

# International Financial Reporting Standards Convergence and Value Relevance of Accounting Information: Evidence from ASEAN

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## ABSTRACT

**Manuscript type:** Research paper

**Research aims:** This study aims to examine and compare the value relevance of accounting information of companies listed on the stock exchanges in Indonesia, Malaysia, the Philippines, Singapore, and Thailand, after the International Financial Reporting Standards (IFRS) adoption period.

**Design/Methodology/Approach:** This study utilised a regression model as the primary method of analysis. The regression model was adopted from Ohlson (1995) and Feltham and Ohlson (1995). Value relevance was measured in terms of the relationship between accounting information and stock price. The high trading volume and large market capitalisation listed companies of five member countries in the Association of Southeast Asian Nations (ASEAN) were used as samples for the study.

**Research findings:** The main results demonstrate that earnings are value relevant information in four countries (Indonesia, Malaysia, the Philippines, and Thailand). However, the book value of equity is value relevant information for only three countries (Indonesia, Singapore, and Thailand). Contradicting findings are obtained because of the high correlation between earnings and book value of equity. The results of the comparative value relevance of earnings

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and book value of equity indicate that the value relevance of earnings in Malaysia is more than that of Thailand, while the value relevance of earnings in the Philippines and Singapore is less than that of Thailand. However, the value relevance of earnings in Indonesia is not different from Thailand. In addition, the value relevance of book value of equity in Indonesia, the Philippines, and Singapore is more than that of Thailand, while the value relevance of book value of equity in Malaysia is not different from that of Thailand.

**Theoretical contribution/Originality:** The findings contribute to the accounting theory and literature by indicating that the IFRS adoption enhances the value relevance of accounting information, especially in ASEAN countries.

**Practitioner/Policy implication:** The results provide policy directions to the accounting standard setting bodies of five countries in ASEAN for further improvement in their local accounting standards.

**Research limitation/Implication:** The accounting information quality in this research was measured only in terms of value relevance. In addition, the study considers the high market capitalisation firms in only five countries, which limit the generalisation of the results to other countries.

**Keywords:** ASEAN, International Financial Reporting Standards, Value Relevance

**JEL Classification:** M41, G14

## 1. Introduction

In the past few years, the Association of Southeast Asian Nations (ASEAN) member countries have adopted the International Financial Reporting Standards (IFRS) to increase transparency and accounting information quality (Daske et al., 2008). IFRS relies on a principle-based approach that allows for flexibility to render the global acceptance of accounting standards (Carmona & Trombetta, 2008). Based on previous studies, the application of IFRS on domestic accounting standards of member countries in ASEAN has increased in the past ten years (Chebaane & Othman, 2014; Hla & Isa, 2015). Nevertheless, the level of International Accounting Standards (IAS) and IFRS adoption is different among these member countries (Ding et al., 2007). The adoption of IFRS enhances the qualitative characteristics of financial reporting, especially for value relevance (Bartov et al., 2005; Barth et al., 2008; Daske et al., 2008). However, there were some contrasting findings from previous studies which indicated that the overall value relevance of accounting

information has decreased after IFRS adoption (Sun & Sari, 2016; Fuad et al., 2017; Ki et al., 2019). Previous studies show no consensus on the impact of IFRS adoption on value relevance. Most previous works on the impact of IFRS adoption on value relevance of accounting information were analysed by using developed countries, and these findings cannot be generalised or applied on developing countries such as those in ASEAN (Kaushalya & Kehelwalatenna, 2020). To the best of my knowledge, most previous studies investigated and compared the value relevance of accounting information in developed stock markets. This study aims to fulfill this important gap in the related literature by providing more evidence of comparative value relevance regarding the emerging stock markets in developing countries under ASEAN. This research focuses on the value relevance of accounting information after the IFRS convergence in ASEAN, since the evidence on this effect is scarce, and the question on whether the adoption of IFRS increases the value relevance of accounting information remains to be unanswered.

Therefore, the main objective of this study is to examine and compare the value relevance of accounting information (especially for earnings and book values) of five member countries in ASEAN (i.e., Indonesia, Malaysia, the Philippines, Singapore, and Thailand) after the adoption of IFRS. This research points out three main aspects. Firstly, the rapid growth of Asia's capital markets in terms of market capitalisation in the 2000s (Eng et al., 2013) provide 'attractiveness' from local and foreign investors in these stock markets. Secondly, the differences in the business environment of these five countries such as legal systems, economic development, and cultural values might generate differences in the value relevance of accounting information (Davis-Friday et al., 2006; Kane et al., 2015; Houque et al., 2016). Lastly, the levels of IFRS adoption vary among the five countries considered (Ding et al., 2007; Bae et al., 2008; Limijaya, 2017), and the inter-country differences in accounting practices remain even after IFRS adoption (Soderstrom & Sun, 2007; Ahmed & Ali, 2015), which raises the opportunity to compare the value relevance of accounting information in these ASEAN countries. This study contributes to the accounting standard setting bodies in these countries, allowing for further improvement in their local accounting standards.

The structure of this paper is as follows. Section 2 reviews the related literature. The research methodology is presented in Section 3. Section 4 provides the empirical results. Lastly, Section 5 explains the conclusion and highlights some implications for future work.

## 2. Literature Review

### 2.1 *Related Theories and Concepts*

#### 2.1.1 *Valuation Theory*

Value relevance studies are linked to the valuation theory (Holthausen & Watts, 2001). The valuation theory indicates that the value of a company's equity is the present value of all future dividends or a free cash flow to equity (FCF). Ohlson (1995) and Feltham and Ohlson (1995) showed that equity value is today's value of net financial assets plus the present value of all future free cash flow from operating activities. In addition, the dividend and cash flow model can be written solely as a function of accounting variables, under the condition the clean surplus relations are held. Therefore, the value of a company's equity is equal to the book value of equity plus discounted value of future residual income. Holthausen and Watts (2001) summarised the two different valuation theories related to value relevance studies: the direct valuation theory and the input-to-equity valuation theory. Under the direct valuation theory, accounting earnings or book value of equity is intended to either measure or be highly associated with the equity's market value. Under the input-to-equity valuation theory, the role of accounting is to provide information as inputs to valuation models that investors utilised for accounting information in valuing firms' equity.

#### 2.1.2 *Efficient Market Hypothesis (EMH) and Testing of Efficiency of ASEAN Stock Markets*

Market efficiency is a significant concern in capital market studies. Aboody et al. (2002) analysed how market inefficiencies affect the conclusions drawn from value relevance studies. Most of these studies assume market efficiency (Holthausen & Watts, 2001). In addition, the efficient market hypothesis (EMH) is important when testing estimated coefficients on accounting variables, to examine if they differ from theoretical benchmarks (Barth et al., 2001). Testing value relevance requires a market where investors are free to make decisions and where investors' decisions affect prices. Otherwise, even if the accounting information is of high quality and publicly available to investors, there will be no subsequent effect on stock prices (Abdel-Khalik, et al., 1999).

EMH assumes that all available information is fully reflected in stock prices at any point of time. It can be categorised into three levels (Watts & Zimmerman, 1986): weak form, semi-strong form, and strong

form. Several studies have investigated the efficiency of the ASEAN stock market. Karemera et al. (1999) found that most of the emerging markets, including the ASEAN stock markets were weak form efficient. Lim et al. (2008) examined the relation between the financial crisis and stock market efficiency of Asian countries. They showed that the crisis adversely affected the efficiency of most Asian stock markets, with Hong Kong being the most affected, followed by the Philippines, Malaysia, Singapore, Thailand, and South Korea. Nonetheless, the efficiency of these stock markets has improved after the post crisis period. Rizvi and Arshad (2014) investigated the efficiency of East Asian stock markets (Malaysia, Singapore, and South Korea), and found that these countries were weak form efficient. In addition, they also determined that the overall efficiency of these three stock markets improved over the past two decades, and their markets are efficient in their growth phases, in comparison to their preceding recession. All previous studies confirmed that the level of the market efficiency of Indonesia, Malaysia, the Philippines, Singapore, and Thailand is at least weak form (Karemera et al., 1999; Lim et al., 2008; Rizvi & Arshad, 2014).

### *2.1.3 Concept of Accounting Information and its Role on Value Relevance Studies*

Accounting information plays an important role in assessing all forms of economic entities for various stakeholders such as investors, managers, lenders, and the government. It is helpful in many businesses' decisions. It is general purpose and should be designed to serve the information needs of all types of interested parties. Accounting information should be helpful in assessing an entity's economic resources and claim against resources; and what causes changes in resources and claims. It also provides important signals to investors for making efficient investment decisions. Accounting information is useful when it contains qualitative characteristics. The International Accounting Standard Board (IASB) (2015) indicated the qualitative characteristics of useful financial reporting are composed of two main types: fundamental and enhancing qualitative characteristics. The fundamental qualitative characteristics are relevance and representative faithfulness, whereas the enhancing qualitative characteristics are comparability, verifiability, timeliness, and understandability.

