Value Relevance of Accounting Profit:
An Extended Analysis in Thailand

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Abstract

This study aims to compare the value relevance of accounting profit which includes (1) gross profit (GP), (2) earnings before interest, taxes, depreciation, and amortization (EBITDA), (3) earnings before interest and taxes (EBIT), (4) net income (NI), and (5) comprehensive income (CI) as well as components of other comprehensive income (OCI). The study uses multiple regression to analyze 3,311 samples from firms in all 8 industries of the Stock Exchange of Thailand (SET) from 2011 to 2018. The various aspects of value relevance comprising overall, by industry, time lag, and political stability are also studied. Results show that all types of accounting profit positively affect stock price. NI had the most value relevance followed by CI. Results also found that NI had the highest value relevance in most industries. Property, construction, and resources industries had CI as the most value relevance. The acconting profit had the highest value relevance at 16 days after the financial statement submission deadline. Furthermore, political stability had a positive effect on firm value. This positive political variable study exposures to academic literature in value relevance. Moreover, this research result contributes more understanding in firm value for managers and investors.

Keywords

Introduction

Stock exchanges are important sources of fund raising for businesses that are crucial to driving the overall economy of a country. Currently, many countries around the world have established stock exchanges including Thailand which has the Stock Exchange of Thailand (SET) as a secondary market for the trading of equity securities. In the view of investors, equity securities are considered as investment options that have a higher risk than other alternatives. Therefore, it is necessary to study the value relevance to the related information of the accounting profit thoroughly in order to make appropriate investment decisions, especially for performance information which is considered to be very important for Thai investors when considering investing in securities (Chongwannasiri & Ouor, 2016).

A company reflects its performance through revenue, expenses, and accounting profit shown in its income statement which demonstrates several types of accounting profits such as (1) gross profit (GP); (2) earnings before interest, tax, depreciation and amortization (EBITDA) ; (3) earnings before interest and tax (EBIT) ; (4) net income (NI); and (5) comprehensive income (CI). Income statements show other comprehensive income (OCI) which is a list of unrealized gains and losses from the main operations of the business. Net income seems to be the investor's first choice in observing a company's performance. However, net income may not have the direct influence to either the firm's price or the return of the securities. This study aims to observe which types of profit are most relevant to a firm's value (value relevance). This can be observed through the relationship between accounting profits and the market price of securities (Barth et al., 2001). This study also concerns impacts from the environment and situations which may affect the presentation of information and changes in stock price (Watcharanukul & Kaewprapa, 2015). Thus, this research also includes industry type, time-lag effect, and political stability (through the event of Thailand's latest coup in 2014) in the analysis.

Results of this study can help investors to use information from financial statements to make economic decisions more efficiently and effectively. Additionally, the results may be useful for companies who want to present or announce accounting information to the public and regulators who want to improve financial reporting standards.

Literature Review and Hypotheses Development

Different types of accounting profit can provide useful information regarding financial statements Exchange of Thaiand (SET) and Thai Financial Reporting Standard do not require firms to present all accounting profits in their financial statements such as GP, EBITDA, and EBIT; these profits are useful in assessing an entity's profitability. Gross profit (GP) indicates the entity's core operational capability. EBIT represents a company's earnings regardless of its capital structure and income tax expenses which are external factors.

EBITDA is a measure of performance that reduces impact from accounting policies and estimates regarding depreciation and amortization. Financial reporting standards require an entity to present net income in the bottom-line item of their income statement. This is a very important financial indicator because it summarizes a company's overall performance and return to their shareholders. Net income is often used to calculate financial ratios such as net profit ratios, ROA, and ROE. It is also widely used by securities analysts to assess business value (Dechow & Schrand, 2004).

Apart from the net profit, publicly accountable entities (PAEs) are also required to present another type of profit in their financial statements in a statement of comprehensive income. Comprehensive income is calculated from the net profit plus other comprehensive income. This profit is the reflection of firms' operating and financial impacts. For instance, there has been considerable debate over the presentation of comprehensive income in the past. However, there are the opposition perspective on the comprehensive income included other comprehensive income (OCI) which was temporary. This comprehensive income may not be a good representative of core earnings and may reduce quality of the overall profit. In addition, most OCI varies depending on market factors that are beyond an entity's control. This makes it not suitable as a measure of managerial performance. On the other hand, comprehensive income is the only metric that reflects value creation from all sources. It is able to appropriately separate value creation from value distribution. It also makes executives and securities analysts more comprehensive because they must consider all factors affecting the entity and it is an indicator that is most consistent with the accounting-based valuation theory (Chambers et al., 2007).

Investors are normally more concerned with the company's performance because stock price trends to be in line with the profitability of the entity whether it is accounting profit, cash flow, or dividend payment. Following the assumption of capital markets efficiency; the current stock price is fully reflected in all information related to the entity (Fama, 1991).

