint ventures. Additionally, the FAP is introducing a new accounting standard related to the reporting of a firm's interest in other firms, IFRS No.12 (Disclosure of Interests in Other Entities).

Pending the implementation of the revised standards, IAS No. 27 (Consolidated and Separate Financial Statements) and IAS No. 28 (Investments in Associates) are used for the purpose of reporting a firm's investments in other entities. Based on IAS No. 27, a firm must present consolidated financial statements when it holds more than 50 per cent of the common shares in other entities. In this case, the equity method is employed for its consolidated financial reporting. When the listed firm (henceforth investor) holds more than 20 per cent but less than 50 per cent of the common shares in other entities (henceforth associates), consolidated financial statements are not required. Only the investor's financial statements are presented. In this regard, the investor has to follow IAS No. 28 (Investments in Associates) which requires

the investor to use the equity method for reporting its investments in its associates.

However, there is a dispute among Thai accounting practitioners on whether the investor has the controlling power when the investor holds between 20 to 50 per cent of common shares in the associate. Another issue raised by the Thai accounting practitioners is whether or not the earnings recognised from the associate firm should be presented in the investor's financial statements should the amount of those earnings be material. The IAS No. 28 suggests using the equity method for reporting investments in associates so as to resolve the issues raised by Thai accounting practitioners. However, the FAP requires the investor to calculate the earnings based on both the equity and cost methods and these need to be presented separately in the investor's financial statements.

The accounting practice of using both equity and cost methods to report its investments in associates is indicated in The Announcement of Federation of Accounting Professions under the Royal Patronage of His Majesty The King, identified by No. 6/2550 B.E. (2007) (Regulation No. 6/2550). This is a supplement to the Thai Accounting Standards (TAS) of No. 44 (Consolidated Financial Statements and Investments in Associates). Despite the fact that TAS No. 44 has been replaced by two standards, IAS No. 27 and IAS No. 28, Regulation No. 6/2550 remains in effect. In that regard, an investor is required to use both the equity and cost methods to report investments in associates. This is only required where the investor holds at least 20 percent of shares in the associates, i.e. the ownership-based approach is applied. This requirement came about because economic consequences of the earnings information have not been given due consideration. Otherwise, the FAP would not have imposed such a requirement. Instead, it would only have demanded for the use of the equity method which is more value relevant.

The unique Thai setting enables this study to compare the impact of the property of earnings calculated by equity method with that derived from the cost method. This study therefore, examines which earnings information is of higher value and is more useful to the investors. In this paper, the property of earnings is determined by investigating earnings persistence and informativeness. A comparison of the results shows that earnings prepared by using the equity method are of higher persistence and informativeness. This suggests that earnings based on the equity method is preferable compared to the cost method. Additionally, there is empirical evidence to illustrate that the cost method is likely to leave

room for firms to perform earnings management, given the low level of corporate governance in Thailand (Claessens & Fan, 2002). The findings of this study also provide the Thai accounting authority with empirical evidence of earnings quality in terms of economic consequences of earnings information. The remainer of this paper is organised as follows: a discussion of prior literature and hypothesis development, a discussion of the research design, discussion of the results followed by the conclusion of this study.

2. Prior Literature and Hypothesis Development

There are several studies which examined the impact of IFRS adoption. Specifically, the European Union (EU) countries adopted the IFRS since the year 2005. These studies have attempted to compare the quality of financial statements before and after the IFRS implementation because the aim of the IFRS convergence is to improve comparability of financial information across countries.

