การนำมาตรฐานการรายงานทางการเงินมาบังคับใช้และความเกี่ยวข้องกับมูลค่าหลักทรัพย์: หลักฐานเชิงประจักษ์จากตลาดหลักทรัพย์แห่งประเทศไทย

IFRS Adoption and the Value Relevance: Evidence from the Stock Exchange of Thailand

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บทคัดย่อ

งานวิจัยนี้ศึกษาผลกระทบจากการรับมาตรฐานการรายงานทางการเงินระหว่างประเทศ (IFRS) มาถือปฏิบัติเป็นมาตรฐานการรายงานทางการเงินของประเทศไทย (TFRS) โดยการทดสอบความเกี่ยวข้องของข้อมูลทางบัญชีกับราคาหลักทรัพย์ของบริษัทจดทะเบียนในตลาดหลักทรัพย์แห่งประเทศไทยในช่วงเริ่มการนำมาตรฐานการบัญชีระหว่างประเทศเข้ามาใช้โดยการศึกษาความสัมพันธ์ระหว่างราคาตลาดของหลักทรัพย์กับมูลค่าทางบัญชีและกำไรต่อหุ้นโดยใช้ตัวแบบการวัดมูลค่าของ Ohlson (1995) ผลการศึกษาแสดงให้เห็นว่าความเกี่ยวข้องระหว่างข้อมูลทางบัญชีและมูลค่าตลาดของหลักทรัพย์ไม่ได้มีการปรับตัวตามการรับมาตรฐานการรายงานทางการเงินใหม่เข้ามาใช้แต่อย่างใด

คำสำคัญ: *IFRS ความเกี่ยวข้องของข้อมูลทางบัญชีกับราคาหลักทรัพย์ มาตรฐานการบัญชี มาตรฐานการรายงานทางการเงินไทย*

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ABSTRACT

This study investigates the impact of adopting the International Financial Reporting Standards (IFRS) into the Thai Financial Reporting Standards (TFRS). The value relevance of accounting information for Thai companies listed in the Stock Exchange of Thailand at the initial time of IFRS adoption is analyzed. The relationship between the market value of equity and the book value and earnings per share of equity is examined using the Ohlson (1995) valuation model. The result indicates that the value relevance of accounting data does not improve in the transition from the pre-TFRS period to the fully adopted TFRS period.

Keywords: *IFRS, value relevance, accounting standards, Thai Financial Reporting Standards*
JEL Codes: *M41, M48, N25, N45*

Introduction

Over the past several years, many countries have attempted to improve financial accounting standards through the adoption of International Financial Reporting Standards. International investment has been playing a key role in developing the capital markets in Thailand. To increase investors' confidence in the capital market, the Federation of Accounting Profession of Thailand (TFAC) is forcing the improvement of Thai accounting standards and encouraging Thai companies to prepare their financial reports in accordance with the International Financial Reporting Standards (IFRS). The TFAC announced the change in Thai Accounting Standards (TAS) and Thai Financial Reporting Standards (TFRS) in the year 2009 and made this change effective in 2011. This new set of standards is committed to be in line with the International Financial Reporting Standards (IFRS), developed by the International Accounting Standards Board (IASB) and believed to have a positive impact on the economy of the country in preparation for entrance into the ASEAN Economic Community (AEC) in the year 2015.

This study explores value relevance of book value and earnings per share to assess stock price in the pre-TFRS and post TFRS periods. Using the Ohlson (1995) model, market value is related to the book value of equity per share and earnings per share. The results indicate that, for the companies listed in the Thailand Stock Exchange (SET), book value is generally relevant in determining market value or stock prices. However, the value relevance of accounting information has not improved after the TFRS was implemented in the country.

The paper proceeds as follows. The second section describes the background of IFRS adoption in Thailand, the theoretical model used in explaining the relationship between accounting information and stock prices, as well as the results of related existing studies. The third discusses research methods, including data selection and value relevance models. The fourth section presents the results, followed by conclusion, limitations, and suggestions for future research in the last section.