Value Relevance of Accounting Profits

There are many studies in value relevance of each type of accounting profit. Accounting information relates to an entity's value only if it correlates with the entity's securities price (Barth et al., 2001) which is one of the qualifications of earnings quality. Dechow and Schrand (2004) explain that accounting profits are of higher quality if they highly correlate with the current stock's price. For gross profit, most studies show that gross profit and change in gross profit are related to price or yield on securities (Ghasempour & Ghasempour, 2013; Jorion & Talmor, 2001). EBIT is often compared to net income and EBITDA is frequently found to be more related to corporate value than EBIT and net profit (Davern et al., 2018; Misund et al., 2015). However, firm's value is always changing between EBIT and net income which may turn into more highly value relevance than EBITDA in some

period (Davern et al., 2018). Studies show that net income is related to corporate value (Collins et al., 1997; Dhaliwal, et al., 1999). Past studies comparing comprehensive income and net income are in conflict. Some studies show that comprehensive income has more highly relation to corporate value than net income, while some studies do not (Devalle & Magarini, 2012; Ernstberger, 2008). For other components of comprehensive income, most studies have found that only certain items are correlated with stock price or yield such as unrealized gain and loss from the fair value adjustment of available-for-sale securities (Ernstberger, 2008; Kanagaretnam et al., 2009), gain and loss from translation of foreign currency financial statements (Devalle & Magarini, 2012), and gain and loss from cash flow hedging (Kanagaretnam et al., 2009). From the past studies, accounting profit has value relevance in the same direction with stock price, so this study hypothesizes the relationships between accounting profits and stock price as follows:

H_1: Gross profit positively affects stock price.

H_2: EBITDA positively affects stock price.

H_3: EBIT positively affects stock price

H_4: NI positively affects stock price.

H_5: CI positively affects stock price.

H_6: Every component of OCI positively affects stock price.

Value Relevance of Accounting Profits and Industry

Studying the effects of each industry will enhance the conclusion of which accounting profit type is appropriate for value measurement of any specific industry (Dhaliwal et al., 1999). Information in each industry benefits investors who can obtain information only for their target industries so that they can reduce their information cost (Biddle et al., 1995). The difference in firms' operation affects their disclosures to the financial information and changes of stock price (Watcharanukul & Kaewprapa, 2015). Graham et al. (2000) found that industry value has no effect on the relationship between accounting profit and firm value. There are a number of studies that found that the relationship between accounting profit and firm value effect each industry differently. For example, Royer (2017) found that net income is more closely related to firm value than comprehensive income, whilst it is not in the financial industry. Jorion and Talmor (2001) found that there is relationship among financial information, firm value and industrial life cycle. In addition, each component of OCI has a different effect on firm value in each industry such as the gain and loss of financial assets item in OCI is dominant in the financial services industry (Brimble & Hodgson, 2005). Hence, this study can develop hypotheses related to industry as follows:

H_7: Each type of accounting profit affects firm value associated differently in each industry.

Time Lag Effects and Value Relevance of Accounting Profits

Some studies about financial information and stock price disclose an interesting behavior of capital markets, that they—through their stock price—do not respond to any financial information immediately. This phenomenon is called Post-Earnings-Announcement Drift (PEAD); the stock price does not change to reflect the information immediately following the announcement of the official profit result (Bernard & Thomas, 1989, Brown & Pope, 1995). There are many research study observing stock price during three months to six months after the end of the accounting period (Devalle and Magarini, 2012; Kanagaretnam et al. , 2009; Hutagaol-Martowidjojo et al., 2019). Due to the inefficient capital market in the real world, there is a time-lag in the capital market to completely reflect on the disclosed financial information through the public communication (Naimah, 2012; Zulu et al., 2017).

This study not only emphasized the Thai capital market but also focused on value relevance of accounting profit 60 days after the accounting period set by the Stock Exchange of Thailand (SET). In addition, the study analyzed data every 15 days after the schedule of submission to observe the effect between accounting profit and stock price. The reason for the 15-day observation was because Beaver (1968) found that during the week financial statements are announced, stock price increased from prior periods which is the effect of capital market respond to the financial information. Thus, to have a more stable stock price for analysis, the study observed stock value twice a week or every 15 days until the end of April which is the time for submission of financial statements of the first quarter which can have more affect to the stock price than the previous year's financial information. This study, then, observed the value relevance by five points of time; March 1st, March 16th, April 1st, April 16th, and April 30th.iIf any date fell on a SET holiday, the data was collected the next business day. These time lag effects can be hypothesized as follows:

H_8: Accounting profit positively affects the stock price as of March 1st, March 16th, April 1st, April 16th, and April 30th.