Cordazzo (2013a) investigated the impact of IFRS convergence on Italian firms' net income and shareholder equity. The study used constructed indices to compare the net income and shareholder equity prepared by using both Italian accounting standards and IFRS. He finds that IFRS convergence has more impact on the firm's net income than shareholders' equity. Cordazzo (2013b) conducted a similar study on firms listed on the German Stock Exchange and he finds similar results. Consistent to Cordazzo (2013a; 2013b)'s findings, Iatridis and Dalla (2011) find that the financial statements of Greek listed companies prepared in accordance with the IFRS showed an increase in profitability. Other than the analysis of the impact of IFRS adoption on the bottom line in financial statements, Djatej, Gao, Sarikas, and Senteney (2011) investigated the impact of IFRS adoption on the accuracy of analysts' earnings forecast and earnings forecast bias for 29 European countries. Twelve of those countries were characterised as East European. Djatej et al. find that East European countries gained more benefits from the IFRS adoption in relativity to West European countries. The accuracy of the analysts' earnings forecast has improved in West European countries which adopted the IFRS, whereas the the accuracy of the analysts' earnings forecast bias has declined in the East European countries.

In terms of the accounting quality, André, Filip, and Paugam (2013) investigated changes in conditional conservatism in European countries before and after the IFRS adoption in 2005. Their findings reveal a decline of conditional conservatism after the IFRS adoption.

The decrease of conditional conservatism may be derived from the intangible assets impairment method required by IFRS. André et al. (2013) suggest that the recognition of asset impairment in the major listed European companies is weak, resulting in the lower conditional conservatism. In other continents, Chua, Cheong, and Gould (2012) find that accounting information quality, including earnings management, timely loss recognition and value relevance improved after the mandatory implementation of IFRS in Australian firms.

In Asia, Leung and Clinch (2014) suggest that family control ownership plays an important role for earnings quality and market liquidity (measured by bid-ask spread, zero returns and liquidity). They investigated the impact of IFRS adoption on earnings quality and market liquidity in Hong Kong listed firms that are controlled by family versus non-family owners. Their results reveal that earnings quality improved (declined) after the full adoption of IFRS in non-family (family) controlled firms. The improvement of market liquidity is also noted in both family and non-family controlled firms.

Although the improvement of financial information quality is noted in countries where the IFRS was adopted into their domestic accounting standards, DeFond, Hu, Hung, and Li (2011) suggest that IFRS convergence improves the comparability of financial statements only in countries with high credible implementation of IFRS (including 14 EU countries where IFRS has been mandated since 2005) relative to countries with low credible implementation of IFRS (e.g., Thailand and USA).

Albu, Albu, Bunea, Calu, and Girbina (2011) mention that IFRS adoption, by itself, does not improve the quality of financial statements. They state that capital market regulations, economic development policy and corporate governance are equally important factors which can improve financial reporting quality especially in countries with low enforcement.

Faraj and El-Firjani (2014) carried out a qualitative research on IFRS adoption in Libyan listed firms. They interviewed the financial managers and internal auditors of the listed firms, and find that Libyan listed firms face difficulties in implementing the IFRS because of the following reasons: 1) training programmes are required, 2) more skilled accountants are required, 3) accounting education is required to improve its curriculum by adding IFRS into its syllabus, 4) English proficiency is required to prepare the accounts, 5) enforcement from the Libyan Stock Market (LSM) and external auditors is required, and 6) the Libyan Stock Market's governance mechanisms need to be improved.

Additionally, Fox, Hannah, Helliar, and Veneziani (2013) indicate that IFRS adoption varies from country to country. They find that the IFRS implementation process is costly in both the United Kingdom and Italy. The extant convergence IFRS literature seems to imply that IFRS adoption impacts countries differently and evidence drawn from emerging economies is still limited. Results from prior research suggest that the IFRS adoption can significantly affect financial reporting.

In terms of future earnings, several prior studies examined the prediction of future earnings. Various methods were used to predict future earnings, and a time-series model was one of them. Foster (1977) suggests that past earnings may be employed to determine expected earnings. However, future earnings do not remain constant as they fluctuate (Freeman, Ohlson, & Penman, 1982). According to Mueller (1990), expected earnings are unobservable but they are slowly adjusting to the long run equilibrium. Thus, if current earnings are persistent or are gradually adjusting to the long run equilibrium, current earnings should have a predictive ability to determine future earnings.