Literature Review

Dechow and Scharnd (2004) shows that the international accounting standard enhances the usefulness of accounting information. As a function of the capital market's assessment, investors respond to companies' financial information, specifically quality of earnings and earnings announcements, via stock prices. Following the seminal paper by Ball and Brown (1968) and the theory of firm value by Ohlson (1991), numbers of existing empirical studies, starting with Miller and Modigliani (1966)'s, suggest that accounting information is correlated with stock price or returns.

IFRS Adoption in Thailand

Thai Accounting Standards are set by the Federation of Accounting Professions of Thailand (TFAC) to serve as Generally Accepted Accounting Principal for businesses operating and filing financial reporting in Thailand. The TFAC has consistently developed the Thai accounting standards to converge with the International Financial Reporting Standard (IFRS). The standards consist of several sets of accounting and reporting standards, including the Thai Accounting Standard (TAS), the Thai Financial Reporting Standards (TFRS), and the Thai Financial Reporting Interpretation Committee (TFRIC) interpretations. Beginning in 2005, the Thai Accounting Standards, which were mostly based on the US GAAP, were moved toward the international financial accounting trend by implementing the International Accounting Standards (IAS). Later in 2009, the standards were altered again to be consistent with the IFRS standards 2008 and 2009. The latest amendments to these sets of accounting and financial reporting standards have been approved by the Accounting Profession Oversight Board of the FAP and been promulgated as financial reporting standards under the Accounting Act, B.E. 2543 (2000). Thirty six financial reporting standards for publicly accountable entities were recently issued, with 29 of them effective for financial statements for a period beginning on or after January 1, 2011 and 6 standards are effective for financial statements for a period beginning on or after January 1, 2013.

Value Relevance Theory

Ball and Brown (1968) provides empirical evaluation explaining the role of accounting income numbers as a source of information used in explaining security price. The paper has significant influence in the area of value relevance within accounting information research. Ohlson (1991) develops simple models that relate firm value, earnings, and dividends under uncertainty. The seminal work in Ohlson (1995) further provides linear information dynamics in models which implies that market value equals the book value adjusted for the profitability of a firm. The Ohlson (1995) model can be written as:

$$P_t = \beta_{0t} + \beta_1 BV_t + \beta_2 X_t + \varepsilon_t$$

where P_t is the security price at time t, BV_t is the book value of a firm at time t, X_t is a firm earnings at time t.

The value relevance of accounting data and the security price is measured by the explanatory power of this model as well as the significance of coefficients to the accounting information variables.

Prior Research on the Impact of IFRS on Value Relevance of Accounting Information

The Ohlson (1995) model has been widely used in different context to test the value relevance of accounting information in several studies of different countries. Collins, Maydew and Weiss (1997) use this Ohlson's valuation model to investigate systematic changes in the value relevance of earnings and book values of NYSE, AMEX and NASDAQ firms in 1953-1993. They find that the combined value relevance of earnings and book values appears to have increased slightly over time. Likewise, Francis and Schipper (1999) test the value relevance of book values and earnings on the market value of stocks over the period 1952-1944. Their results indicate that the explanatory power of earnings decreases over time, while it increases for book value for the same sample period. In Thailand, Samritpradit (2002) finds the explanatory power of the combined earnings and book value numbers on stock prices to be decreasing over time. However, for Thai listed companies, earnings are superior to book value in explaining the stock price.

The impact of changes in accounting standards is also tested by the Ohlson's model. For instance, Barth, Landsman and Lang (2008) compare value relevance of accounting information between firms applying the International Accounting Standards (IAS firms) and firms applying domestic accounting standards (NIAS firms) in 21 countries, as well as of pre- and post-adoption periods for IAS firms between 1994 and 2003. Their measure is based on the adjusted R^2 value from the regression of stock price on net income and equity book value. Their results generally indicate that IAS firms have higher accounting quality than firms not applying IAS and that IAS firms have an improvement in accounting quality between the pre- and post-adoption periods. Yip and Young (2012) use a modified Ohlson (1995) model to examine whether the mandatory adoption of International Financial Reporting Standards (IFRS) in 17 European countries in the European Union significantly improves information comparability. They find that mandatory IFRS adoption significantly increases information comparability across countries. Similarly, a later work by Kargin (2013) shows evidence that value relevance of accounting information of Turkish listed firms has improved in the post-IFRS application period.