Political Stability Effects and Value Relevance of Accounting Profit

Political change is one of the systemic risks that volatilize the stock market and affect the confidence of investors. Political turmoil may cause investors to delay or suspend their investments (Narayan & Smyth, 2013). Moreover, this matter may also result in some foreign institutional investors who have a policy of not investing in coup d'état countries (more common in South America) and choose to sell their securities in other countries. In addition, political factors can also influence the value relevance of accounting information because it is a factor affecting the usage and interpretation of accounting information of financial statements' users to make investment decisions (Bhattacharya et al., 2003). Moreover,

political uncertainty also affects investors' behavior so that the change in stock price cannot truly reflect fundamental factors and performance of the company through accounting and financial information.

The Thai political crisis from 2013-2014 was a political upheaval that affected investor confidence and caused abnormal fluctuation the SET's index. However, this political turmoil ended in a coup by the National Council for Peace and Order (NCPO) in 2014. This situation may have affected the value relevance of accounting profit which can propose the following hypothesis:

H_9: Political stability has positively supported the relationship between accounting profit and stock price.

Research Method and Model Specification

This study analyzed companies listed on the Stock Exchange of Thailand (SET), from all 8 industry groups;1) Agriculture and Food Industry (AGRO), 2) Consumer Product (CONSUMP), 3) Finance (FINCIAL), 4) Industrial Product (INDUS), 5) Property and Construction (PROPCON), 6) Resources (RESOURC), 7) Services (SERVICE), and 8) Technology (TECH). Funds were not included in the sample because their financial statement format is different which does not provide all type of the accounting profit. Data from 2011-2018 was collected from the SETSMART database. This range was chosen because of Thai Accounting Standard No.1 which required all listed companies on the SET to present comprehensive income on their accounting reports beginning January 1st, 2011. Consequently, this research analyzed data from 3,311 firm-year observations, which are distributed by industry in table 1.

Table 1 Sample sizes and their proportion in each industry group

Industry Group	Firms-year observations	Proportion
AGRO	331	10.00%
CONSUMP	195	5.89%
FINCIAL	389	11.75%
INDUS	520	15.71%
PROPCON	672	20.30%
RESOURC	293	8.85%
SERVICE	645	19.48%
TECH	266	8.03%
Total	**3,311**	**100.00%**

The accounting profit for this study comprised of gross profit (GP); earnings before interest, taxes, depreciation, and amortization (EBITDA); earnings before interest and taxed (EBIT); net income (NI); and comprehensive income including components of other comprehensive income (OCI). The income statement format of firms in the financial industry is different from others so this study did not collect GP for firms in this industry and used earnings before taxes (EBT) instead of EBIT. In addition, to solve the problem of capital change such as share increasing and stock splits. In order to be able to analyze data reasonably, this study divided all of the profits with outstanding shares at the end of the period. The firm value proxy of this study is stock price in March 1st, March 16th, April 1st, April 16th, and April 30th. This study controled three factors, thefirm size represented by natural logarithm of total assets (Wakil, 2020), financial risk by using a leverage ratio (Long et al., 2014) as debt-to-equity ratio (DE ratio), and firm growth represented by market value divided by firm book value (Riyath & Jahfer, 2018). This study also had a moderating factor which was political stability which existed after the 2014 coup in Thailand.

This study applied Price Model (Ohlson, 1995) which is widely used in various value relevance studies (Devalle & Magarini, 2012; Kanagaretnam et al., 2009; Acaranupong, 2017). The models used for analysis in this study can be demonstrated as research framework (Figure 1) which is comprised of three groups of analysis models—analysis models for overall value relevance by industry, analysis models for time lag and value relevance, and analysis models for political stability and value relevance.
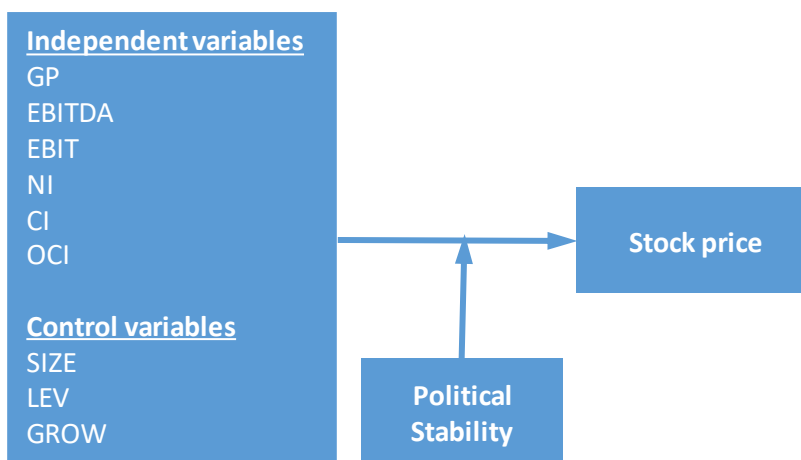

