Changes in the Value Relevance of Accounting Information after TFRS (Revised 2019) Adoption: Evidence from Financial Institutions in Thailand

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ABSTRACT

This research's objectives are to examine the value relevance of accounting information (earnings, book values of equities, and other comprehensive income) and to study whether there are changes in the value relevance of accounting information after Thai Financial Reporting Standards (TFRS) (revised 2019) adoption and the direction of such changes. Two main financial reporting standards affect the accounting practices applying to the financial statements for annual reporting periods beginning on or after January 1, 2020 are TFRS 9 Financial Instruments and TFRS 16 Leases. This study uses the companies listed in banking and finance & securities sectors on the Stock Exchange of Thailand as the samples. The Ohlson's model is adjusted by adding the other comprehensive income as one more explanatory variable. The period of the study is the years 2019-2020. The main findings show that earnings and book values of equities are value relevant information while other comprehensive income is not. The value relevance of accounting information has increased after TFRS (revised 2019) adoption. The value relevance of earnings has increased while that of book values and other comprehensive income has not changed after the adoption of TFRS (revised 2019).

Keywords: Value Relevance, Accounting Information, TFRS (Revised 2019), Financial Institutions

การเปลี่ยนแปลงของความเกี่ยวข้องในการกำหนดมูลค่า
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บทคัดย่อ

  งานวิจัยนี้มีวัตถุประสงค์เพื่อตรวจสอบความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ของข้อมูลทางการบัญชี (กำไร มูลค่าตามบัญชีของส่วนของผู้ถือหุ้น และกำไรขาดทุนเบ็ดเสร็จอื่น) และศึกษาว่ามีการเปลี่ยนแปลงของความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ของข้อมูลทางการบัญชีหลังจากนำมาตรฐานการรายงานทางการเงินไทย (ปรับปรุง 2562) มาใช้หรือไม่ และมีการเปลี่ยนแปลงในทิศทางใด มาตรฐานการรายงานทางการเงิน 2 ฉบับที่สำคัญ ซึ่งส่งผลต่อวิธีปฏิบัติทางการบัญชีที่ใช้กับงบการเงินสำหรับรอบระยะเวลาบัญชีที่เริ่มในหรือหลังวันที่ 1 มกราคม พ.ศ. 2563 เป็นต้นไป คือ มาตรฐานการรายงานทางการเงิน ฉบับที่ 9 เรื่อง เครื่องมือทางการเงินและมาตรฐานการรายงานทางการเงิน ฉบับที่ 16 เรื่อง สัญญาเช่า การศึกษานี้ใช้บริษัทจดทะเบียนในหมวดธนาคาร เงินทุนและหลักทรัพย์ในตลาดหลักทรัพย์แห่งประเทศไทยเป็นกลุ่มตัวอย่าง ตัวแบบที่ใช้คือ ตัวแบบของ Ohlson โดยมีการเพิ่มตัวแปรกำไรขาดทุนเบ็ดเสร็จอื่นเป็นตัวแปรอธิบายในสมการ ระยะเวลาที่ศึกษา คือ พ.ศ. 2562-2563 ผลการศึกษาพบว่า กำไรและมูลค่าตามบัญชีของส่วนของผู้ถือหุ้นมีความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ ในขณะที่กำไรขาดทุนเบ็ดเสร็จอื่นไม่มีความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ ความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ของข้อมูลทางการบัญชีเพิ่มสูงขึ้นหลังจากนำมาตรฐานการรายงานทางการเงินไทย (ปรับปรุง 2562) มาใช้ ความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ของกำไรเพิ่มขึ้น ในขณะที่ความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ของมูลค่าตามบัญชีและกำไรขาดทุนเบ็ดเสร็จอื่นไม่มีการเปลี่ยนแปลงหลังจากนำมาตรฐานการรายงานทางการเงินไทย (ปรับปรุง 2562) มาใช้

คำสำคัญ: ความเกี่ยวข้องในการกำหนดมูลค่าหลักทรัพย์ ข้อมูลทางการบัญชี มาตรฐานการรายงานทางการเงินไทย (ปรับปรุง 2562) สถาบันการเงิน