Several studies provided evidence of earnings persistence (Foster, 1977; Sloan, 1996; and Dichev & Tang, 2009). Dichev and Tang (2009) find that the prediction ability of earnings deteriorates when earnings volatility is high. In addition, previous studies have attempted to identify the determinants of earnings persistence and this is traced to Lev (1983), Lev and Thiagarajan (1993), Abarbanell and Bushee (1997) and Baginski, Lorek, Willinger, and Branson (1999). Li (2008) suggests that earnings are of higher persistence for the firm that provides good readable annual report. In addition to earnings persistence, several studies have attempted to evaluate the quality of earnings by investigating the informativeness of earnings. Among others are Barth, Landsman, and Lang (2008), Clarkson, Hanna, Richardson, and Thompson (2011), and Alali and Foote (2012). Clearly, prior research supports the assertion that earnings information is useful (Ohlson, 1995).

This study aims to compare the property of equity method and cost method earnings. Although evidence from prior literature in this regard is limited, Herrmann, Inoue, and Thomas (2003b) find that consolidated financial statements are more persistent than parent-company-only financial statements in Japan. Their findings indicate that consolidated financial statements are of higher quality but are relative to parent-company-only financial statements. This paper argues that the various qualities presented by those financial statements are due to the effect of related party transactions occurring between the parent company and its associates. All related party transactions must be cancelled out for

consolidating financial statements. If consolidated financial statements are not required, there is more opportunity for a firm to manipulate the performance of its transactions with its associates. Since the equity method requires a firm to cancel out all related party transactions, the equity method is thus preferable to the cost method in reporting earnings. In terms of earnings informativeness, Hsu, Duh, and Cheng (2012) find that consolidated financial statements which are prepared by using the control-based approach are more informative as compared to ownership-based approach. Their findings suggest that related party transactions between a firm and its associates (and subsidiary) play an important role and can affect the quality of the accounting information differently as has been previously described. Therefore, the hypothesis of this study, in an alternative form, is as follows:

H: Earnings prepared by the equity method are of higher persistence and informativeness compared to the cost method.

3. Research Design

The equity method and cost method used for reporting the investments in associates are required to be simultaneously presented in the financial statements of an investor firm and this requirement has been in place since 2006. After checking the annual reports for the financial years between 2006-2011 of firms listed on SET, it was found that 21 listed firms presented their financial statements based on both the equity method and cost method. The names of the 21 firms are shown in Appendix A. The quarterly financial data and share prices acquired from the end of the third quarter of 2006 to the second quarter of 2011 of these firms were obtained from SETSMART (SET Market Analysis and Reporting Tool). The initial total number of observations is 307 and 314 respectively for both the equity method and cost method. This study employs the first difference regression model to mitigate autocorrelation and unobserved effects, e.g., accounting policy and business strategy of firms. The final observation is reduced to 265 for equity method and 272 for cost method.

This study assesses the property of earnings information by estimating earnings persistence and informativeness. According to Mueller (1990), persistent information is gradually adjusted into the long run equilibrium. The reliability of earnings is observed when the deviation between current level of earnings information and its level in the long run equilibrium is small. Thus, the persistence of earnings is a tool that can determine the property of earnings. In this study, the

persistence of earnings was examined based on the predictive ability of earnings information where earnings were calculated through the equity and cost methods. Quarterly data were used for the estimation of earnings persistence (Foster, 1977) and the change model was employed to reduce the serial correlation which might occur. The effect of firm size was controlled. Size was measured based on total assets. Ordinary Least Squares (OLS) with heteroscedasticity-robust standard errors was employed for the estimation. The model is provided below:

$$\Delta NI_{it+1} = \beta_1 + \beta_2 \Delta NI_{it} + \beta_3 TA_{it} + \varepsilon_{it} \quad (1)$$

where:

ΔNI_{it+1} is the change in net income scaled by the total assets at the end of quarter t for firm i in quarter t+1,

ΔNI_{it} is the change in net income scaled by the total assets at the end of quarter t for firm i in quarter t,

TA_{it} is the log of total assets for firm i at the end of quarter t, and

ε_{it} is error term.

From equation (1), the coefficient of interest is β_2. Its sign is expected to be positive, suggesting that earnings information is persistent.