Of the various characteristics, only relevance is discussed in this study. The definition of relevance is that relevant financial information is capable of making a difference in the decisions made by users (IASB,

2015, QC6). Value relevance is defined where accounting information has a predicted significant relationship with share prices, and only if the amount of reflected information is relevant to the investors in valuing the firm. In addition, it is measured reliably enough to be reflected in share prices, only if an accounting amount is relevant to a financial statement user which can be capable of making a difference to that user's decision (Francis & Schipper, 1999). Value relevance studies are designed to assess how well particular accounting amounts reflect the information used by investors for valuing a firm's equity value (Barth et al., 2001). According to the valuation theory and widely-accepted valuation models, the value relevance research attempts to operationalise the key dimensions of the conceptual framework to assess the relevance and reliability of accounting information.

## **2.2 Prior Related Studies**

### *2.2.1 Effect of IFRS Adoption on Value Relevance of Accounting Information*

Many previous studies have found that accounting information is value relevant (e.g., Collins et al., 1997; Francis & Schipper, 1999; Graham & King, 2000; Kwon, 2018). Most previous research found that the value relevance of accounting information and quality of financial reporting has been improved after the adoption of IFRS (e.g., Iatridis & Rouvolis, 2010; Kargin, 2013; Chebaane & Othman, 2014; Hla & Isa, 2015; Elbakry et al., 2017). Iatridis and Rouvolis (2010) concluded that IFRS adoption has enhanced the value relevance of accounting information measures of Greek listed firms. Kargin (2013) indicated that the value relevance of accounting information of Turkish firms has improved in the post-IFRS period (2005-2011), especially for book values, while the improvement of value relevance of earnings has not been observed. Chebaane and Othman (2014) found that the mandatory adoption of IFRS increases the level of value relevance of accounting information in UAE, Bahrain, Jordan, Kuwait, Qatar, Turkey, and South Africa. Hla and Isa (2015) summarised that the high quality of financial reporting is positively associated with IFRS compliance. Elbakry et al. (2017) showed that the value relevance of book value of equity has declined, while the value relevance of earnings has increased, both before and after IFRS adoption in Germany and the UK.

Nonetheless, there were some contrasting findings from previous research which indicated that the overall value relevance of accounting information has decreased after the adoption of IFRS (e.g., Sun & Sari,

2016; Fuad et al., 2017; Ki et al., 2019). Sun and Sari (2016) showed that the relative value relevance of earnings has increased, but not book values, in Indonesia. In addition, they also indicated that the overall value relevance of accounting information has decreased. Consistent with Sun and Sari (2016), Fuad et al. (2017) also studied the effect of the conservatism level and IFRS adoption on the value relevance of earnings and book values in Indonesia. They found that the adoption of IFRS increases the value relevance of earnings, but it decreases the value relevance of book value of firms with a medium level of conservatism. Ki et al. (2019) showed that the value relevance of accounting information of Korean listed firms has decreased after IFRS adoption.

According to the previous studies discussed above, there is no clear direction on whether the adoption of IFRS will increase value relevance of accounting information. Moreover, little evidence on the value relevance of accounting information after IFRS adoption is available in the context of ASEAN. Therefore, this study aims to investigate and compare the value relevance of accounting information in this particular region.

### *2.2.2 Other Factors Affecting the Value Relevance of Accounting Information*

Many factors, besides IFRS adoption level, have affected the value relevance of accounting information. They can be classified into two main types: firm-specific factors (e.g., firm's size, leverage and growth) and country level factors (e.g., legal systems, economic development and cultural values). Collins et al. (1997) investigated the value relevance of earnings and book values over forty years, and factors affecting the value relevance for the listed companies on NYSE, AMEX, and NASDAQ. They found that the shift from earnings to book values can be explained by the changes in average firm's size. Charitou et al. (2001) investigated the usefulness of cash flows and earnings in explaining the security returns of the listed companies in the UK. They showed that the value relevance of earnings is related to firm growth and size. Habib and Azim (2008) examined the relationship between corporate governance and the value relevance of accounting information in Australia. They also studied the determinants of value relevance of accounting information. They concluded that the value relevance of earnings is affected by firm-specific economic factors, which include firm size (measured by the logarithm of total market value of equity), leverage (measured by the ratio of short term debt + long term debt/total assets) and growth (measured by the ratio of market value of equity to book value of equity). Nayeri et al.

(2012) also studied the factors affecting the value relevance of accounting information in the Tehran Stock Exchange. They found that firm's size and leverage are important factors in determining the value relevance of accounting information. Moreover, Chukwu et al. (2019) also analysed the effects of firms-specific attributes on the value relevance of accounting information. Consistent with Nayeri et al. (2012), they also summarised that firm's size and leverage affect the value relevance of accounting information. Ertugrul (2021) examined whether leverage affects the value relevance of accounting information of listed companies in Turkey. They concluded that the value relevance of both earnings and book values is affected significantly by the leverage of a firm.

In addition, country-level factors, such as external environment have an impact on the value relevance of accounting such as legal systems (e.g., Chebaane & Othman, 2014; Mazzioni & Klann, 2018), the economic development or recession (Davis-Friday et al., 2006; Kane et al, 2015; Mazzioni & Klann, 2018), and cultural values (e.g., Nabar & Boonlert-U-Thai, 2007; Houqe, et al., 2016). The value relevance of earnings and book values are affected by financial crises. Davis-Friday et al. (2006) found that the value relevance of earnings in Indonesia and Thailand has decreased significantly, whereas the value relevance of book values of these two countries has increased during the financial crisis. The value relevance of earnings and book values in Malaysia has decreased during recession periods. Chebaane and Othman (2014) indicated that the value relevance of earnings and book values is great that in countries with common law systems, such as in Africa and Asia. Mazzioni and Klann (2018) concluded that countries with low tax burdens, stronger legal environment, greater economic and financial development index, common law origin, and high degree of internationalisation indicate higher and significant differences in the ranking of the quality of accounting information. Furthermore, the cultural values also impact IFRS adoption on accounting information quality (Nabar & Boonlert-U-Thai, 2007; Houqe, et al., 2016). Nabar and Boonlert-U-Thai (2007) found that earnings management is relatively high in countries with high uncertainty avoidance and relatively low in countries wherein English is a primary language. Houqe et al. (2016) found that a higher level of secrecy affects the lower level of earnings quality. The effect of mandatory adoption of IFRS on earnings quality is stronger for high level of secrecy countries. Based on previous studies, both firm-specific factors, which are composed of firm size, leverage, and growth (e.g. Collins et al, 1997; Charitou, et al., 2001; Habib & Azim, 2008; Nayeri et al., 2012;

Chukwu et al., 2019; Ertugrul, 2021), and country-level factors, which are composed of legal systems, economic development and cultural values (e.g. Davis-Friday et al., 2006; Nabar & Boonlert-U-Thai, 2007; Chebaane & Othman, 2014; Houque, et al., 2016; Mazzioni & Klann, 2018), significantly affect the value relevance of accounting information. Hence, these variables were utilised as control variables in the research model.

### *2.2.3 Different Level of IFRS Adoption: Evidence from ASEAN*

Various studies have found different levels of IFRS adoption among ASEAN member countries (e.g., Ding et al., 2007; Bae et al., 2008; Limijaiya, 2017). Ding et al. (2007) investigated the difference between domestic accounting standards (DAS) and International Accounting Standards (IAS) of 30 countries. They constructed the absence scores and divergence scores, which represented the differences between DAS and IAS/IFRS. Their results showed that absence scores from IAS/IFRS are 30 for Malaysia, 29 for Thailand, 24 for the Philippines, 12 for Indonesia, and 4 for Singapore. The divergence score in the Philippines and Singapore is 14. The divergence scores in Malaysia, Indonesia, and Thailand are 13, 12, and 7 respectively. Bae et al. (2008) constructed the measure of GAAP difference across countries, which is based on a list of 21 key accounting items. The score is the measure of the accounting standard difference that theoretically ranges from 0 to 21. They found that the divergence scores of these five countries are 4 for Thailand and Indonesia, 8 for Malaysia, 10 for the Philippines and 0 for Singapore. Their results showed that all 21 key accounting items in Singapore are compatible with IAS/IFRS, whereas the most divergence from IAS/IFRS is the Philippines. Limijaya (2017) analysed the IFRS application in Indonesia accounting standards and compared this to other ASEAN members. The study has indicated that Indonesia ranks 9th out of 10 ASEAN members in terms of IFRS application. Prior evidence has shown different levels of IFRS adoption between the five countries in ASEAN, which may affect the value relevance of accounting information. This raises the opportunity to compare the value relevance of accounting information in this region, which is lacking in previous studies.