1. Introduction

In 2019, Thailand Federation of Accounting Professions (TFAC) has issued the new Thai Financial Reporting Standards (TFRS) and revised many Thai Accounting Standards (TAS) and Thai Financial Reporting Standards (TFRS). Two main financial reporting standards affect the accounting practices applying to the financial statements for annual reporting periods beginning on or after January 1, 2020 are TFRS 9 Financial Instruments (superseded TAS 39) and TFRS 16 Leases (superseded TAS 17). The reason of issuance TFRS 9 is to respond the criticisms that TAS 39 is too complex, inconsistent with the way entities manage their businesses and risks, and defers the recognition of credit loan losses and receivables until too late in the credit cycle. The objective of TFRS 9 is to set out the requirements of recognizing and measuring the financial assets and liabilities. TFRS 9 uses the principle-based classification model which applies the business model for managing financial assets and financial assets' contractual cash flows. The adoption of TFRS 9 introduces the more volatility to net income more than TAS 39 because more financial assets will be recognized at fair values. Moreover, the recognition of impairment loss under TFRS 9 is based on the expected credit loss model which introduces the earlier recognition of impairment losses on receivables. TFRS 9 also allows more exposures to be hedged and establishes the new criteria for hedge accounting. Therefore, the possible impact from adoption of TFRS 9 is to provide an increase or a decrease in earnings and/ or other comprehensive income. This may affect the value relevance properties of earnings and/or other comprehensive income. Moreover, TFRS 16 Leases affects substantially to accounting practices of leases especially for lessees. Under operating leases, a lessee recognized as off-balance sheet which previously indicated by TAS 17. Under TAS 17, most leasing transactions were not reported on a lessee's balance sheet. The significance of missing information affected to reported assets and financial leverage dramatically. The absence of information about leases on Statement of Financial Position meant that investors and analysts were not able to properly compare companies that borrow to buy assets with those that lease assets, without making adjustments. However, after TFRS 16 adoption, a company is required to recognize the leases assets and liabilities in Statement of Financial Position which possible have an impact on the value relevance of accounting items in financial statements.

Most previous studies showed that earnings and book values were value relevant information (e.g., Easton & Harris, 1991; Warfield & Wild, 1992; Collins, Maydew, & Weiss, 1997; Anandarajan & Hasan, 2010; Chebaane & Othman, 2014; Badu & Appiah, 2018). However, the findings of value relevance of other comprehensive income (OCI) were mixed. Some previous studies indicated that OCI was value relevant information same as earnings and book values. (e.g., Zoubi, Salama, Hossain & Alkafaji, 2016; Kim, 2017; Jahmani, Choi, Park, & Wu, 2017; Mita, Siregar, Anggraita, & Amarullah, 2020). However,

the contradict findings revealed that OCI was not related to stock price (e.g., Aldheimer & Huynh, 2014; Elashamy, Alyousef, & Al-Mudhaf, 2019). There was limited evidence on investigating the value relevance of OCI in Thailand. Therefore, the main objectives of this research are to examine the value relevance of accounting information which are comprised of earnings, book values, and OCI and to study whether there are changes in the value relevance of accounting information after TFRS (revised 2019) adoption. This study is interesting in three main points. Firstly, the study focuses on the value relevance of accounting information of listed companies in banking and finance & securities sectors which is a limited number of previous studies in emerging markets. Secondly, very few previous studies investigated the effects of IFRS 9 and IFRS 16 adoption on the value relevance of accounting information (e.g., Mikkonen, 2016; Topal, 2018; Schaap, 2020; Yaghobee & Zick, 2021). Lastly, the previous studies showed mixed findings on the effects of IFRS adoption on the value relevance of accounting information. Some prior research indicated that there was an increase in value relevance of accounting information after IFRS adoption (e.g., Iatridis & Rouvolis 2010; Chebaane & Othman, 2014; Krismiaji, Aryani, & Suhardjanto, 2016; Okafor, Anderson, & Warsame, 2016) while some of them showed that value relevance of accounting information has decreased after IFRS adoption (e.g. Wu, Chan, & Kao, 2007; Sun & Sari, 2016; Badu & Appiah, 2018; Ki, Leem, & Yuk, 2019). Thus, this provides the opportunity to examine whether there are changes in the value relevance of accounting information upon TFRS (revised 2019) of financial institutions in Thailand. The findings will contribute by providing the guidelines for Thailand Federation of Accounting Professions (TFAC) in revising TFRS 9 and TFRS 16 in the future. It will give the policy guidelines to the Securities and Exchange Commission (SEC) for issuing the disclosure rules relating to the financial instruments and leases.

Section 2 in the article describes the literature review and development of research hypotheses. Research methodology is discussed in section 3. Section 4 provides the details of empirical results. Lastly, conclusion, discussion, and limitation are presented in section 5.