Next, earnings informativeness was estimated by regressing stock returns on earnings information that is calculated by using the equity method and cost method. This analysis was viewed from the stock market's perspective. The potential effect of firm size was controlled and measured by market capitalisation. OLS with heteroscedasticity-robust standard errors was employed for the estimation. The model is provided below:

$$Y_{it} = \alpha_1 + \alpha_2 \Delta NI_{it} + \alpha_3 MKT_{it} + \varepsilon_{it} \quad (2)$$

where:

Y_{it} is the stock return for firm i in quarter t, t+1 or t+2,

ΔNI_{it} is the change in net income for firm i in quarter t,

MKT_{it} is the log of market capitalisation for firm i at the end of quarter t, and

ε_{it} is error term.

From equation (2), informativeness of earnings is interpreted from the explanatory power of the regression model. In addition to the main interpretation, the coefficient α_2 is evaluated for the purpose of supporting the main interpretation.

4. Results

Table 1 reports the descriptive results. From Panel A, the means of change in earnings that are calculated by using the equity method and cost method are very similar. Consistent with a prior study (Ball, Robin, & Wu, 2003), the results reveal that the high earnings volatility which is relative to its mean is possibly derived through the different accounting methods that were employed by the firm. In addition, the variation in the change in earnings that was calculated by using the cost method is higher than that calculated by using the equity method. The higher variation in the earnings that was calculated by using the cost method which is relative to the equity method suggests that the cost method provides more openings to firms to manage their earnings. The stock return (R_{it}) was calculated through the difference between the stock price for 60-day after the end of quarter *t*+1 and quarter *t* divided by the stock price for 60-day after the end of quarter *t*, inclusive of dividends.[1] In Panel B, Pearson correlation suggests that the stock price correlates with earnings but Spearman correlation does not report the correlation of those variables.

Table 1: Descriptive Statistics and Correlations
Panel A: Descriptive statistics

	Mean	Median	Max	Min	SD	N
ΔNI_{it} - Equity	-0.776	0.002	0.336	-104.361	8.923	265
ΔNI_{it} - Cost	-0.768	0.001	67.951	-106.221	12.378	272
R_{it}	0.076	0.031	1.636	-0.899	0.268	268

Panel B: Correlation Pearson (Spearman) is presented in the lower (upper) diagonal.

	ΔNI_{it} - Equity	ΔNI_{it} – Cost	R_{it}
ΔNI_{it} - Equity		0.957**	0.256**
ΔNI_{it} - Cost	0.729**		0.263**
R_{it}	0.017	0.041	

R_{it} is the stock return for firm *i* in quarter *t*. ΔNI_{it} is the change in net income scaled by the total assets at the end of quarter *t* for firm *i* in quarter *t* and MKT_{it} is the log of market capitalisation for firm *i* at the end of quarter *t*. SD is standard deviation and N is the number of observations. ** indicates significance at the 5% level.

[1] The Thai listed firm can submit annual financial statements to the Thai Security Exchange Commissions (SEC) in lieu of the fourth quarter financial statements. And, many firms opt to submit the annual financial statements. This study uses the annual financial statement when there is no fourth quarter financial statement and the stock price is obtained from 3-month after the specified date of the annual financial statement.

Table 2 presents the main result of earnings persistence. The main interest is the coefficient (β_2). The positive sign of β_2 represents the persistence of earnings information. In Panel A, the results show that earnings calculated by the equity method are of higher persistence relative to earnings calculated by the cost method. The results are consistent with the hypothesis that the equity method earnings are of higher quality relative to the cost method earnings. An explanation which supports these results is that it is more likely for firms to manipulate their earnings by using their own accounting choices, which for this case, is the cost method versus the equity method (Jones, 1991). According to Herrmann, Inoue, and Thomas (2003a), future earnings can be managed through the sale of assets. This implies that future earnings of an investor and its associates can be manipulated by selling assets of the associates to the investor. As a result, when using the cost method, the investor recognises a portion of profit that is generated by the sale of asset in the associates into its financial statements. This may not be noticed by financial users. However, the financial statements users can notice this related party transaction when the equity method is employed.