### *2.2.4 Development of Research Hypotheses*

Many previous studies have found that accounting information is value relevant (e.g. Collins et al., 1997; Francis & Schipper, 1999; Graham & King, 2000), and is based on samples from developed countries such

as the United States or the European Union. Conversely, accounting information may be less value relevant in ASEAN, because the emerging markets lack the infrastructure to enforce IFRS. IFRS developed by the IASB are primarily aimed at countries with highly developed capital markets, and it can be questioned whether these standards are appropriate for developing countries (Peng et al., 2008). In addition, the above evidence shows that there is a scarcity of works investigating the value relevance of accounting information after IFRS convergence in emerging markets such as ASEAN (e.g., Chebaane & Othman, 2014; Kwon, 2018). However, according to the valuation theory, the value of a firm is equal to book value of equity plus the discounted value of future residual income (Ohlson, 1995; Feltham & Ohlson, 1995). Therefore, accounting information acts as an important input for valuation models (Holthausen & Watts, 2001). Additionally, the ASEAN stock market was found to be the least weak form of efficiency (Karemera et al., 1999; Lim et al., 2008; Rizvi & Arshad, 2014). In line with the valuation theory and EMH combined in previous findings, this research expects that the accounting information of five countries in ASEAN (Indonesia, Malaysia, the Philippines, Singapore and Thailand) is value relevant after IFRS adoption. The first hypothesis is set as follows.

H<sub>1</sub>: The accounting information of the five member countries in ASEAN is value relevant.

Previous studies have indicated mixed evidence on the effect of IFRS adoption on value relevance of accounting information. Some of them showed that the adoption of IFRS leads to a positive effect on value relevance (Iatridis & Rouvolis, 2010; Kargin, 2013, Hla & Isa, 2015; Elbakry et al., 2017). However, contradicting findings also revealed that value relevance of accounting information has declined after IFRS adoption (Sun & Sari, 2016; Fuad et al., 2017). Moreover, the different levels of IFRS adoption provide the opportunity to examine the difference between rule-based and the principle-based methods regarding financial reporting standards. Indonesia, the Philippines, and Thailand are switching from local GAAP, which is influenced by the rule-based standards of the U.S. GAAP to IFRS, whereas Malaysia and Singapore have been influenced by the principle-based standards of the UK GAAP, prior to IFRS adoption (Rad & Embong; 2013; Mita et al., 2018). Additionally, the contradicting evidence found in prior research on value relevance could likely be due to the difference in external environments (e.g., legal systems, economic development, cultural values)

(Nabar & Boonlert-U-Thai, 2007; Chebaane & Othman, 2014; Mazzioni & Klan, 2018).

Regarding the difference in legal systems, Indonesia and Thailand are civil law countries, whereas Malaysia and Singapore are common law countries. The Philippines is a combined law country. For economic growth in the ASEAN region between 2013-2017, the level of the Gross Domestic Product of the five countries ranged from 860 billion USD to 1,050 billion USD. In addition, the cultural values are also very distinct, and can be measured by cultural scores (Hofstede et al., 2010). The highest score of power distance, masculinity, and uncertainty avoidance are found in Malaysia, the Philippines, and Thailand respectively. Singapore has the highest score of long-term orientation. This evidence confirms that there are differences in cultural values between these five member countries. In all previous studies conducted, there was no previous work that directly compared the value relevance of accounting information between the five countries in ASEAN. Based on previous findings combined with the differences in legal systems, economic development, and cultural values, the current study hypothesises that value relevance of accounting information will be different between the five member countries in ASEAN, without the prediction of direction. Therefore, the second hypothesis is set as follows.

H<sub>2</sub>: There are differences in value relevance of accounting information between the five member countries in ASEAN.

### **3. Research Methodology**

#### **3.1 Sample Selection**

This study utilised samples from listed companies from member countries of ASEAN. The samples included only the countries which had official stock exchanges, available trading stock prices, and public disclosure of financial statements and/or annual reports presented in English. The countries that met these criteria were Indonesia, Malaysia, the Philippines, Singapore, and Thailand. This study used high trading volume and large market capitalisation firms in five stock exchanges as samples. The number of top trading volume listed companies in Indonesia, Malaysia, the Philippines, Singapore, and Thailand was 80, 100, 100, 80, and 100 respectively. Moreover, this research set the sampling criteria as follows. The listed companies in Financial Industry

and Investment Trust were excluded from the samples. The main reason was that the accounting practices of these companies were considerably different from those listed in other industries. In addition, non-December year-ended firms were also excluded from the samples for controlling the effects of stock prices from external environments during different time periods. The companies should be listed in the stock exchanges covering the years 2013-2017. The year 2013 was selected as the beginning period of the study, because the domestic accounting standards of the five member countries in ASEAN were converged with IFRS with minor exception in that year. The ending period of the study was the year 2017, due to the changes in significant local accounting standards in three member countries in 2018. Indonesia, Malaysia, and Singapore revised their domestic accounting standards on important topics such as financial instruments, revenue from contracts with customers, and financial reporting conceptual framework, which become effective for the annual period beginning on or after 1 January 2018. All top listed companies were obtained by the announcements of each official stock exchange in five countries, in the second half of 2017. The total number of samples is summarised in Table 1.

As indicated in Table 1, the total number of final samples was 1,162 firms-years observations, which were composed of 225 firms-years in Indonesia, 199 firms-years in Malaysia, 265 firms-years in the Philippines, 169 firms-years in Singapore, and 304 firms-years in Thailand.

### ***3.2 Research Models and Data Analysis Method***

A regression model was used to analyse the data collected. The main regression model used in this research was based on Ohlson (1995), and Feltham and Ohlson (1995). The dependent variable was the stock price at the end of the third month after the fiscal year-end, because the accounting information was publicly-available within three months after the year-end. Stock price was used as the dependent variable because it reflected the cumulative information content for both surprise component and expected component of earnings, and the price model did not suffer from bias specification (Kothari & Zimmerman, 1995; Liu & Thomas, 2000). The independent variables were earnings per share (EPS) and book value of equity per share (BVE). The research models were formulated as follows.

Table 1: Number of Samples

Sample Characteristics	Indonesia	Malaysia	The Philippines	Singapore	Thailand
	No. of Firms in IDX 80	No. of Firms in FBM KLCI 100	No. of Firms in PSEI 100	No. of Firms in FTSE Mid Cap Index	No. of Firms in SET 100
No. of firms listed on the Stock Exchange	80	100	100	80	100
Less					
No. of firms in Financial Industry	(11)	(15)	(13)	(10)	(13)
Non-December years-ended firms	(1)	(19)	(5)	(14)	(8)
Incomplete financial information data (2013- 2017)	(7)	(9)	(14)	(12)	(12)
No. of firms listed on the Stock Exchange	61	57	68	44	67
No. of years in this study	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
No. of samples	305	285	340	220	335
Less					
Outlier (Error terms are more than +/-3 standard deviation)	(80)	(86)	(75)	(51)	(31)
No. of final samples	<u>225</u>	<u>199</u>	<u>265</u>	<u>169</u>	<u>304</u>

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \varepsilon_{it} \quad (1)$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 SIZE_{it} + \alpha_4 LEV_{it} + \alpha_5 GROWTH_{it} + \alpha_6 YEAR_t + \varepsilon_{it} \quad (2)$$

$$P_{it} = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 EPS_{it} + \beta_6 BVE_{it} + \beta_7 D_1 * EPS_{it} + \beta_8 D_1 * BVE_{it} + \beta_9 D_2 * EPS_{it} + \beta_{10} D_2 * BVE_{it} + \beta_{11} D_3 * EPS_{it} + \beta_{12} D_3 * BVE_{it} + \beta_{13} D_4 * EPS_{it} + \beta_{14} D_4 * BVE_{it} + \varepsilon_{it} \quad (3)$$

$$\begin{aligned}
P_{it} = & \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 EPS_{it} + \\
& \beta_6 BVE_{it} + \beta_7 D_1 * EPS_{it} + \beta_8 D_1 * BVE_{it} + \beta_9 D_2 * EPS_{it} + \\
& \beta_{10} D_2 * BVE_{it} + \beta_{11} D_3 * EPS_{it} + \beta_{12} D_3 * BVE_{it} + \\
& \beta_{13} D_4 * EPS_{it} + \beta_{14} D_4 * BVE_{it} + \beta_{15} SIZE_{it} + \beta_{16} LEV_{it} + \\
& \beta_{17} GROWTH_{it} + \beta_{18} YEAR_t + \beta_{19} LEGAL_j + \beta_{20} GDP_{jt} + \\
& \sum_{i=21}^{i=26} \beta_i CUL_j + \varepsilon_{it}
\end{aligned} \tag{4}$$