2. Literature Review and Development of Research Hypotheses

This section discusses three main topics: related theories and concepts, previous studies on the value relevance of accounting information, and development of research hypotheses.

2.1 Related Theories and Concepts

2.1.1 Definition of Value Relevance

Value relevance can be defined as accounting information is value relevant if it has a predicted significant relation with share price, only if the amounts reflected information relevant to investors

in valuing the firm and it is measured reliably enough to be reflected in share prices (Barth, Beaver, & Landsman, 2001).

The value relevance can be defined as the ability of information that is presented by financial statements to capture and summarize the firms' values (e.g., Suadiye, 2012; Kargin, 2013). Francis and Schipper (1999) discussed the value relevance into four interpretations. Interpretation one is that value relevance can be measured by the profits generated from implementing accounting-based trading rules. Under the second interpretation, financial statement is value relevant if it contains the variables used in the valuation model or assists in predicting variables used in equity's valuation. Under the third interpretation, the statistical association measures whether investors actually use the information in setting prices, so value relevance can be measured by the ability of financial statement information to change total mix of information in the market place. For the last interpretation, value relevance is measured by the ability of financial statement information to capture or summarize the information regardless sources that affect share values. This research is based on the last interpretation which the most previous studies utilized this concept. Most prior value relevance research examined the association between accounting numbers and equity market values which was the usefulness of accounting information in terms of investors' perspective (e.g., Francis & Schipper, 1999; Barth et al., 2001).

2.1.2 Efficient Market Hypothesis (EMH)

The efficient market hypothesis (EMH) is the important concept which is related to value relevance studies. The EMH assumes that all available information is fully reflected in stock prices at any point of time. It can be categorized into three levels which are composed of weak form, semi-strong form, and strong-form (Watts & Zimmerman, 1986). According to weak form, the information set contains only past security prices and/or past trading volumes. Under semi-strong form, the information set contains all published information. It assumes that share prices fully reflect all publicly information. It is impossible to employ the fundamental analysis to earn abnormal return in semi-strong form. Strong form efficiency indicates that the information set contains all information known to anyone. Therefore, the use of private information, fundamental analysis, and technical analysis does not generate the excess return in this form of efficiency. Karemera, Ojah, and Cole (1999) showed that the most emerging markets in ASEAN were weak form including Thailand. The efficiency of ASEAN stock markets has improved over two decades after the financial crisis. This could be explained by the financial liberalization in ASEAN (Lim, Brooks, & Kim, 2008; Rizvi & Arshad, 2014). Therefore, from previous findings, it can be concluded that Thailand stock market was at least weak form.

2.1.3 TFRS 9 Financial Instruments: The Major Changes from TAS 39

The new accounting standard is based on concept that financial assets should be classified and measured at fair values with changes in fair values recognized in profits and losses (FVPL) as they arise unless the restrictive criteria are met for classifying and measuring the assets either amortized cost or fair value through OCI (FVOCI). The objective of this standard establishes the principles for financial reporting of financial assets and liabilities that provide users of financial statements with relevant and useful information for their assessment of amounts, timing, and uncertainty of an entity's future cash flows (TFAC, 2019 [a]). All financial instruments are initially measured at fair value plus or minus transaction cost (in case of a financial asset or liability not fair value through profit or loss). For the subsequent measurement of financial assets, financial assets under TFRS 9 are measured at amortized cost or fair value through other comprehensive income (FVOCI) or fair value through profit and loss (FVPL). TFRS 9 builds on the principle-based classification. It classifies a financial asset based on the entity's business model for managing the asset and the asset's contractual cash flow characteristics. Financial assets are measured at amortized cost if the assets are held within a business model whose objective is to hold assets in order to collect contractual cash flows and the contractual terms of the financial assets give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. Financial assets are measured at fair value through OCI (FVOCI) if they are held in a business model for whose objective is achieved by both collecting contractual cash flows and selling financial assets. Any financial assets that are not held in one of two business models mentioned are measured at fair value through profit and loss (FVPL). Another factor relating to the volatility of net income is the accounting treatment of embedded derivatives. TFRS 9, embedded derivatives are not separated (bifurcated) if host contract is an asset within the scope of this standard. The entire contract (host contract and embedded derivatives) under TFRS 9 contract is assessed for classification and measurement. It is to be classified as amortized cost, FVPL or FVOCI following the basic criteria discussed above. However, under TAS 39, embedded derivative classification and measurement requirements continue to apply to financial liabilities and non-financial contracts. TAS 39 requires an entity to measure derivative financial assets embedded in non-trading financial assets separately at FVPL if the economic risks and characteristics of the derivatives are not closely related to the host contract and the entire contract is within the scope of TAS 39. Therefore, TFRS 9 removes the complexity of TAS 39 bifurcation assessment for financial asset host contracts.