Research Method and Models

Following Ely and Waymire (1999) and Barth et. al. (2008), comparing between value relevance in pre-IFRS adoption and post-IFRS adoption periods allows us to determine whether application of TFRS associated with higher accounting quality of the sample firms. This comparison provides evidence on whether quality of accounting information improves between the pre- and post-TFRS.

To examine the value relevance of accounting data, Ohlson (1995) valuation model is used. The measurement is based on the explanatory power (adjusted R^2 value) from the regression given by model (2)

$$P_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \varepsilon_{it} \quad (2)$$

where, P_{it} is the market price per share of firm i at time t (fiscal year end), BV_{it} is the book value per share of firm i at time t, and EPSit is the reported earnings per share of firm i for the period ended at time t.

Prior studies use an indicator variable to distinguish the value relevance measurements across countries and industries (Yip & Young; 2012), or between the periods of change in accounting standards (Kargin; 2013). Thus, to detect the improvements of the value relevance of accounting data following the implementation of TFRS, the indicator variable D is added into the model which results in the equations (3) and (4) as follows:

$$P_{it} = \beta_0 + \beta_1 D_i + \beta_2 BV_{it} + \beta_3 EPS_{it} + \varepsilon_{it} \quad (3)$$

$$P_{it} = \beta_0 + \beta_1 D_i + \beta_2 BV_{it} + \beta_3 EPS_{it} + \beta_4 DBV_{it} + \beta_5 DEPS_{it} + \varepsilon_{it} \quad (4)$$

where D_i equals 1 represents the TFRS period or fully adopted TFRS period, depending on the investigating period. The DBV and DEPS are the interactive variables added as measures for the effect of different time periods on prices. In this case, β_1 indicates the difference in the intercept for the value relevance equation caused by the difference in time periods. The difference is detected by the statistical significance of the coefficient β_1. The coefficients β_4 and β_5 in model (4) indicate the difference between coefficients of book value and the earnings per share, respectively. The direction of relationship between accounting data and the market value of equity is regarded to be increasing (decreasing) from the pre-IFRS period if these coefficients are positive (negative).

Data and Sample Selection

Our initial data comprises 4,530 firm-year observations from all companies listed in the Stock Exchange of Thailand (SET) during the year 2005 – 2013 which represent data from equal length of periods before and after the TFRS adoption. The number of firms during the selected period varies from 463 – 536 in each fiscal year. Firms in the banking, finance and insurance industries are eliminated due to their specific reporting requirements. In the value relevance comparison analysis, sample firms are required to have complete security prices and financial information available over the 9 years study period. This sample requirement prevents potential problems that could arise from differences in firm-specific characteristics among different sample firms. As a result, final samples include 2,682 firm-year observations for 298 firms.

To observe clear test results on the differences in value relevance, the data is divided into sub-groups according to the TFRS implementation periods. The first sub-group (2005-2008) is a pre-TFRS, the second group (2009-2013) is a TFRS period, and the third group (2011-2013) is a TFRS fully effective period.

Results

Univariate and Bivariate Statistics

Table 1 presents descriptive statistics of each variable used in our analysis for overall samples. The equity market price per share, book-value per share and earnings per share are in Thai Baht. The number of observations, arithmetic mean and standard deviation of each variable of the pooled data are presented in the first row, followed by yearly results for 2005-2013.