where

- $P_{it}$  = stock price of firm  $i$  at the end of the third month after fiscal year-end  $t$ ;
- $EPS_{it}$  = earnings per share of firm  $i$  year  $t$ ;
- $BVE_{it}$  = book value of equity per share of firm  $i$  year  $t$ ;
- $D_1$  = 1 if the companies are listed on the Indonesia Stock Exchange; 0 if otherwise;
- $D_2$  = 1 if the companies are listed on the Malaysia Stock Exchange; 0 if otherwise;
- $D_3$  = 1 if the companies are listed on the Philippines Stock Exchange; 0 if otherwise;
- $D_4$  = 1 if the companies are listed on the Singapore Stock Exchange; 0 if otherwise<sup>1</sup>
- $SIZE_{it}$  = size of firm  $i$  year  $t$  measured by log of total assets of firm  $i$  year  $t$ ;
- $LEV_{it}$  = leverage of firm  $i$  year  $t$  measured by total liability/total equity of firm  $i$  year  $t$ ;
- $GROWTH_{it}$  = growth of firm  $i$  year  $t$  measured by market value of equity/book value of equity of firm  $i$  year  $t$ ;
- $YEAR_t$  = year of the study  $t$ , 1 if year 2013; 2 if year 2014; 3 if year 2015; 4 if year 2016; 5 if year 2017;
- $LEGAL_j$  = legal systems of each country  $j$ ; 1 if common law country; 2 if civil law country; 3 if combined law country;
- $GDP_{jt}$  = percentage changes in annual Gross Domestic Product of country  $j$  year  $t$  (annual GDP is measured in terms of U.S. Dollar);

<sup>1</sup> The study uses four dummy variables. If all dummy variables ( $D_1, D_2, D_3, D_4$ ) are zero values, they can be indicated that the companies are listed on the Stock Exchange of Thailand.

$$\begin{aligned} CUL_j &= \text{cultural scores of each dimension from six dimensions} \\ &\text{in country } j \text{ measured by Hofstede et al. (2010);}^2 \\ \varepsilon_{it} &= \text{error term.} \end{aligned}$$

Stock price, earnings per share, and book value of equity per share in all models were deflated with stock price of firm  $i$  at the end of the third month after fiscal year-end  $t-1$ , to reduce bias coefficient estimates and heteroscedasticity problems<sup>3</sup> (Easton & Sommers, 2003). Model (2) added the firms' characteristics (size, leverage, and growth) and year of the study as the control variables. Models (1) and (2) were analysed for separate countries. In addition, the research aims to compare the value relevance of accounting information among five member countries in ASEAN after IFRS adoption. Therefore, the dummy variables were added in model (3) for separating the listed companies by each country's stock market. Model (4) included both firm-specific (size, leverage, and growth) and country-level control variables (legal systems, GDP, and cultural scores). Models (3) and (4) were analysed by pooled-sample data.

## 4. Empirical Results

### 4.1 Descriptive Statistics

#### 4.1.1 Descriptive Statistics of All Variables Separated by Country

Table 2 shows the descriptive statistics of all variables separated by country. For a feasible comparison between countries, this study converted the local currencies into U.S. Dollar. The lowest and highest mean of stock price in terms of raw data was found in Indonesia and Singapore respectively. Indonesia (Singapore) also had the lowest (highest) mean of earnings per share and book value per share in terms of raw data. The results imply that the lowest bottom line both in income statement and balance sheet were shown in Indonesia, whereas the highest ones were indicated in Singapore. In addition, the means of stock prices of current year deflated with the stock prices of previous year (P) and earnings per share deflated with previous year stock price (EPS) were similar among the five countries (1.0041 to 1.0537 for P and

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<sup>2</sup> Hofstede et al. (2010) classified the cultural values into six dimensions: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long term Orientation, and Indulgence.

<sup>3</sup> Easton and Sommers (2003) suggested a method to reduce the bias coefficient estimates and heteroscedastic regression errors due to the scale effect. They suggested that the market capitalisation should be considered as the appropriate deflator in price-level regression.

Table 2: Descriptive Statistics of All Variables Separated by Country

Variables	Mean	Standard Deviation	Maximum	Minimum
<i>Panel A: Indonesia (n=225)</i>				
Stock price (raw data) (U.S.\$)	0.4799	0.9051	5.4163	0.0056
Earnings per share (raw data) (U.S.\$)	0.0274	0.0490	0.3012	-0.0090
Book value of equity per share (raw data) (U.S.\$)	0.1677	0.2761	1.6386	0.0000
P	1.0041	0.2654	2.1036	0.4029
EPS	0.0837	0.1223	0.8478	-0.1651
BVE	0.6562	0.7909	5.0243	0.0003
Total Assets (U.S.\$)	2,503,968,702	3,471,108,365	22,094,736,397	147,439,013
SIZE	9.1745	0.4238	10.3443	8.1686
LEV	1.3156	1.5328	13.5432	0.1535
GROWTH	3.9652	9.2123	82.4444	0.1834
<i>Panel B: Malaysia (n=199)</i>				
Stock price (raw data) (U.S.\$)	2.7921	4.7160	35.9302	0.1282
Earnings per share (raw data) (U.S.\$)	0.1247	0.1754	0.9652	-0.3421
Book value of equity per share (raw data) (U.S.\$)	0.8965	0.9005	4.4796	0.0155
P	1.0537	0.2600	2.3060	0.4117
EPS	0.0690	0.0851	0.6098	-0.2235
BVE	0.7728	0.8741	8.7513	0.0106
Total Assets (U.S.\$)	3,842,641,136	4,607,316,363	22,689,781,022	52,045,408
SIZE	9.2749	0.5770	10.3558	7.7164
LEV	1.4239	1.9156	11.0125	0.0478
GROWTH	5.8764	12.7453	80.8396	0.1507
<i>Panel C: The Philippines (n=265)</i>				
Stock price (raw data) (U.S.\$)	3.3166	9.5434	64.3316	0.0078
Earnings per share (raw data) (U.S.\$)	0.1852	0.5182	3.8560	-0.0400
Book value of equity per share (raw data) (U.S.\$)	1.5402	3.5420	18.1368	0.0050

International Financial Reporting Standards Convergence and Value Relevance of  
Accounting Information: Evidence from ASEAN

Table 2: Continued

Variables	Mean	Standard Deviation	Maximum	Minimum
P	1.0449	0.3311	2.2686	0.2549
EPS	0.0859	0.1905	2.2414	-0.1987
BVE	1.0505	1.6554	14.8919	0.0142
Total Assets (U.S.\$)	4,346,580,360	5,678,931,873	27,566,484,474	416,858
SIZE	9.2019	0.7405	10.4404	5.6200
LEV	1.3261	0.9414	5.7732	0.0032
GROWTH	3.1730	6.4087	60.1157	0.0551
<i>Panel D: Singapore (n=169)</i>				
Stock Price (raw data) (U.S.\$)	6.3752	12.1834	64.0000	0.0608
Earnings per share (raw data) (U.S.\$)	0.5295	1.3207	10.0600	-0.1009
Book value of equity per share (raw data) (U.S.\$)	6.7157	13.7493	79.5730	0.0384
P	1.0050	0.1902	1.5679	0.5651
EPS	0.0632	0.0775	0.4667	-0.5537
BVE	1.0215	0.6103	3.0946	0.0110
Total Assets (U.S.\$)	13,567,291,957	19,189,292,656	82,814,000,000	198,438,849
SIZE	9.7104	0.6432	10.9181	8.2976
LEV	1.4603	2.6550	21.3700	0.0496
GROWTH	2.7101	8.3700	89.3008	0.3350
<i>Panel E: Thailand (n=304)</i>				
Stock Price (raw data) (U.S.\$)	1.4339	2.3950	15.7635	0.0120
Earnings per share (raw data) (U.S.\$)	0.0985	0.2080	1.3771	-0.2406
Book value of equity per share (raw data) (U.S.\$)	0.7887	1.6903	12.8793	0.0106
P	1.0527	0.3407	2.6429	0.3949
EPS	0.0855	0.1768	1.6186	-0.5546
BVE	0.8443	1.8505	18.1761	0.0458
Total Assets (U.S.\$)	4,221,696,590	8,528,110,339	65,772,367,619	24,303,900
SIZE	9.2139	0.6031	10.8180	7.3857
LEV	1.6233	2.6804	42.5009	0.0316
GROWTH	3.2600	3.7487	36.8705	0.0374

0.0632 to 0.0859 for EPS). The highest mean of EPS was found in the Philippines, while the lowest one was shown in Singapore. Furthermore, mean of book value of equity per share deflated with stock price of previous year (BVE) was lowest in Indonesia, whilst the highest one was shown in the Philippines. The control variables used in this study were size, leverage, growth, and year of the study. Singapore had the highest mean of total assets, while the least one was presented in Indonesia. The mean of leverage for all five member countries in ASEAN were similar (1.3156 to 1.6233). They were more than one for all countries, indicating that listed companies in all five member countries used external financing more than internal financing. The highest mean of growth was found in Malaysia, while the least one was shown in Singapore.