Accounting for impairment of financial assets is the second major change from TAS 39. The recognition of impairment losses under TFRS 9 is based on the expected credit loss model. It is applied for financial assets that pass solely payment of principle and interest (SPPI) testing and

they are measured at amortized cost or at fair value through OCI. TFRS 9 also establishes the new approach for loan and receivables, including trade receivables. It is an expected credit loss model that focuses on the risk that a loan will be default rather than whether a loss has been incurred. Another significant change from TAS 39 is hedge accounting. TFRS 9 allows more exposures to be hedged and establishes a new criterion for hedge accounting. The new criteria are less complex and more aligned with the way that entities manage risks than under TAS 39.

The possible impact from TFRS 9 adoption is summarized as follows.

1. More income volatility, TFRS 9 presumes the risk that more assets will have to be measured at fair values with changes in fair values recognized in profit and losses as they arise.

2. Earlier recognition of impairment losses on receivables and loans, including trade receivables. Entities will have to start providing for future credit losses in the very first reporting period even if it is highly likely that assets will be fully collectible. Under TFRS 9, impairment losses are recognized on initial recognition, and at each subsequent reporting period, even if the loss has not yet been incurred. In addition to past events and current conditions, reasonable and supportable forecasts affecting the collectability are also considered when determining the amount of impairment. TAS 39 delays the recognition of credit losses until there is objective evidence of impairment. Only past events and current conditions are considered when determining the amount of impairment (i.e., the effects of future credit loss events cannot be considered, even when they are expected). This can be implied that accounting practices of impairment losses under TFRS 9 are more conservative than those of TAS 39.

2.1.4 TFRS 16 Leases: The Major Changes from TAS 17

TFAC has issued a new lease standard, TFRS 16 Leases which replaces TAS 17. TFRS 16 requires leases to be reported on the Statement of Financial Position, how to define a lease and how lease liabilities are measured (TFAC, 2019 [b]). Lease accounting has changed substantially for lessee, however, a little change for lessor. Under TAS 17, previous lessee accounting focused on whether a lease was economically similar to purchasing the asset being leased. If the lease was economically similar to purchasing of underlying asset, the lease was classified as finance lease and report on the Statement of Financial Position. All other leases were classified as operating leases and not record on financial statements (off-balance sheet leases). TFRS 16 classifies all leases as finance leases for a lessee. TFRS 16 requires the recognition of lease assets (right of uses) or together with property, plant and equipment. Depreciation charge for lease asset and interest expense of lease liability will be recognized in Income Statement. In addition, it also requires a lessee to recognize the lease

liabilities for lease payment made over time. TFRS 16 does not change significantly how a lessor accounts for leases. All lessors continue to classify leases either finance leases or operating leases.

2.2 Previous Studies on the Value Relevance of Accounting Information

2.2.1 Value Relevance of Earnings, Book Values, and Other Comprehensive Income

Most previous studies found that earnings and book values were value relevant information in the U.S. (e.g., Easton & Harris, 1991; Warfield & Wild, 1992; Collins et al., 1997). Easton and Harris (1991) found that earnings can explain the stock returns significantly as the flow variables. Warfield and Wild (1992) showed that earnings were value relevant information, although there was a substantial lag in earnings recognition. Later, the studies have extended to investigate both value relevance of earnings and book values. Collins et al. (1997) examined the systematic changes in the value relevance of earnings and book values over past forty years for listed companies on the U.S. stock exchange. They summarized that value relevance of earnings and book values has not declined over forty years, but it appears to have increased significantly. Incremental value relevance of earnings has declined whereas that of book value of equity has increased. The shift from value relevance of earnings to book values can be explained by the increasing frequency and magnitudes of one-time items, the increasing frequency of negative earnings, and changes in average firm size and intangible intensity across time.