Table 1: Descriptive statistics for variables

Year	N	P			BV			EPS		
		Mean	Median	SD	Mean	Median	SD	Mean	Median	SD
Panel A: Pooled Data										
	2682	32.57	8.25	87.32	23.69	6.21	48.11	2.71	0.59	7.58
Panel B: Yearly Data										
2005	298	28.17	9.03	64.64	22.67	6.28	46.61	2.95	0.73	7.08
2006	298	28.17	9.03	64.64	24.30	6.87	50.65	2.39	0.62	5.44
2007	298	29.17	7.83	69.78	22.14	5.88	41.90	2.32	0.54	5.36
2008	298	20.65	4.40	57.26	22.72	5.99	43.74	2.20	0.50	5.85
2009	298	29.41	6.13	76.30	23.87	6.32	46.89	2.72	0.48	7.31
2010	298	38.79	9.55	100.42	25.34	6.53	52.02	3.50	0.68	9.41
2011	298	32.98	8.63	77.18	23.46	6.27	46.33	2.47	0.54	7.84
2012	298	45.85	12.65	117.87	25.24	6.81	52.29	3.39	0.72	10.83
2013	298	39.97	10.50	126.85	23.49	5.87	51.91	2.49	0.52	7.31

Notes: P = price per share at fiscal year-end, unit in Thai Baht
BV = book value per share as of fiscal year-end, unit in Thai Baht
EPS = earnings per share for the period ending at fiscal year-end, unit in Thai Baht

The Pearson's product moment correlation coefficients (results not shown) indicate that both firm's book-value of equity and earnings per share are highly correlated with the market value at 0.01 significant level.

Value relevance tests for overall Thai market

The regression results for model (2) with panel data and yearly cross-sectional data are displayed in Table 2. Coefficients of both book values and earnings are positive. The F-test results for the model are statistically significant. The adjusted R^2 ranges from 0.605 in 2012 to 0.874 in 2010 for the yearly regression. The adjusted R^2 value of 0.706 for the pooled data means that book value and earnings per share jointly explain 70.6% of the variation of market value of equity during 2005 – 2013.

Table 2: Regression results of price on earnings and book value

Model: $P_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$

	β_0	SE_0	β_1	SE_1	β_2	SE_2	F	R^2
Panel A: Pooled Data								
	1.063	1.019	0.556**	0.029	6.758**	0.182	3221.830**	0.706
Panel B: Yearly Data								
Pre-TFRS								
2005	2.735	1.793	0.187**	0.065	7.179**	0.428	653.985**	0.815
2006	-1.876	1.928	0.711**	0.041	5.346**	0.379	565.576**	0.792
2007	0.347	2.002	0.198**	0.064	10.515**	0.502	629.280**	0.809
2008	-0.765	2.238	0.429**	0.063	5.296**	0.469	267.030**	0.642
TFRS								
2009	2.014	2.273	0.234**	0.074	8.031**	0.477	562.868**	0.791
2010	2.474	2.303	0.167*	0.080	9.178**	0.441	1035.538**	0.874
2011	1.909	2.301	0.786**	0.056	5.110**	0.331	557.546**	0.789
2012	7.980	4.812	0.876**	0.145	4.652**	0.701	228.154**	0.605
2013	-1.429	4.457	0.593**	0.120	11.028**	0.852	339.174**	0.695

** (*) Statistically significant at two tail 0.01(0.05) level

Figure 1 depicts the adjusted R^2 values over the study period. The values drastically decrease in 2008 indicating the loss in value relevance in the Thai capital market during the world economic crisis. In the TFRS (2009-2013) period, the adjusted R^2 values seem to increase at the beginning of TFRS implementation, but turn to be fluctuated in the later years as a result of significant global and domestic economic events.

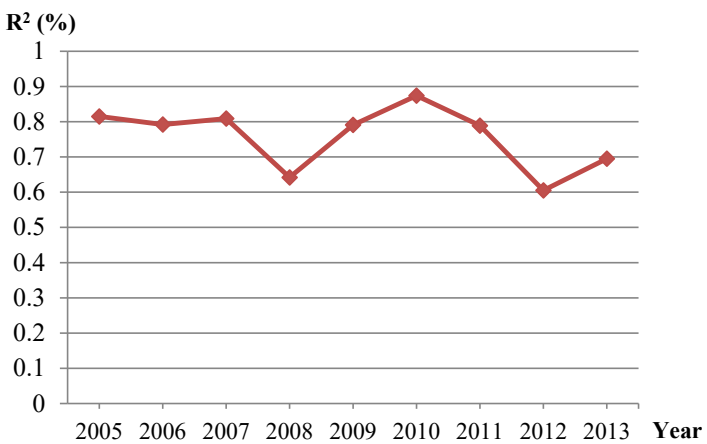

Figure 1 Adjusted R^2 from the model $P_{it} = \alpha_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$