Figure 1 The research framework

Analysis Models for Overall Value Relevance by Industry

$$P_t = \alpha + \beta_1 BV_t + \beta_2 GP_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{1}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 EBITDA_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{2}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 EBIT_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{3}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 NI_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{4}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 CI_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{5}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 NI_t + \beta_3 REV_t + \beta_4 SEC_t + \beta_5 PEN_t +$$
$$\beta_6 HED_t + \beta_7 FCT_t + 8 OTH_t + \beta_9 SIZE_t + \beta_{10} LEV_t + \beta_{11} GROW_t + \varepsilon \tag{6}$$

Analysis Models for Time Lag and Value Relevance

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{7}$$

$$P_{t1} = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{8}$$

$$P_{t2} = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{9}$$

$$P_{t3} = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{10}$$

$$P_{t4} = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 SIZE_t + \beta_4 LEV_t + \beta_5 GROW_t + \varepsilon \tag{11}$$

Analysis Models for Political Stability and Value Relevance

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 (Pol \times GP_t) + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 GROW_t + \varepsilon \tag{12}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 (Pol \times EBITDA_t) + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 GROW_t + \varepsilon \tag{13}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 (Pol \times EBIT_t) + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 GROW_t + \varepsilon \tag{14}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 (Pol \times NI_t) + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 GROW_t + \varepsilon \tag{15}$$

$$P_t = \alpha + \beta_1 BV_t + \beta_2 E_t + \beta_3 (Pol \times CI_t) + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 GROW_t + \varepsilon \tag{16}$$

For the above models, those factors are:

P_t = Closing price of a common stock as at March 1st in the next year of year t

P_{t1} = Closing price of a common stock as at March 16th in the next year of year t

P_{t2} = Closing price of a common stock as at April 1st in the next year of year t

P_{t3} = Closing price of a common stock as at April 16th in the next year of year t

P_{t4} = Closing price of a common stock as at April 30th in the next year of year t

BV_t = Book value per stock at the end of year t

GP_t = Gross profit per stock at the end of year t

$EBITDA_t$ = EBITDA per stock at the end of year t

$EBIT_t$ = EBIT per stock at the end of year t

NI_t = NI per stock at the end of year t

CI_t = Comprehensive income at the end of year t

REV_t = Change in revaluation surplus on assets per share for year t

SEC_t = Gains or losses on investments available for sale per share for year t

PEN_t = Gains or losses from pension plan gains for year t

HED_t = Gains or losses on derivatives held as cash flow hedges per share for year t

FCT_t = Gains or losses from foreign currency exchange translation per share for year t

OTH_t = Other components of comprehensive income per share for year t

E_t = Accounting profit (for all five types) per share for year t

Pol = Political stability which equals to 0 as t is between year 2011 – 2013, otherwise equal to 1

$SIZE_t$ = Natural logarithm of total asset of the firm for year t

LEV_t = DE ratio for year t

$GROW_t$ = Market value divided by firm book value for year t

ε = Error term

Results and Discussion

This study analyzed descriptive data of each studied variable as demonstrated in Table 2.

Table 2 Descriptive information of the studied variables

Variables	N	Mean	Median	S.D.	Min	Max
Pt	3,311	35.105	7.900	130.908	0.020	3,100.000
Pt1	3,304	33.983	7.850	127.291	0.020	3,840.000
Pt2	3,264	32.151	7.750	113.793	0.010	3,300.000
Pt3	3,271	32.547	7.800	122.126	0.020	3,690.000
Pt4	3,319	34.355	7.950	123.790	0.010	3,392.000
BV_t	3,311	19.018	4.364	54.062	-1.508	1,089.446
GP_t	2,922	4.779	1.234	11.693	-5.165	140.107
$EBITDA_t$	3,311	3.902	0.903	11.773	-17.845	239.364
$EBIT_t$	3,311	2.857	0.596	9.731	-17.845	223.618
NI_t	3,311	2.117	0.412	7.722	-17.649	189.701
CI_t	3,311	2.287	0.412	8.758	-19.416	195.257
REV_t	3,311	0.068	0.000	0.920	-7.268	25.867
SEC_t	3,311	0.112	0.000	3.029	-54.160	75.207
PEN_t	3,311	-0.008	0.000	0.143	-5.801	1.274
HED_t	3,311	0.001	0.000	0.061	-1.409	2.213
FCT_t	3,311	-0.012	0.000	0.591	-12.068	13.281
OTH_t	3,311	0.009	0.000	1.892	-24.526	101.161
$SIZE_t$	3,311	22.695	22.381	1.684	18.113	28.790
LEV_t	3,311	1.707	0.899	5.249	-18.664	196.216
$GROW_t$	3,311	2.335	1.479	6.935	-13.614	362.310