#### 4.1.2 Descriptive Statistics of All Variables for Pooled-Sample Data

Table 3 summarises the descriptive statistics of all variables for pooled-sample data (1,162 firms-years). The result indicated that the mean of stock price (presented in raw data) (dependent variable in all models) was U.S.\$2.6298. The maximum stock price was from the listed companies in the Philippines, and the minimum one was from the listed

Table 3: Descriptive Statistics of All Variables for Pooled-Sample Data

Variables	Mean	Standard Deviation	Maximum	Minimum
Stock Price (raw data) (U.S.\$)	2.6298	7.1457	64.3316	0.0056
Earnings per share (raw data) (U.S.\$)	0.1717	0.5958	10.0600	-0.3421
Book value of equity per share (raw data) (U.S.\$)	1.7203	5.9630	79.5730	0.0000
P	1.0347	0.2933	2.6429	0.2549
EPS	0.0792	0.1466	2.2414	-0.5546
BVE	0.8684	1.3576	18.1761	0.0003
Total Assets (U.S.\$)	5,211,867,852	9,893,186,969	82,814,000,000	416,858
SIZE	9.2862	0.6345	10.9181	5.6200
LEV	1.4381	2.0471	42.5009	0.0032
GROWTH	3.7466	8.2639	89.3008	0.0374
GDP	4.6077	1.6000	7.0640	0.9844

companies in Indonesia (see more details in Table 2). The mean of P was more than one. It was noticed that stock price in current year was more than that of previous year, which is consistent with the findings in Table 2. The maximum EPS was found in the Philippines, while the minimum one was presented in Thailand (see more details in Table 2). In contrast, the maximum of BVE was evidenced in Thailand, whilst the minimum one was presented in Indonesia (see more details in Table 2). The mean of the total assets measured in U.S. Dollar was 5,211,867,852. The mean of leverage was more than one, which is also consistent with Table 2. The mean of growth was 3.7466, indicating that the market values of equity were approximately three times more than those of book values. Years were stated in terms of a nominal scale. The number of samples in each year was similar.

## 4.2 Correlation Analysis

This section presents the correlation analysis for all variables separated by country and pooled-sample data.

### 4.2.1 Correlation Analysis between Variables Separated by Country

Table 4 shows the correlation between variables separated by country. The results indicated that the stock price and earnings per share were positively and significantly correlated among four countries (Indonesia, Malaysia, the Philippines, and Thailand). It can be implied that if the firm's earnings increase (decrease), the stock price of that firm will increase (decrease) in the same direction. However, this correlation was insignificantly related in the case of Singapore. Stock price and book value of equity were positively and significantly correlated across all five countries. The changes in book values and stock prices moved in the same direction. Stock price was positively and significantly related to growth in Indonesia and Thailand, while its effect on year of study was negatively significant in Malaysia. In the case of the Philippines however, positive relationship was reported. The results of this study also reported a negative relationship between stock price and size in the context of Malaysia and Thailand. High correlation between EPS and BVE was evidenced for five countries in ASEAN. Table 4 also indicates that size was positively and significantly related to BVE for Malaysia, the Philippines, Singapore and Thailand, while it was negatively related to BVE in Indonesia. Growth was negatively and

Table 4: Pearson's Correlation between Variables Separated by Country

Variables	P	EPS	BVE	SIZE	LEV	GROWTH	YEAR
<i>Panel A: Indonesia (n=225)</i>							
P	1.000						
EPS	0.242*** (0.000)	1.000					
BVE	0.158** (0.018)	0.380*** (0.000)	1.000				
SIZE	0.050 (0.452)	-0.073 (0.274)	-0.152** (0.022)	1.000			
LEV	-0.031 (0.640)	-0.063 (0.348)	-0.062 (0.356)	0.053 (0.426)	1.000		
GROWTH	0.111* (0.096)	-0.134** (0.044)	-0.236*** (0.000)	-0.031 (0.648)	0.194*** (0.004)	1.000	
YEAR	0.035 (0.600)	0.004 (0.950)	0.075 (0.262)	0.094 (0.162)	-0.025 (0.708)	0.019 (0.780)	1.000
<i>Panel B: Malaysia (n=199)</i>							
P	1.000						
EPS	0.413*** (0.000)	1.000					
BVE	0.130* (0.068)	0.426*** (0.000)	1.000				
SIZE	-0.177** (0.012)	-0.052 (0.470)	0.235*** (0.000)	1.000			
LEV	0.050 (0.486)	0.210*** (0.002)	-0.026 (0.714)	-0.004 (0.952)	1.000		
GROWTH	0.006 (0.930)	-0.120* (0.092)	-0.317*** (0.000)	-0.276*** (0.000)	0.509*** (0.000)	1.000	
YEAR	-0.182*** (0.010)	-0.177** (0.012)	-0.105 (0.138)	-0.013 (0.860)	0.022 (0.758)	0.032 (0.650)	1.000
<i>Panel C: The Philippines (n=265)</i>							
P	1.000						
EPS	0.209*** (0.000)	1.000					
BVE	0.181*** (0.004)	0.790*** (0.000)	1.000				
SIZE	-0.048 (0.440)	0.040 (0.516)	0.110* (0.074)	1.000			

Table 4: Continued

Variables	P	EPS	BVE	SIZE	LEV	GROWTH	YEAR
LEV	-0.009 (0.888)	-0.130** (0.034)	-0.084 (0.174)	0.392*** (0.000)	1.000		
GROWTH	0.065 (0.290)	-0.138** (0.024)	-0.221*** (0.000)	-0.481*** (0.000)	-0.132** (0.032)	1.000	
YEAR	0.136** (0.026)	0.041 (0.512)	0.043 (0.490)	0.093 (0.130)	0.091 (0.140)	0.028 (0.646)	1.000
<i>Panel D: Singapore (n=169)</i>							
P	1.000						
EPS	0.106 (0.172)	1.000					
BVE	0.225*** (0.004)	0.348*** (0.000)	1.000				
SIZE	-0.058 (0.450)	0.196*** (0.010)	0.259*** (0.000)	1.000			
LEV	-0.011 (0.888)	-0.139* (0.070)	-0.363*** (0.000)	0.083 (0.282)	1.000		
GROWTH	-0.062 (0.420)	-0.060 (0.442)	-0.354*** (0.000)	-0.168** (0.030)	0.762*** (0.000)	1.000	
YEAR	0.095 (0.220)	0.013 (0.866)	0.102 (0.186)	0.042 (0.586)	-0.054 (0.482)	-0.091 (0.240)	1.000
<i>Panel E: Thailand (n=304)</i>							
P	1.000						
EPS	0.280*** (0.000)	1.000					
BVE	0.102* (0.076)	0.655*** (0.000)	1.000				
SIZE	-0.112** (0.050)	0.009 (0.870)	0.260*** (0.000)	1.000			
LEV	-0.059 (0.306)	-0.150*** (0.008)	-0.056 (0.330)	0.203*** (0.000)	1.000		
GROWTH	0.201*** (0.000)	-0.180*** (0.002)	-0.249*** (0.000)	-0.225*** (0.000)	0.260*** (0.000)	1.000	
YEAR	0.081 (0.158)	-0.101* (0.080)	-0.073 (0.202)	0.100* (0.082)	-0.071 (0.216)	0.069 (0.230)	1.000

Notes: \*\*\*significant for two-tailed test at 0.01 level; \*\* significant for two-tailed test at 0.05 level; \* significant for two-tailed test at 0.10 level. The numbers in parentheses are significant values or p-values.

significantly related to BVE across all countries. Its relationship with EPS however was negatively correlated with EPS only in the cases of four countries (Indonesia, Malaysia, the Philippines and Thailand). Leverage was negatively correlated with EPS in the Philippines, Singapore and Thailand, while it was positively related to EPS in Malaysia. Its relationship with BVE was found to be negatively significant only in the case of Singapore. In addition, year of the study was negatively and significantly related to EPS in Malaysia and Thailand.