Value relevance in the pre- and post- TFRS periods

To investigate whether value relevance of accounting information is improved after the IFRS adoption, data is classified into three sub-groups, namely the pre-TFRS (2005-2008), the TFRS period (2009-2013) and the fully effective (2011-2013) periods.

Table 3: Regression results of price on earnings and book value by TFRS periods

Model: $P_{it} = \beta_0 + \beta_1 BV_{it} + \beta_2 EPS_{it} + \varepsilon_{it}$

	Pre-TFRS (2005 – 2008)		TFRS period (2009 – 2013)		Fully effective (2011 – 2013)	
	Coefficients	SE	Coefficients	SE	Coefficients	SE
Intercept	-0.013	1.058	2.299	1.613	2.874	2.412
BV	0.480**	0.029	0.645**	0.046	0.833**	0.064
EPS	6.292**	0.224	6.671**	0.266	5.993**	0.364
F	1723.940**		1728.314**		822.673**	
R^2	0.743		0.699		0.648	

** (*) Statistically significant at two tail 0.01(0.05) level

The results presented in Table 3 are consistent with the findings reported in the earlier part. Both types of accounting information are positively associated with market value of equity. The coefficient estimates from the regression are statistically significant, implying that the book values and earnings information highly explain stock prices. However, the adjusted R^2 values for the TFRS and the fully-effective periods appear to be lower than that of the pre-TFRS period. This indicates the ability of financial information to explain stock price decreases after adopting TFRS.

Comparison of value relevance between the TFRS and the TFRS fully effective period

Further analysis is performed to confirm the difference in value relevance between the pre-TFRS and TFRS periods. The indicator variable D_i is incorporated into the valuation model to measure the difference. The D_1 is set to 1 for the TFRS (2009-2013) and D_2 is set to 1 for the fully effective (2011-2013) periods, and 0 for the pre-TFRS period. Table 4 shows that the intercepts of the equation reflecting association between market prices and accounting information are statistically different. The difference is greater for the fully effective period. The coefficients to book value and earnings per share are statistically significant in both the TFRS and the fully-effective specifications.

Table 4 Comparison of value relevance in pre-IFRS versus post-IFRS and IFRS fully effective periods

$$P_{it} = \beta_0 + \beta_1 D_i + \beta_2 BV_{it} + \beta_3 EPS_{it} + \varepsilon_{it}$$

	TFRS (2009-2013)		Fully Effective (2011-2013)	
	Coefficients	Std. Error	Coefficients	Std. Error
Intercept	-2.869*	1.436	-3.424*	1.531
D_i	7.119**	1.836	10.355**	2.198
BV	0.557**	0.029	0.621**	0.033
EPS	6.738**	0.181	6.366**	0.213
F	2164.157**		1426.819**	
R^2	0.708		0.672	

Notes: ** (*) Statistically significant at two tail 0.01(0.05) level.
For the TFRS period, D1 equals1 if data year is 2009 – 2013, and 0 otherwise.
For the Fully effective period, D2 equals 1 if data year is 2011-2013 and 0 if data year is 2005-2008.

Table 5 reports the results of the valuation model with interactive variables for time periods, book value, and earnings numbers. The coefficients to the TFRS period indicators are not statistically significant in both the TFRS and the fully-effective TFRS measurements. However, the coefficients to book value, earnings per share, and the interaction between book value and TFRS period indicators (D_i*BV) are statistically significant. This result can be interpreted that the value relevance of book value helps explain the market price more than earning per share does, and that there is a statistically significant difference between the value relevance levels in these two periods.