Results showed that BV_t had an average of 19.018 baht and accounting profit per share of all five types had an average between 2.117 - 4.779 baht with NI_t having the lowest average (see Table 2). CI_t had a higher average than NI_t. It was likely that the sum of OCI was positive. Each OCI had a positive mean except for PEN_t and HED_t, which showed negative means. For the control variables ($SIZE_t$, LEV_t, and $GROW_t$), their means showed positive values as 22.695, 1.707, and 2.335 baht, respectively. The average stock price ($P_t – P_{t4}$) was between 32.151 - 35.105 baht. The lowest value was 0.01 and the highest price was 3,840 baht.

Results also demonstrated Pearson's correlation analysis to observe a multicollinearity problem as Table 3 and Table 4.

Table 3 Correlation analysis of the original variables in the model (1) - (5)

	BV_t	GP_t	$EBITDA_t$	$EBIT_t$	NI_t	CI_t	$SIZE_t$	LEV_t	$GROW_t$
BV_t	1								
GP_t	0.810**	1							
$EBITDA_t$	0.870**	0.865**	1						
$EBIT_t$	0.842**	0.799**	0.979**	1					
NI_t	0.837**	0.757**	0.960**	0.993**	1				
CI_t	0.827**	0.725**	0.890**	0.921**	0.926**	1			
$SIZE_t$	0.209**	0.205**	0.260**	0.243**	0.221**	0.204**	1		
LEV_t	-0.012	-0.028	-0.001	0.007	0.004	0.003	0.147**	1	
$GROW_t$	-0.029	0.007	0.003	0.004	0.005	0.004	-0.020	0.724**	1

*p<0.05, **p<0.01

Table 4 Correlation analysis between the original variables in the model (6)

	BV_t	NI_t	REV_t	SEC_t	PEN_t	HED_t	FCT_t	OTH_t	$SIZE_t$	LEV_t	$GROW_t$
BV_t	1										
NI_t	0.837**	1									
REV_t	0.102**	0.023	1								
SEC_t	0.167**	0.081**	-0.004	1							
PEN_t	-0.189**	-0.078**	-0.011	0.021	1						
HED_t	0.049**	0.098**	-0.024	-0.099**	0.008	1					
FCT_t	-0.053**	-0.094**	0.011	-0.002	0.046**	0.053**	1				
OTH_t	0.125**	0.097**	-0.036*	-0.246**	0.008	0.035*	0.009	1			
$SIZE_t$	0.209**	0.221**	0.007	0.031	-0.052**	0.024	-0.025	-0.002	1		
LEV_t	-0.012	0.004	0.005	-0.002	-0.005	0.017	0.0003	-0.002	0.147**	1	
$GROW_t$	-0.029	0.005	-0.014	-0.002	0.001	0.006	-0.0002	0.006	-0.020	0.724**	1

*p<0.05, **p<0.01

Each type of accounting profit in the model (1) - (5) had a significant correlation between 0.725 - 0.993 at the significance level of 0.01 which was why each type of accounting profit had to be separated in each model. In addition, the correlation between BV_t and the five types of accounting profit was high, with a range of 0.810 - 0.870 at the significance level of 0.01, so that this study omited BV_t from every model. The other correlations among variables did not exceed 0.8, thus there was no the problem in multicollinearity (Berry & Feldman, 1985).

Regression analysis was performed to observe effects of each type of accounting profit on the stock price by comparing standardized coefficients of all five types of accounting profit in defferent models and the standardized coefficients of OCI elements within the same model. The study also compared Adjusted R^2, which shows the ability to describe the stock price from the regression model, and then ranks the statistical values of accounting profit in each type from rank 1, which has the most effect or explanation on the stock price, to rank 5, which had the lowest effect or explanation. The following analysis discusses the regression results in four parts; value relevance of overall accounting profit, valve relevance by industry, time lag and value relevance, and political stability and value relevance.

Regression Analysis for Overall Valve Relevance of The Accounting Profit

All five types of accounting profit positively affected firm value at a 0.01 signifciant level (Table 5), so this study accepted hypotheses H_1 to H_5. NI_t showed the highest effect, 14.677; which was the most relevant to firm value followed by $EBIT_t$, $EBITDA_t$, and GP_t; which were 13.002, 11.589, 9.371, and 7.715 respectively. When observing Adjusted R^2; CI_t was the best explanation of the stock price at 75.6% followed by NI_t, $EBIT_t$, $EBITDA_t$, and GP_t which were 74.3%, 72.9%, 69.2% and 47.5% respectively.