Additional tests for earnings persistence were performed by excluding size effect from the change model as presented in Panel B. The results remain qualitatively unchanged (β_2 – equity method = 0.013, *t*-value = 0.003 and β_2 – cost method = -0.231, *t*-value = -1.50). In addition to the change model employed in the main analysis, the earnings persistence was estimated by using the level regression model. Additional results are consistent with the results obtained from the change model. In Panel C, the results estimated by the level regression model show that controlling for the size effect, the coefficient β_2 for the equity method is positively significant (β_2 = 0.273, *t*-value = 3.51) but for the cost method, it is negatively significant (β_2 = -0.012, *t*-value = -1.71). When excluding the size effect, the results estimated by the level regression model as presented in Panel D show that the coefficient β_2 for the equity method is positively significant (β_2 = 0.273, *t*-value = 3.53) but for the cost method, it is negatively significant (β_2 = -0.011, *t*-value = -1.73).

Table 2: The Persistence of Earnings Prepared by Equity Method and Cost Method.

Panel A: Change model $\Delta NI_{it+1} = \beta_1 + \beta_2 \Delta NI_{it} + \beta_3 TA_{it} + \varepsilon_{it}$

	Equity Method	Cost Method
β_1	70.454	62.992
	(2.06)**	(1.71)*
β_2	0.226	-0.133
	(2.06)**	(-0.68)
β_3	-3.272	-2.943
	(2.05)**	(-1.71)*
N	265	272
Adj.R^2	0.187	0.128

ΔNI_{it+1} (ΔNI_{it}) is the change in net income scaled by the total assets at the end of quarter *t* for firm *i* in quarter *t*+1 (quarter *t*) and TA_{it} is the log of total assets for firm *i* at the end of quarter *t*. N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. *, ** indicate significance at the 10% and 5% levels, respectively.

Panel B: Change model excluding firm size effect $\Delta NI_{it+1} = \beta_1 + \beta_2 \Delta NI_{it\ t} + \varepsilon_{it}$

	Equity Method	Cost Method
β_1	1.330	1.116
	(0.088)*	(1.21)
β_2	0.013	-0.231
	(0.003)*	(-1.50)*
N	265	272
Adj.R^2	-0.004	0.033

ΔNI_{it}+1 (ΔNI_{it}) is the change in net income scaled by the total assets at the end of quarter *t* for firm *i* in quarter *t*+1 (quarter *t*). N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. * indicates significance at the 10% level.

Panel C: Level model $NI_{it+1} = \beta_1 + \beta_2 NI_{it} + \beta_3 TA_{it} + \varepsilon_{it}$

	Equity Method	Cost Method
β_1	0.245	0.763
	(6.37)***	(1.77)*
β_2	0.273	-0.012
	(3.51)***	(-1.71)*
β_3	-5.02e-15	-4.30e-11
	(-2.42)**	(0.093)*
N	284	289
Adj.R^2	0.068	-0.005

NI_{it+1} (NI_{it}) is the net income scaled by the total assets at the end of quarter *t* for firm *i* in quarter *t*+1 (quarter *t*) and TA_{it} is the log of total assets for firm *i* at the end of quarter *t*. N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. *, **, *** indicate significance at the 10%, 5% and 1% levels, respectively.

Panel D: Level model excluding firm size effect $NI_{it+1} = \beta_1 + \beta_2 NI_{it} + \varepsilon_{it}$

	Equity Method	Cost Method
β_1	0.244	0.618
	(6.41)***	(1.78)*
β_2	0.273	-0.011
	(3.53)***	(-1.73)*
N	284	289
Adj.R^2	0.071	-0.003

NI_{it+1} (NI_{it}) is the change in net income scaled by the total assets at the end of quarter *t* for firm *i* in quarter *t*+1 (quarter *t*). N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. *, *** indicate significance at the 10% and 1% levels, respectively.