The value relevance studies have been extended to the emerging markets. Anandarajan and Hasan (2010) examined the value relevance of earnings from Middle Eastern and North African (MENA) countries. They found that earnings were value relevant information in MENA countries. Their value relevance properties were affected by the components of earnings (permanent or transitory components), legal systems, and the adoption of International Financial Reporting Standards (IFRS). Chebaane and Othman (2014) studied the value relevance of earnings and book values in African and Asian regions which were composed of UAE, Bahrain, Jordan, Kuwait, Qatar, Turkey, and South African. They also found that both earnings and book values were positively and significantly related to stock prices. Badu and Appiah (2018) examined the value relevance of accounting information from Ghana Stock Exchange and they found that both earnings and book values were value relevant. However, they indicated that earnings could better explain the variation in stock prices than that of book values. Based on the previous findings, their evidence showed the same conclusion which earnings and book values were value relevant information in both developed and emerging markets.

However, the previous studies showed mixed findings on the value relevance of OCI. Some prior research indicated that other comprehensive income was value relevant information (e.g., Zoubi

et al., 2016; Kim, 2017; Jahmani et al., 2017; Mita et al., 2020). This could be explained by the reporting of OCI and its component was aimed to enhancing the financial reporting transparency. Zoubi et al. (2016) investigated the value relevance of OCI when earnings were disaggregated into their components. They found that OCI could better explain the variation of stock returns when net income was disaggregated form. Kim (2017) examined the value relevance of OCI by comparing its value relevance before and after Accounting Standard Update (ASU) 2011-05 Presentation of Comprehensive Income. Their results showed that other comprehensive income was value relevant information when reported as the two separate but consecutive statements. Jahmani et al. (2017) studied the value relevance of comprehensive income, other comprehensive income, and its component for S&P 500 firms. They adjusted the research model by adding the OCI and its component as more independent variables. The main findings showed that OCI and its components had relevant properties, although total comprehensive income was not value relevant information. Mita et al. (2020) investigated the value relevance of OCI after IAS 1 revision about the presentation of financial Statements. They used five ASEAN countries: Indonesia, Malaysia, the Philippines, Singapore, and Thailand. They added OCI as one more independent variable in Ohlson (1995) model. The overall findings showed that OCI was value relevant information without considering IAS 1 implementation. In the opposite direction, some previous studies showed the contradict results which other comprehensive income could not explain the variability of stock prices (e.g., Aldheimer & Huynh, 2014; Elshamy et al., 2019). Aldheimer and Huynh (2014) examined the value relevance of other comprehensive income of 126 European companies and 282 American companies covering the periods from 2009 to 2013. Their findings showed that there was no relationship between OCI and stock price. Elshamy et al. (2019) investigated whether OCI was value relevant beyond net income of firms listed on Kuwait Stock Exchange. They summarized that the adding of OCI did not increase the overall value relevance of accounting information. Their findings also showed that the coefficient of OCI was negative and insignificant.

2.2.2 Value Relevance of Accounting Information of Financial Institutions

There were limited prior studies related to the value relevance of accounting information for financial institutions in emerging markets. Almost previous studies examined the value relevance of accounting information which focused on companies listed in banking, finance & securities, and insurance sectors in developed markets such as the U.S. (e.g., Venkatachalam, 1996; Barth, Beaver, & Landsman, 1996; Ahmed, Kilic, & Lobo, 2006; McInnis, Yu, & Yust, 2018). Venkatachalam (1996) studied the value relevance of derivatives disclosures information and he found that fair values estimates

for derivatives can explain cross-sectional variation in banks' share prices and that fair values had incremental explanatory power over and above notional amounts of derivatives. Barth et al. (1996) showed the evidence that fair values estimates of loans, securities, and long term debt disclosed under SFAS No. 107 provided the significant explanatory power for banks' share prices beyond that of book values. Ahmed et al. (2006) examined how investors' valuation of derivatives financial instrument was different depending on whether the fair value of this instrument was recognized or disclosed. Using a sample of banks that had only disclosed prior to SFAS No. 133, which were recognized after SFAS No. 133 adoption, they showed that coefficients of disclosed amounts were not significant while those of recognized amounts were significant. McInnis et al. (2018) compared the value relevance of banks' financial statements under fair value accounting with the current U.S.GAAP based on historical costs. They employed the banks as samples because the financial instruments were main components of their balance sheets. They indicated that combined value relevance of earnings and book values was less value relevant under fair value than that of historical costs. They also concluded that net income under fair value was less value relevant than current GAAP because of the inclusion of transitory gains/losses in fair value net income. For the comparative international research, Anandarajan, Francis, Hasan, and John (2011) investigated the value relevance of accounting information for 813 banking institutions in 38 countries. They found that earnings and book values were value relevant information. They also indicated that earnings had greater explanatory power in market-based economics and in countries with common law background and where ownership was mainly British or American clusters. In the opposite direction, book values could better explain the changes in stock prices than that of earnings in bank-based economics, code law countries and where ownership was not British or American clusters.