Table 5 Regression analysis of overall five types of accounting profit

	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
	GP_t	$EBITDA_t$	$EBIT_t$	NI_t	CI_t
E_t	7.715**	9.371**	11.589**	14.677**	13.002**
	(49.938)	(84.111)	(92.220)	(95.759)	(99.096)
$SIZE_t$	-0.660	-4.218**	-3.246**	-1.879**	-0.699
	(-0.555)	(-5.263)	(-4.345)	(-2.599)	(-0.995)
LEV_t	-1.817**	-0.880*	-1.276**	-1.261**	-1.392**
	(-3.37)	(-2.447)	(-3.789)	(-3.849)	(-4.358)
$GROW_t$	1.554**	1.107**	1.304**	1.281**	1.384**
	(4.059)	(4.114)	(5.174)	(5.222)	(5.791)
N	2,922	3,311	3,311	3,311	3,311
F-statistic	660.679**	1,857.603**	2,227.313**	2,399.344**	2,567.481**
Adj. R^2	0.475	0.692	0.729	0.743	0.756
Coeff. Rank	5	4	3	1	2
Adj. R^2 Rank	5	4	3	2	1

*$p<0.05$, **$p<0.01$

Table 6 Regression analysis of overall OCI components

Independent	Model (6)		
Variables	Std. Coeff.	Absolute Value of Std. Coeff.	Std. Coeff. Rank
NI_t	0.833**	0.833	-
REV_t	0.006	0.006	Not Sig.
SEC_t	0.159**	0.159	1
PEN_t	-0.011	0.011	Not Sig.
HED_t	0.023**	0.023	3
FCT_t	0.025**	0.025	2
OTH_t	0.189**	0.189	-
$SIZE_t$	-0.022**	0.022	-
LEV_t	-0.050**	0.050	-
$GROW_t$	0.067**	0.067	-
N		3,311	
F-statistic		1,241.150**	
Adjusted R^2		0.789	

*$p<0.05$, **$p<0.01$

For the components of OCI (Table 6), there were only some items that had a relationship with the stock price. Thus, the result rejects H_6. There were three items that had relevance to the stock price (SEC_t, FCT_t, and HED_t). They had effects as 0.159, 0.025, and 0.023 respectively.

Regression Analysis for Valve Relevance by Industry

All five types of accounting profit which separated by industry had positively affected stock price at a 0.01 signifciant level (Table 7), so this study accepted H_7. NI_t had the most value relevance in 6 out of 8 industry groups; for PROPCON and RESOURC demonstrated CI_t having the most value relevance. For the analysis in each component of OCI; PEN_t had the most value relevance, mostly in a negative way, for 4 out of 6 industry groups. SEC_t had value relevance, mostly in a positive way, for 4 out of 8 industry groups.

Table 7 Comparative impact of five accounting profit types and each OCI components on stock price as overall and by industry

Industry	OVERALL		AGRO		CONSUMP		FINCIAL		INDUS		PROPCON		RESOURC		SERVICE		TECH	
Stats	B	R	B	R	B	R	B	R	B	R	B	R	B	R	B	R	B	R
GP_t	7.715	5	4.679	5	2.046	5	NA	-	4.038	5	6.1	5	3.837	4	17.374	4	4.897	5
$EBITDA_t$	9.371	4	8.077	3	3.437	4	10.26	3	4.697	4	7.039	4	3.767	5	15.656	5	6.104	4
$EBIT_t$	11.589	3	8.947	2	5.243	3	10.372	2	5.542	3	9.147	3	4.964	3	17.468	3	8.857	3
NI_t	14.677	1	10.428	1	6.219	1	13.022	1	6.369	1	11.237	2	7.116	2	21.008	1	10.734	1
CI_t	13.002	2	7.764	4	5.43	2	9.472	4	6.32	2	11.595	1	7.172	1	17.531	2	10.663	2
REV_t	0.006	-	-0.019	-	0.166	1	-0.008	-	-0.03	-	0.022	-	-0.003	-	-0.007	-	0.012	-
SEC_t	0.159	1	-0.077	-	0.072	-	0.28	1	0.014	-	0.035	3	-0.035	4	0.171	1	0.012	-
PEN_t	-0.011	-	-0.029	-	0.146	2	0.012	-	-0.289	1	-0.087	1	-0.113	1	-0.036	2	0.039	1
HED_t	0.023	3	0.0893	1	NA	-	0.099	2	-0.013	-	0.012	-	0.063	2	-0.013	-	NA	-
FCT_t	0.025	2	-0.0888	0.02	0.004	-	-0.02	-	-0.085	2	0.041	3	-0.0004		-0.009	-		

Note: B = Unstandardized coefficient, B= Beta = Standardized coefficient, R= Rank, NA = Not applicable

In addition, the analysis (Table 8) showed that all models described the stock price statistically at a 0.01 significance level in all industry segments. These results were consistent with the overall results of the study. Results shown that the $EBITDA_t$ model was the most capable of explaining stock price for 4 out of 8 industry groups, while the NI_t model could not explain stock price.