#### 4.2.2 Correlation Analysis between Variables for Pooled-Sample Data

Table 5 presents the Pearson's correlation between variables for pooled-sample data. The results indicated that stock price was positively and significantly related to earnings per share, book value of equity per share, and growth. The effect of stock price on size of firms however was negatively significant. Earnings per share and book value of equity per share were significantly correlated ( $r=0.640$ ). Four pairs of

Table 5: Pearson's Correlation between Variables for Pooled-Sample Data

Variables	P	EPS	BVE	SIZE	LEV	GROWTH	YEAR	GDP
P	1.000							
EPS	0.250*** (0.000)	1.000						
BVE	0.138*** (0.000)	0.640*** (0.000)	1.000					
SIZE	-0.080*** (0.006)	0.005 (0.862)	0.165*** (0.000)	1.000				
LEV	-0.021 (0.478)	-0.081*** (0.006)	-0.075*** (0.010)	0.136*** (0.000)	1.000			
GROWTH	0.060** (0.040)	-0.107*** (0.000)	-0.202*** (0.000)	-0.230*** (0.000)	0.330*** (0.000)	1.000		
YEAR	0.048 (0.102)	-0.035 (0.226)	-0.012 (0.680)	0.064** (0.030)	-0.025 (0.394)	0.014 (0.638)	1.000	
GDP	-0.038 (0.200)	-0.001 (0.964)	0.001 (0.984)	-0.080*** (0.006)	-0.045 (0.124)	0.042 (0.156)	0.039 (0.190)	1.000

*Notes:* Although model (4) includes the legal systems and cultural values (measured by cultural scores) as the control variables, the correlation of legal systems and cultural values were not presented here. The main reason was that the legal systems and cultural values were highly correlated with percentage change in GDP, therefore they will be cut off from model (4); \*\*\* significant for two-tailed test at 0.01 level; \*\* significant for two-tailed test at 0.05 level; \* significant for two-tailed test at 0.10 level. The numbers in parentheses are significant values or p-values.

variables, namely, earnings per share and leverage; earnings per share and growth; book value of equity and leverage; book value of equity and growth were negatively and significantly correlated; while book value of equity was positively and significantly related to size. In addition, size and leverage; leverage and growth; size and year of the study were also positively and significantly correlated. However, the relationship between size and growth was found to be in the negative direction. In addition, size and percentage changes in annual GDP also had a negative and significant relationship.

### **4.3 Regression Results**

#### *4.3.1 Regression Results of Value Relevance of Accounting Information Stratified by Country*

Table 6 presents the regression results for models (1) and (2) stratified by country. Equations 1 and 2 were used in this analysis.

Table 6 indicates that model (1) in Indonesia was statistically significant. Earnings per share (EPS) and book value per share (BVE) can explain the changes in stock prices at 5.5%. Earnings per share ( $\alpha_1$ ) were positively and significantly related to stock prices at the 0.01 level. While the coefficient of book values per share ( $\alpha_2$ ) was positive, it was insignificant related to stock prices. The control variables in model (2) did not affect the result of value relevance of earnings, but it affected the value relevance of book value of equity. Earnings per share ( $\alpha_1$ ) were still significantly and positively related to stock prices at the 0.01 level. The result suggests that earnings in Indonesia are value relevant information. However, book value of equity per share was positively and significantly related to stock price, only in model (2). Although it was significant at the 0.10 level, it can be implied that the book value of equity in Indonesia is value relevant information. In exception to growth of firms ( $\alpha_5$ ), all other control variables were insignificantly related to stock prices.

Table 6 Panel B shows that model (1) in Malaysia was statistically significant with adjusted  $R^2$  at 16.5%. The adjusted  $R^2$  in Malaysia was the highest compared to the other four countries, indicating that the value relevance of earnings and book values in Malaysia were highest compared to other countries in ASEAN. Earnings per share ( $\alpha_1$ ) were positively significant. The result implies that earnings in Malaysia are value relevant. While the coefficient of book value of equity per share ( $\alpha_2$ ) was negative, it was insignificant. For model (2), earnings per share

Table 6: Regression Results of Model (1) and (2) Stratified by Country

Variables	Model (1)			Model (2)		
	Coefficient	t	Sig.	Coefficient	t	Sig.
<i>Panel A: Indonesia (n=225)</i>						
Constant	0.948	40.541	0.000***	0.384	1.015	0.311
EPS	0.461	3.030	0.003***	0.481	3.190	0.002***
BVE	0.026	1.100	0.272	0.043	1.768	0.078*
SIZE				0.058	1.421	0.157
LEV				-0.009	-0.758	0.449
GROWTH				0.005	2.709	0.007***
YEAR				0.002	0.174	0.862
F value = 7.552 (sig. F = 0.001***)			F value = 4.075 (sig. F = 0.001***)			
Adjusted R <sup>2</sup> = 0.055			Adjusted R <sup>2</sup> = 0.076			
Durbin-Watson = 1.799			Durbin-Watson = 1.836			
<i>Panel B: Malaysia (n=199)</i>						
Constant	0.974	40.721	0.000***	1.639	5.510	0.000***
EPS	1.336	6.087	0.000***	1.243	5.306	0.000***
BVE	-0.017	-0.781	0.436	-0.003	-0.111	0.912
SIZE				-0.065	-2.050	0.042**
LEV				-0.008	-0.708	0.480
GROWTH				0.001	0.539	0.591
YEAR				-0.021	-1.727	0.086*
F value = 20.528 (sig. F = 0.000***)			F value = 8.525 (sig. F = 0.000***)			
Adjusted R <sup>2</sup> = 0.165			Adjusted R <sup>2</sup> = 0.186			
Durbin-Watson = 1.764			Durbin-Watson = 1.697			
<i>Panel C: The Philippines (n=265)</i>						
Constant	1.010	42.606	0.000***	1.090	3.629	0.000***
EPS	0.308	1.802	0.073*	0.291	1.701	0.090*
BVE	0.008	0.412	0.680	0.014	0.699	0.485
SIZE				-0.022	-0.665	0.507
LEV				0.013	0.567	0.571
GROWTH				0.004	1.159	0.247
YEAR				0.029	2.071	0.039**
F value = 6.096 (sig. F = 0.003***)			F value = 3.340 (sig. F = 0.003***)			
Adjusted R <sup>2</sup> = 0.037			Adjusted R <sup>2</sup> = 0.051			
Durbin-Watson = 1.692			Durbin-Watson = 1.672			

Table 6: Continued

Variables	Model (1)			Model (2)		
	Coefficient	t	Sig.	Coefficient	t	Sig.
<i>Panel D: Singapore (n=169)</i>						
Constant	0.932	33.017	0.000***	1.436	6.052	0.000***
EPS	0.077	0.387	0.700	0.183	0.915	0.361
BVE	0.067	2.654	0.009***	0.085	3.081	0.002***
SIZE				-0.059	-2.351	0.020**
LEV				0.019	2.059	0.041**
GROWTH				-0.004	-1.504	0.135
YEAR				0.010	0.955	0.341
F value = 4.498 (sig. F = 0.013**)			F value = 2.883 (sig. F = 0.011**)			
Adjusted R <sup>2</sup> = 0.040			Adjusted R <sup>2</sup> = 0.063			
Durbin-Watson = 1.954			Durbin-Watson = 1.985			
<i>Panel E: Thailand (n=304)</i>						
Constant	1.013	48.104	0.000***	1.083	3.488	0.001***
EPS	0.719	5.128	0.000***	0.706	5.049	0.000***
BVE	-0.026	-1.963	0.051*	-0.011	-0.818	0.414
SIZE				-0.023	-0.680	0.497
LEV				-0.007	-0.992	0.322
GROWTH				0.023	4.265	0.000***
YEAR				0.023	1.770	0.078*
F value = 14.860 (sig. F = 0.000***)			F value = 9.610 (sig. F = 0.000***)			
Adjusted R <sup>2</sup> = 0.084			Adjusted R <sup>2</sup> = 0.146			
Durbin-Watson = 1.868			Durbin-Watson = 1.851			

Notes: The regression models (1), and (2) are also analysed with raw data (not deflating forms); the results (not presented here) indicate the auto-correlation and unconstant variance of error terms. This violates the assumption of regression. Therefore, the researcher uses the stock price in previous year as denominator of stock price in current year, earnings per share and book value of equity per share as suggested by Easton and Sommers (2003), to reduce the heteroscedasticity problem. \*\*\* significant for two-tailed test at 0.01 level; \*\* significant for two-tailed test at 0.05 level; \* significant for two-tailed test at 0.10 level.

( $\alpha_1$ ) were still positive and significant, while the book value of equity per share ( $\alpha_2$ ) was still negative and insignificant. Size ( $\alpha_3$ ) and year of the study ( $\alpha_6$ ) were negatively and significantly related to stock prices. Leverage and growth of firms were insignificantly related to stock prices.