Table 5 Comparison of value relevance in pre-TFRS VS TFRS and TFRS fully effective periods- with interactions

$$P_{it} = \beta_0 + \beta_1 Di + \beta_2 BV_{it} + \beta_3 EPS_{it} + \beta_4 D_i BV_{it} + \beta_5 D_i EPS_{it} + \varepsilon_{it}$$

	Post - IFRS (2009-2013)		Fully Effective (2011-2013)	
	Coefficients	Std. Error	Coefficients	Std. Error
Intercept	-0.013	1.526	-0.013	1.596
D_i	2.311	2.042	2.886	2.424
BV	0.480**	0.042	0.480**	0.044
EPS	6.292**	0.324	6.292**	0.338
D_i **BV*	0.165**	0.057	0.352**	0.065
D_i **EPS*	0.379	0.393	-0.299	0.437
F	1316.882**		885.452**	
R^2	0.710		0.680	

Notes ** (*) Statistically significant at two tail 0.01(0.05) level

For the Post-IFRS period, D1 equals 1 if data year is 2009 – 2013, and 0 otherwise.

For the Fully effective period, D2 equals 1 if data year is 2011-2013 and 0 if data year is 2005-2008.

Discussion and Conclusions

This study investigates the impact of changes in accounting standards from the Thai Accounting Standard (TAS) to the International Financial Reporting Standard (IFRS) using the Ohlson (1995) model. The data was collected from 298 companies listed in the Stock Exchange of Thailand reporting financial data during 2005 and 2013. Samples are classified into pre-TFRS (2005-2008), TFRS (2009-2013) and fully-effective TFRS (2011-2013) periods to detect the difference in value relevance between each period. We find that book value and earnings per share of equity are overall value relevant in determining market value or stock price in the study period. However, the explanatory power appears to decrease in the TFRS and in the fully effected periods.

The comparison test of value relevance between the pre-IFRS and post-IFRS and between the pre-TFRS and the fully-effective periods results in statistical differences of value relevance in both periods. The results suggest that adopting IFRS does not increase the value relevance of financial information in the Thailand stock market. In other words, investors in the Thailand stock market do not incorporate this change in financial reporting standards in their decision to buy stocks. Thus the explanatory power of accounting information according to the new set of financial reporting standards does not increase after the implementation of such standards.

Our results are contradicted with prior studies by Barth et. al (2008), Yip and Young (2012), and Kargin (2013) which report that accounting information quality increases when the former local or international standards are replaced by the new set of international accounting standards, i.e. IAS and IFRS in various European countries. Specifically for the Thai market, however, our results are consistent with Samritpradit (2002) who reports a decline in the explanatory power of accounting information in stock prices when the IAS was implemented in Thailand in 1999.

The results of this study are subject to certain limitations. Firstly, the scope of our data is merely limited to the companies listed in the Thailand Stock Exchange. Those companies in the Market of Alternative Investment (MAI), companies with small and medium size (SMEs), and companies with specific financial information reporting requirements are excluded from our study. Sample firms must also meet the requirement that stock prices and financial data be available for 9 fiscal year periods. These data restrictions could cause statistical sample biases such as self-selected bias and survival bias in our results. Secondly, the period length of study covers merely 4 fiscal years for the pre-TFRS and 3 fiscal years for the fully-effective- TFRS periods. It is considerably short as compared to those of previous value relevance studies in other countries. However, the limitation of sample period could help minimizing the effects of other economic biases or behavioral biases caused by the reporting firms or the users of financial statements. Thirdly, the value relevance measurement model used in this study is a simple and generalized model. Thus, variables that might explain specific characteristics of Thai culture, Thai investors' investment behavior, domestic economy, and political situations are omitted. This possibly justify the difference in the findings of studies in Thai market as opposed to those of other countries. As a result, further study could expand the scope of data to include companies that implement the IFRS in other domestic markets within or outside of the ASEAN region, and /or modify the value relevance model to include other culture related variables that might mitigate issues of cultural differences.

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