Table 8 Comparative the capable of explaining stock price in each accounting profit type as overall and by industry

Industry	OVERALL		AGRO		CONSUMP		FINCIAL		INDUS		PROPCON		RESOURC		SERVICE		TECH	
Stats	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank	Adj. R^2	Rank
GP_t	0.475	5	0.57	3	0.492	5	-	-	0.942	1	0.942	1	0.865	5	0.705	5	0.924	3
$EBITDA_t$	0.692	4	0.71	1	0.568	1	0.882	3	0.897	2	0.897	2	0.955	1	0.916	1	0.931	2
$EBIT_t$	0.729	3	0.578	2	0.552	2	0.89	1	0.888	3	0.888	3	0.948	2	0.902	2	0.933	1
NI_t	0.743	2	0.562	4	0.511	3	0.887	2	0.848	4	0.848	4	0.931	3	0.898	3	0.917	4
CI_t	0.756	1	0.461	5	0.498	4	0.799	4	0.825	5	0.825	5	0.919	4	0.891	4	0.916	5

Note: NA = Not applicable

Regression Analysis for Time Lag and Value Relevance

The analysis showed (Table 9) that, for both balance and imbalance samples, all five types of accounting profit positively affected the stock price in time scheme as 0.01 significance level so $H_8 - H_{12}$ are accepted.

Table 9 Regression analysis of accounting profit and stock price (Baht) in each time scheme

Stock Price	GP_t		$EBITDA_t$		$EBIT_t$		NI_t		CI_t	
Imbalanced data case										
Stats	B	Rank	B	Rank	B	Rank	B	Rank	B	Rank
P_t	7.715	1	9.371	1	11.589	1	14.677	1	13.002	1
P_t1	7.302	2	9.142	2	11.406	2	14.615	2	12.924	2
P_t2	6.99	5	8.568	5	10.777	5	13.789	5	12.316	5
P_t3	7.196	3	8.972	3	11.263	3	14.381	3	12.68	3
P_t4	7.175	4	8.724	4	10.952	4	13.947	4	12.594	4
Balanced data case										
Stats	B	Rank	B	Rank	B	Rank	B	Rank	B	Rank
P_t	6.615	5	8.022	5	9.983	5	12.789	5	11.581	5
P_t1	6.886	1	8.554	1	10.700	1	13.772	1	12.126	1
P_t2	6.724	3	8.181	3	10.195	3	13.084	3	11.765	3
P_t3	6.848	2	8.43	2	10.524	2	13.542	2	11.977	2
P_t4	6.626	4	8.084	4	10.126	4	13.012	4	11.727	4

*Note. B = Unstandardized coeffient

For the imbalance analysis, all five types of accounting profit were relevant to the firm's value on March 1st (7.715 – 14.677 Baht) followed by March 16th (7.302 – 14.615 Baht). For the balance analysis, all five types of accounting profit were relevant to the firm's value on March 16th (6.886 – 13.772 Baht) followed by April 16th (6.848 – 13.542 Baht); while the date on which the profits were the least relevant to the firm's value was March 1st (6.615 – 12.789 Baht), contradicting the results from the imbalance analysis. Therefore, this study shows that, in all aspects, the five types of accounting profit were mostly relevant to the firm's value on March 16th.

Regression Analysis for Political Stability and Value Relevance

Regression analysis (Table 10) for the accounting profit analysis models (GP_t, $EBITDA_t$, $EBIT_t$, NI_t, and CI_t) and political stability (Pol x E_t) positively affected firm value as 3.513, 4.451, 6.005, 6.685, and 5.238, so the study accepts H9 that political stability contributes positively to the relationship between accounting profit and stock price. The

analysis models also demonstrated higher Adjusted R^2 implicated in higher ability to explain the stock price or value relevance.

Table 10 Regression analysis of value relevance and political stability

	Model (12)	Model (13)	Model (14)	Model (15)	Model (16)
	GP_t	$EBITDA_t$	$EBIT_t$	NI_t	CI_t
E_t	5.561**	6.664**	8.009**	10.415**	9.494**
	(24.382)	(42.414)	(46.952)	(46.157)	(46.064)
$(Pol \times E_t)$	3.513**	4.451**	6.005**	6.685**	5.238**
	(12.562)	(22.903)	(28.018)	(24.224)	(21.218)
$SIZE_t$	-1.151	-4.798**	-3.774**	-2.139**	-0.647
	(-0.994)	(-6.440)	(-5.616)	(-3.209)	(-0.982)
LEV_t	-1.748**	-0.696*	-1.083**	-1.124**	-1.305**
	(-3.327)	(-2.083)	(-3.577)	(-3.721)	(-4.354)
$GROW_t$	1.492**	0.988**	1.186**	1.198**	1.325**
	(4.000)	(3.952)	(5.233)	(5.301)	(5.908)
N	2,922	3,311	3,311	3,311	3,311
F-statistic	588.519**	1,826.323**	2,361.431**	2,376.952**	2,423.103**
Adj R^2	0.501	0.734	0.781	0.782	0.785
Compared Models	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)
Adj R^2	0.475	0.692	0.729	0.743	0.756