As shown by Panel C, for model (1) in the Philippines was statistically significant, similar to the other four countries. Nevertheless, the adjusted

R<sup>2</sup> of model (1) for the Philippines (adjusted R<sup>2</sup> = 3.7%) was lower than that of the other four countries. In contrast to Malaysia, the finding can be implied that value relevance of accounting information in the Philippines was lowest when compared with the other four countries. Earnings per share ( $\alpha_1$ ) were positively and significantly related to stock prices, whilst that of book value of equity per share ( $\alpha_2$ ) was positive, but it was insignificant in the Philippines. The findings indicate that earnings in the Philippines are value relevant, while book values are not. For model (2), earnings per share were still positively and significantly related to stock prices at the 0.10 level, and book value of equity per share was still insignificantly related to stock prices. However, only year of the study ( $\alpha_6$ ) was positively and significantly related to stock prices. All other control variables were not related to stock prices.

Model (1) in Singapore was also statistically significant, similar to the other four countries in ASEAN, as presented in Table 6 Panel D. The adjusted R<sup>2</sup> of model (1) in Singapore was only 4%, which was relatively lower than that of Indonesia, Malaysia, and Thailand. Interestingly, only the book value of equity per share ( $\alpha_2$ ) of listed companies on the Singapore Stock Exchange was positively and significantly related to stock prices. While earnings per share ( $\alpha_1$ ) were positively related to stock prices, they were insignificant. These findings contrast with those of the other four countries. That is, book values are value relevant, while earnings are not. The adding of control variables did not affect the results of value relevance of earnings and book values of equity. Earnings per share were still insignificant related to stock price, while the book value of equity per share was still positively and significantly related to stock price in model (2). For the control variables result, size of firms ( $\alpha_3$ ) was negatively and significantly related to stock prices, similar to Malaysia. Leverage ( $\alpha_4$ ) was positively and significantly related to stock prices. Nevertheless, all other control variables were insignificantly related to stock prices.

In the case of Thailand, this study reported a significant model (1) with the adjusted R<sup>2</sup> at 8.4%, explained by earnings per share ( $\alpha_1$ ). Book value of equity per share ( $\alpha_2$ ) was negatively and significantly related to stock prices at the 0.10 level, which contrasts with the other four countries. Book value of equity per share in Thailand was negatively related to stock prices, but it was insignificant in model (2), which was consistent with Malaysia. Earnings per share were still positively and significantly related to stock prices in model (2). Consistent with Indonesia, growth of firms ( $\alpha_5$ ) was positively and significantly related to stock prices. Similarly, the year of the study ( $\alpha_6$ ) was also positively and

significantly related to stock prices, in line with the Philippines. Other control variables, however, were not related to stock prices.

Based on the results reported in Table 6, it is suggested that earnings are value relevant in Indonesia, Malaysia, the Philippines and Thailand, while book values are value relevant in Indonesia, Singapore and Thailand. The findings tend to support  $H_1$ , where the accounting information in ASEAN is value relevant.

#### *4.3.2 Regression Results for Comparative Value Relevance of Earnings and Book Value of Equity between Five Member Countries in ASEAN*

Regression models (3) and (4) were used to test the comparative value relevance of earnings and book value of equity between the five member countries in ASEAN. The findings are shown in Table 7.

Table 7 shows the regression results of model (3) for testing the comparative value relevance of earnings and book value of equity between the five countries in ASEAN, without control variables. Overall, the model was statistically significant with an F value of 7.757 (sig. F = 0.000). All variables (EPS, BVE, interaction term between dummy variables and EPS, interaction term between dummy variables and BVE) can explain the changes in stock prices at 7.5%. If all dummy variables ( $D_1$  to  $D_4$ ) were zero values, it can be implied that the companies were listed on the Stock Exchange of Thailand. Therefore, the coefficients of EPS ( $\beta_5$ ) and BVE ( $\beta_6$ ) were used to test the value relevance of earnings and book value of equity in Thailand. The findings showed that earnings per share was positively and significantly related to stock prices, while book value of equity per share was negatively and significantly related to stock prices in Thailand. The coefficients  $\beta_7$  to  $\beta_{14}$ <sup>4</sup> were used to test whether the value relevance of earnings and book value of equity were statistically different by comparing the value relevance of accounting information of each country with that of Thailand. The coefficient of interaction term between Indonesia and EPS ( $\beta_7$ ) was insignificant, indicating that there is no difference of value relevance of earnings in Indonesia and Thailand. However, the coefficient of interaction term between Indonesia and BVE ( $\beta_8$ ) was positively significant, implying that the value relevance of book value of equity of Indonesia is more than that of Thailand. The coefficient of interaction term between Malaysia

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<sup>4</sup> The comparative value relevance of earnings and book value of equity in Models (3) and (4) was analysed by one-tailed test. Therefore, the significant values of t-test in Table 7 were divided by 2 for one-tailed test.

Table 7: Regression Results of Models (3) and (4) for Pooled-Sample Data

Variables	Model (3)			Model (4)		
	Coefficient	t	Sig.	Coefficient	t	Sig.
Constant	1.013	55.609	0.000***	1.262	9.122	0.000***
D <sub>1</sub>	-0.065	-2.065	0.039**	0.001	0.019	0.985
D <sub>2</sub>	-0.039	-1.153	0.249	0.012	0.267	0.789
D <sub>3</sub>	-0.003	-0.125	0.900	0.112	2.230	0.026**
D <sub>4</sub>	-0.081	-1.750	0.080*	-0.057	-1.204	0.229
EPS	0.719	5.928	0.000***	0.683	5.623	0.000***
BVE	-0.026	-2.269	0.023**	-0.020	-1.750	0.080*
D <sub>1</sub> *EPS	-0.258	-1.252	0.211	-0.204	-0.996	0.320
D <sub>1</sub> *BVE	0.052	1.849	0.065*	0.050	1.775	0.076*
D <sub>2</sub> *EPS	0.616	2.145	0.032**	0.676	2.350	0.019**
D <sub>2</sub> *BVE	0.010	0.346	0.730	0.023	0.840	0.401
D <sub>3</sub> *EPS	-0.411	-2.143	0.032**	-0.391	-2.051	0.041**
D <sub>3</sub> *BVE	0.034	1.667	0.096*	0.033	1.635	0.102
D <sub>4</sub> *EPS	-0.643	-1.989	0.047**	-0.589	-1.831	0.067*
D <sub>4</sub> *BVE	0.093	2.338	0.020**	0.097	2.418	0.016**
SIZE				-0.023	-1.562	0.118
LEV				-0.004	-0.799	0.425
GROWTH				0.004	3.145	0.002***
YEAR				0.015	2.477	0.013**
GDP				-0.031	-2.777	0.006***
F value = 7.757 (sig. F = 0.000***)			F value = 7.348 (Sig. F = 0.000***)			
Adjusted R <sup>2</sup> = 0.075			Adjusted R <sup>2</sup> = 0.094			
Durbin-Watson = 1.805			Durbin-Watson = 1.795			

Notes: Legal systems and cultural values are highly correlated with percentage changes in annual GDP which affect the multicollinearity problems in model (4), therefore this study cut off the legal systems and cultural values from the model (4). Stock price, EPS and BVE are also deflated with the stock price of previous year to reduce the heteroscedasticity problems which is consistent with Table 6. \*\*\* significant for two-tailed test at 0.01 level; \*\* significant for two-tailed test at 0.05 level; \* significant for two-tailed test at 0.10 level.

and EPS ( $\beta_9$ ) was positively significant. This result confirms that value relevance of earnings in Malaysia is more than that of Thailand. While the coefficient of interaction term between Malaysia and book value of equity ( $\beta_{10}$ ) was positive, it was insignificant. That is, value relevance of book value of equity of Malaysian listed companies does not differ from that of Thailand. The findings of Malaysia contrasts with those of the Philippines. The coefficient of interaction term between the Philippines

and EPS ( $\beta_{11}$ ) was negative and significant, while that of between the Philippines and BVE ( $\beta_{12}$ ) was positive and significant. The value relevance of earnings in the Philippines is less than that of Thailand, whilst the value relevance of book value of equity in the Philippines is more than that of Thailand. Similar to the case of the Philippines, the coefficient between Singapore and EPS ( $\beta_{13}$ ) was negative and significant, while that between Singapore and BVE ( $\beta_{14}$ ) was positive and significant. That is, the value relevance of earnings in Singapore is less than that of Thailand, while value relevance of book value of equity in Singapore is more than that of Thailand.