Table 3 reports the informativeness of earnings information. It is expected that if earnings prepared by the equity method are of higher quality relative to earnings prepared by the cost method, then earnings information prepared by the equity method is of higher value-relevance. The return model is employed to estimate the informativeness of earnings information. The current 1-quarter future and 2-quarter future stock returns are used to determine the informativeness of earnings information. The future stock return model is to estimate the market perception of earnings information (Hanlon, 2005). Based on Ohlson (1995), the explanatory power (measured by the adjusted R^2) indicates the informativeness of the accounting information. The higher explanatory power is the higher ability of the accounting information to explain stock returns.

Table 3: The Informativeness of Earnings Prepared by Equity Method and Cost Method.

Panel A: $Y_{it} = \alpha_1 + \alpha_2 \Delta NI_{it} + \alpha_3 MKT_{it} + \varepsilon_{it}$

	Equity Method (α_2)	Cost Method (α_2)
Y_{it}	0.097	0.001
t-value	(2.33)**	(1.07)
N	261	268
Adj.R^2	**0.025**	**0.004**
Y_{it+1}	-0.030	0.000
t-value	(-0.99)	(-0.69)
N	239	245
Adj.R^2	**0.000**	**-0.001**
Y_{it+2}	0.050	0.001
t-value	(1.68)*	(0.51)
N	224	229
Adj.R^2	**0.011**	**0.006**

Y_{it}, Y_{it+1} and Y_{it+2} are the stock return for firm *i* in quarter *t*, *t*+1 and *t*+2, respectively. The stock return for firm *i* in quarter *t* (*t*+1 or *t*+2) is calculated by the difference between the stock price 60-day after the end of quarter *t*+1 (*t*+2 or *t*+3) and quarter *t* (*t*+1 or *t*+2) divided by the stock price 60-day after the end of quarter *t* (*t*+1 or *t*+2), inclusive of dividends. ΔNI_{it} is the change in net income for firm *i* in quarter *t* and MKT_{it} is the log of market capitalisation for firm *i* at the end of quarter *t*. N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. *, ** indicate significance at the 10% and 5% levels, respectively.

Panel B: $Q_{it} = \alpha_1 + \alpha_2 \Delta NI_{it} + \alpha_3 PPE_{it} + \varepsilon_{it}$

	Equity Method	Cost Method
α_1	0.001	0.001
	(3.48)***	(3.38)***
α_2	0.001	0.000
	(2.68)***	(0.98)
α_3	-0.000	-0.000
	(-3.49)***	(-3.38)***
N	304	289
Adj.R^2	0.173	0.155

Q_{it}, is market value divided by the total assets. ΔNI_{it} is the change in net income for firm *i* in quarter *t* and PPE_{it} is the log of net tangible assets for firm *i* at the end of quarter *t*. N is the number of observations. OLS estimator with heteroscedasticity-robust standard errors is applied for the analysis and *t*-value is presented in the parentheses. *** indicates significance at the 1% level.

In Panel A, the results show that the explanatory power of the equity method earnings–returns relation is greater than the explanatory power of the cost method earnings–returns relation in all quarters (Adj. R^2 Quarter *t* – Equity = 0.025 vs. Adj. R^2 Quarter *t* – Cost = 0.004, Adj. R^2 Quarter *t*+1 – Equity = 0.000 vs. Adj. R^2 Quarter *t*+1 – Cost = -0.001, Adj. R^2 Quarter *t*+2 – Equity = 0.011 vs. Adj. R^2 Quarter *t*+2 – Cost = 0.006). Further, the coefficient α_2 of the equity method earnings is statistically significant but that of the cost method earnings is not. The results suggest that earnings prepared by the equity method are of higher informativeness relative to earnings prepared by the cost method. The higher informativeness of earnings information based on the equity method relative to the cost method is consistent with the results obtained from the analysis of earnings persistence.

In addition to the return model, this study regresses market values scaled by total assets on equity and the cost method earnings scaled by total assets to determine which earnings information can explain the market-based firm performance. The results in Panel B show that equity method earnings are significantly and positively associated to the firm's performance when controlling for the proportion of net tangible assets of the firm, but the cost method earnings are not significantly

related to the firm's performance (Adj. R^2 – Equity method = 0.173 vs. Adj. R^2 – Cost method = 0.155). Additional results also suggest that the equity method earnings are of higher informativeness relative to the cost method earnings.