*p<0.05, **p<0.01

Some control variables in the analysis models were statistically significant. Firm size ($SIZE_t$) showed both positive and negative effects on stock price. Financial risk (LEV_t) negatively affected stock price, while firm growth ($GROW_t$) positively affected stock price. These results are consistent with the past research of Wakil (2020), Long et al. (2014), Riyath & Jahfer (2018) and Acaranupong (2017).

Findings

Our findings suggest that net income has the most value relevance. This result is consistent with Dechow & Schrand (2004). As net income is the bottom-line profit which represents the net operation of a firm, investors tend to focus more on it while OCI is viewed as the temporary performance of a firm. Comprehensive income (CI), which includes all economic value transactions of an entity, has the next most value relevance. In addition, CI has the most explanatory factor for stock price. EBITDA was found to have the most value relevance among each industry segments (4 out of 8 segments). EBITDA is less likely to be

manipulated from management and firm's policy more than net income so investors have high confidence in the information and can utilize this information to forecast stock price effectively (Misund et al., 2015). The results of this study show that three out of the five components of OCI affect the stock price. Firm's value is relevant to OCI component, it was gains or losses on investments available for sale which followed by gains or losses from foreign currency exchange translation and gains or losses on derivatives held as cash flow hedges, respectively. All components have positively affected to the stock price. These results are consistent with Günther (2015).

As the value relevance and time lag study, the accouting profit demonstrates value relevance over five-time schemes (from March 1st to April 30th). The results of this study imply that investors are able to use accounting profit information for investment decisions during the related periods. In addition, the results show that the accounting profit on March 16th had the most value relevance which is in line with Beaver (1968). For the study of political stability and value relevance, this analysis reports that political stability (the post-coup political stability of 2014) positively contributed to value relevance of all types of the accounting profit because the coup solved the ongoing political turmoil giving rise to the recovery of a domestic capital market (Prasirtsuk, 2015) and political stability. This event decreased the volatility of the stock market and investors resumed their investment so that the accounting profit can be more beneficial for investment decisions.

Conclusion and Discussion

This study sought to compare the value relevance of six types of accounting profit. These included gross profit (GP), earnings before interest, taxes, depreciation, and amortization (EBITDA), earnings before interest and taxes (EBIT), net income (NI), and comprehensive income (CI) Including further study of the components of other comprehensive income (OCI). The study observed data from companies listed on the Stock Exchange of Thailand (SET) in all industry groups during from 2011 to 2018. The study analyzed value relevance in four aspects. The overall accounting profit positively affected stock price which had NI as the most value relevance followed by CI. This was in line with the study of value relevance by industry, net income is the most value relevance in almost all industry groups, except for Property and Construction group and Resources group. The results shown that CI was the most value relevance. For the components of OCI, the overall results show that gains or losses on investments available for sale, gains or losses from foreign currency exchange translation, and gains or losses on derivatives held as cash flow hedges were the only three components having positive value relevance; while, as analyzing in each industry, the change in revaluation surplus on assets was the most and negative value relevance in six industry groups.Results from the study of time lag and value relevance show that the accounting profit positively affected stock price in all five-time schemes from

March 1st – April 30th with March 16th having the most value relevance. In addition, political stability positively contributed to the value relevance of the accounting profit.

The results of this study benefit the literature on relevant value by additing an interaction factors such as political stability so that both academics and managers can have more understanding about value relvance of the accounting profit. Investors can also use this financial information for making effective decisions. This study illustrates the relevance of political instability in Thailand and how it will not affect investors' decisions on the accounting profits. As a result, findings are in line with previous studies on more stable environments than Thailand.

Although this research clearly provides support of the accounting profit in value relevance, it has some limitations. This study does not collect data from firms which had different normal calendar accounting periods. Although the number of such firms is not more than the firms having normal calendar accounting periods, the results may have had some different implications if the study had added these firms. In addition, for the analysis of time lag and value relevance, if the study had analyzed stock price each day, the results may have provided different insight implication to future literatures. Future research could expand to other factors affecting value relevance such as culture and behavior of each market as well as economic factors. The value relevance of various in financial information can be added to the completion and added value to academic and practical implication.

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