Model (4) adds both firm-specific and country-level control variables. The addition of the control variables did not affect the comparative value relevance of earnings and book value of equity of four countries in ASEAN. The findings of comparative value relevance of Indonesia, Malaysia, Singapore, and Thailand from model (4) were consistent with those from model (3). Nonetheless, the result of the Philippines in model (4) was slightly different from that from model (3). The value relevance of book value of equity in model (4) for the Philippines was indifferent from Thailand ( $\beta_{12}$  was positive, but insignificant) for two-tailed test. However, for one-tailed test (sig. =  $0.102/2=0.051$ ), the value relevance of book value of equity in the Philippines is still more than that of Thailand. This finding is contrast to that of Model (3), which shows more value relevance of book value of equity in the Philippines when compared with Thailand. However, similar to model (3), the value relevance of earnings in the Philippines is still less than that of Thailand in model (4) ( $\beta_{11}$  was negative and significant).

In sum, the value relevance of earnings in Malaysia is more than that of Thailand, while the value relevance of earnings in the Philippines and Singapore are less than that of Thailand. In addition, the value relevance of book value of equity in Indonesia, the Philippines, and Singapore are more than that of Thailand. The findings in Table 7 support  $H_2$ . It can be implied that there are differences in value relevance of accounting information between the five countries in ASEAN.

#### **4.4 Discussion of the Findings**

The main findings demonstrate that earnings are value relevant information in four countries (Indonesia, Malaysia, the Philippines, and Thailand). This result is consistent with many previous works (e.g., Collins et al., 1997; Francis & Schipper 1999; Graham & King, 2000). Book value of equity is value relevant information in Indonesia, Singapore,

and Thailand. The findings on value relevance of book value of equity are consistent with those by Ohlson (1995) and Graham & King (2000). The coefficients of accounting earnings are higher than those of book values for Indonesia, Malaysia, the Philippines, and Thailand. This result is consistent with Kwon (2018). They found that value relevance of earnings is largest among the independent variables related to firm values for Korean and Japanese groups. In contrast, only for the case of Singapore, the coefficient of book value is more than that of earnings. Malaysia has the highest combined value relevance of earnings and book values. This result concurs with that by Tsalavoutas and Dionysiou (2014), Hla and Isa (2015), and Limijaya (2017). Tsalavoutas and Dionysiou (2014) found that high IFRS compliance will have relative value relevance and valuation coefficients than those of low IFRS compliance companies. Hla and Isa (2015) also found that financial reporting quality of listed companies on Bursa Malaysia is three times larger than the results of listed companies on the Singapore Stock Exchange (SGX). In addition, they concluded that listed companies in Malaysia are implementing IFRS that are identical to IFRS formats of financial reports issued by the International Accounting Standard Board (IASB). Limijaya (2017) showed the ranking of jurisdiction based on the IFRS implementation, which indicates that Malaysia is the first rank of IFRS adoption among ten ASEAN member countries. The adoption of IFRS enhances the accounting quality (Iatridis & Rouvolis, 2010; Kargin, 2013; Tsalavoutas & Dionysiou 2014; Chebaane & Othman, 2014; Elbakry et al., 2017). The plausible reason of the highest value relevance in Malaysia is that the adoption of IFRS reinforces the accounting information quality in the country (Rad & Embong, 2014). They confirmed that financial information quality reported by listed companies on Bursa Malaysia after the adoption of IFRS period increased significantly compared with the pre-IFRS period. In addition, this finding is also consistent with that by Pirie and Smith (2008). They mentioned that current book values and current earnings each have incremental explanatory for share prices beyond other variables in Malaysia.

The result also indicated that the second rank of adjusted  $R^2$  of models (1) and (2) was shown in Thailand. The local accounting standards in Thailand are almost fully converged with IFRS, except minor differences. Thailand also uses the principles-based approach for issuing Thai Financial Reporting Standards (TFRS). Therefore, the accounting information quality has improved after the adoption of the IFRS period, which is consistent with the claim by Rad and Embong

(2013). They showed that financial information quality was enhanced after IFRS adoption in terms of the reduction of earnings management. This finding is also consistent with that by Benyasarisawat (2011). He concluded that earnings persistence and value relevance of accounting information in Thailand have improved after the IFRS adoption period.

The adjusted  $R^2$  of models (1) and (2) were similar for Indonesia, the Philippines and Singapore. These three countries had much less adjusted  $R^2$  than those of Malaysia and Thailand. The reason is that, although Singapore has full adoption of IFRS, the format of financial statements of listed companies on SGX are still in the form of U.S. GAAP or Chinese GAAP (Hla & Isa, 2015). Furthermore, Indonesia is ranked 9th of the 10 ASEAN member countries with IFRS implementation (Limijaya, 2017). The Philippines requires the use of IFRS either fully or partially for their listed companies (Deloitte, 2018). However, their adjusted  $R^2$  was still low. The research shows that the lowest adjusted  $R^2$  in models (1) and (2) was evidenced in the Philippines, consistent with the results by Wulandari and Rahman (2004). They found that the value relevance of earnings in the Philippines was lowest among their cross-country samples. In addition, the reason of low adjusted  $R^2$  in the Philippines and Singapore is due to the level of divergence from IFRS (Ding et al., 2007). Ding et al. (2007) indicated that the Philippines and Singapore have the largest divergence scores among the other samples.

In terms of the comparative value relevance of accounting information, value relevance of earnings in Malaysia is higher than that of Thailand, which is consistent with the results reported by Maharani and Siregar (2014). They summarised that value relevance of earnings in Malaysia is more than that of Indonesia and Singapore for the years of 2007, 2009, and 2010. In this study, value relevance of book values in Indonesia is more than that of Thailand, which is consistent with the results by Davis-Friday et al. (2006). They summarised that value relevance of book values in Indonesia has increased after the financial crisis periods. However, this finding is contrasting with that by Sun and Sari (2016). They concluded that full convergence of IFRS improves the value relevance of earnings, but it declines the value relevance of book values. In addition, the total value relevance in Indonesia had declined. The value relevance of book values of Singapore was also found to be more than that of Thailand. This result is consistent with Kargin (2013). His findings showed that value relevance of accounting information improved in the post IFRS period, especially for book values. Additionally, the value relevance of earnings in Thailand is more

than that of the Philippines and Singapore, which is consistent with the findings by Benyasarisawat (2011). He showed that the adoption of IFRS enhances the value relevance of accounting information and earnings persistence in Thailand.

## **5. Conclusion and Implication**

This study was motivated by the less prior evidence on the comparative accounting information in ASEAN. This study has examined and compared the value relevance of accounting information of listed companies on the stock exchanges in Indonesia, Malaysia, the Philippines, Singapore, and Thailand after the IFRS adoption period. This research utilised the regression models based on Ohlson (1995) and Feltham and Ohlson (1995). The main findings indicate that earnings are value relevant information in Indonesia, Malaysia, the Philippines, and Thailand. Book value of equity is value relevant information in Indonesia, Singapore, and Thailand. The results support the evidence that there are the differences in value relevance of accounting information between the five member countries in ASEAN.

The results in this study demonstrated the comparative value relevance of accounting information in Indonesia, Malaysia, the Philippines, Singapore, and Thailand. The different levels of IFRS adoption affect the value relevance of accounting information. The findings confirm that the adoption of IFRS enhances the accounting information quality. The important underlying implication is that government agencies, capital market regulators, the IASB, local accounting standard setting bodies, managers and accounting practitioners need to consistently improve upon the quality of financial reporting disclosure by adopting IFRS. Government agencies should support IFRS compliance into laws and regularities. The findings also suggest that investors in five stock markets utilise the accounting numbers (earnings and book values) in valuing firm equity, although the stock markets in ASEAN are found to be at the least weak form (Karemera et al., 1999; Lim et al., 2008; Rizvi & Arshad, 2014). The low value relevance of accounting information in this region compared with developed markets implies that capital market regulators should enhance the market efficiencies in ASEAN. The results yielded in this study provide evidence that IFRS can improve the accounting information quality in terms of value relevance, even in low enforcement countries and imperfect markets. The implication given to the IASB is that the

conceptual framework should focus on earnings and book values, as the current conceptual framework emphasizes only the balance sheet approach. Local accounting standard setting bodies should indicate the accounting areas that remain to be diverged from IFRS. They should make the best effort to achieve full IFRS convergence. Regarding the evidence on the value relevance of accounting information in this study, managers and accounting practitioners should provide reliable and sufficient accounting information disclosure. In addition, they should be more prudent in the use of judgment in the application of fair values accounting under IFRS.

This research investigated only the high market capitalisation listed firms in five member countries in ASEAN. The generalisation of the findings should apply only for these samples. Suggestions that merit further investigation in future work are extending the investigation to other ASEAN countries, or other emerging market regions. The different valuation models such as the return-earnings model (e.g., Easton & Harris, 1991) can also be applied in future research. Moreover, it can be extended to measure the accounting information quality in terms of representative faithfulness, timeliness of accounting information, and earnings persistence.

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