The above results support the hypothesis that earnings information based on equity method is of higher quality relative to cost method. The Thai accounting standard setter should take cognisance of this finding and review the requirement which states that the investor firm should use both the equity method and cost method earnings to present its investments in associates. By using the equity method, the public does not have to determine whether the investor has controlling power in the associates but instead, acknowledges the proportion of earnings taken from the associates. For example, the dividends paid by the associate to the investor would be reported as part of the investor's income irrespective of whether the amount is material. Further, the findings of this study also raise the concern of whether firms are more likely to manipulate their performance by using the cost method. Finally, the findings would also suggest the requirement of only one method thereby reducing costs and time spent to prepare the financial accounts.

5. Conclusion

This study investigates the earnings information produced when earnings are prepared by the equity method and cost method. The Thai accounting authority requires firms listed on SET to present earnings information that are calculated by using both the equity method and cost method when the investor firm holds between 20 per cent and 50 per cent of common shares in other firms. The requirement by the Thai accounting authority is based only on the ownership-based approach. The results obtained from this study provide the Thai accounting authority with empirical evidence which shows that the equity method earnings are of higher quality in terms of both persistence and value-relevance relative to the cost method earnings. It thus implies that using both the equity method and cost method earnings is not suitable as it is not only time consuming but also costly to the investor.

With the equity method, the transaction made between the investor and its associates are stated in the profit (or loss) proportion as presented in the investor's financial statement. Thus, a financial statement user may be able to observe the related party transaction by just looking at the financial statements. The user, however, cannot observe such a

transaction when the cost method is employed to prepare the financial statements. This gap provides an opening to the investor firm to manage its earnings.

In addition to the above, it can be said that the uniqueness of the Thai setting which requires listed firms to present earnings information on associates by using both the equity method and cost method provides an opportunity for research to be conducted on earnings management issues. This study raises the concern that the cost method may give firms more openings to manage their earnings. According to Raman and Shahrur (2008), earnings volatility is significantly associated with the relationship-specific investments by suppliers/customers. They find that discretionary accrual is observed when the suppliers and customers are related to the firm. This implies that the relationship between the investor and its associates affects earnings volatility. Lower earnings volatility translates to higher earnings persistence, thus the equity method is preferable to the cost method when there are transactions involved between the investor and its associates.

This paper concludes that for earnings calculation, the equity method is preferred to that of the cost method, and that the Thai accounting authority should revise the accounting standards which are applicable for reporting a firm's investment in its associates. Similarly, it is suggested that countries which require firms to present earnings information of their investments by using the cost method should review their accounting standards so as to minimise the risk of earnings management and to promote good corporate governance.

This paper contributes to the extant literature on convergence to IFRS in emerging economies by providing evidence which displays the efficacy of the equity method in reporting the accounting of investments in associates in Thailand.

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Appendix A

List of Tested Firms (Population)

1. Bangkok Insurance Public Company Limited
2. Kang Yong Electric Public Company Limited
3. Shun Thai Rubber Gloves Industry Public Co., Ltd
4. Se-Education Public Company Limited
5. Tong Hua Communications Public Company Limited
6. Southern Concrete Pile Public Company Limited
7. Thai O.P.P. Public Company Limited
8. Thai Mitsuwa Public Company Limited
9. Thai Rayon Public Company Limited
10. Thai Stanley Electric Public Company Limited
11. Newcity (Bangkok) Public Company Limited
12. Baan Rock Garden Public Company Limited
13. Porn Prom Metal Public Company Limited
14. President Bakery Public Company Limited
15. President Rice Products Public Company Limited
16. Union Pioneer Public Company Limited
17. Union Textile Industries Public Company Limited
18. Luckytex (Thailand) Public Company Limited
19. Sammakorn Public Company Limited
20. Asia Fiber Public Company Limited
21. M.C.S. Steel Public Company Limited