2.2.3 The Effects of IFRS Adoption on the Value Relevance of Accounting Information

Many previous studies analyzed the effects of IFRS adoption on the value relevance of accounting information without indicating the specific topics of IFRS. Iatridis and Rouvolis (2010) concluded that IFRS adoption enhanced the value relevance of accounting information of Greek listed firms. Chebaane and Othman (2014) investigated the mandatory adoption of IFRS on value relevance of accounting information in African and Asian regions. They showed that, despite the strength in overall explanatory variables of both earnings (EPS) and book values (BVE) in both before and after IFRS adoption periods, the role of EPS dominated that of BVE in the post IFRS adoption period. In addition, for financial sectors, the explanatory power of EPS and BVE increased during the post IFRS periods. Krismiaji et al. (2016) examined the impact of IFRS adoption on the value relevance of accounting

information of publicly listed firms on the Indonesia Stock Exchange. They revealed that there was a positive relationship between IFRS adoption and value relevance of accounting information. Okafor et al. (2016) also summarized that accounting information prepared and disclosed under IFRS showed a higher value relevance than that of accounting information previously prepared under local GAAP of Canadian firms in 2008-2013. However, some contrast findings shown from previous studies indicated that value relevance of accounting information has declined after IFRS adoption. Wu et al. (2007) found that both Chinese Accounting Standard (CAS) and IFRS accounting information were useful for valuing A and B shares. Their results showed that IFRS adoption did not provide any additional benefit more than CAS for Chinese domestic investors. Sun and Sari (2016) examined the value relevance of accounting information in the period before and after the full convergence of IFRS in Indonesia. They also summarized that overall value relevance of accounting information has declined, although the relative value relevance of earnings has increased but not book values. Badu and Appiah (2018) also indicated that value relevance of earnings and book values in Ghana has declined after IFRS adoption in the period 2005–2014. Ki et al. (2019) also showed that value relevance of accounting information of Korean listed firms has decreased significantly after IFRS adoption.

From previous studies on the effects of IFRS adoption on the value relevance of accounting information, they showed mixed findings. Some of them indicated that there was an increase in value relevance of accounting information after the adoption of IFRS (e.g., Iatridis & Rouvolis, 2010; Chebaane & Othman, 2014; Krismiaji et al., 2016; Okafor et al., 2016). Nonetheless, the contradict results showed that the value relevance of accounting information has declined after the IFRS adoption (Wu et al., 2007; Sun & Sari, 2016; Badu & Appiah, 2018; Ki et al., 2019).

2.2.3.1 The Effects of IFRS 9 Financial Instruments Adoption on the Value Relevance of Accounting Information

There was very scarce evidence on the effects of IFRS 9 on the value relevance of accounting information (e.g., Schaap, 2020; Mechelli & Cimini, 2021; Yaghobee & Zick, 2021). Schaap (2020) studied the effects of IFRS 9 Financial Instruments adoption on the value relevance of accounting information by using Ohlson model. The samples were European Union banks. The period of study was from 2010 to 2019 which divided into two sub periods: Pre-IFRS9 (2011–2017) and Post-IFRS 9 (2018–2019). They found that value relevance of accounting information has declined after IFRS 9 adoption. However, earnings per share were more value relevant than before adoption of IFRS 9. In the opposite, book values have lost their value relevance. Mechelli and Cimini (2021) investigated whether the quality of corporate governance and investor protection environments affected the value relevance of equity values calculated according to IFRS 9 and IAS 39 Financial Instruments. The

results showed that both accounting standards provided investors with value relevant information. In the presence of high-quality corporate governance or a high-quality investor protection environment, IFRS 9 was more value relevant than IAS 39. However, the opposite direction was found under the low-quality of corporate governance or a low-quality of investor protection environment. Yaghobee and Zick (2021) studied the value relevance of expected credit loss model (ECL) after IFRS 9 adoption. IFRS 9 introduced the significant changes on banking industry. The three-expected credit loss model under IFRS 9 affected to a more timely recognition of loan loss allowance. They used 115 European banks as the sample in their study. They indicated that financial assets at cost and fair value through OCI were value relevant information. They also concluded that expected credit loss model has the relevance properties under IFRS 9.

2.2.3.2 The Effects of IFRS 16 Leases Adoption on the Value Relevance of Accounting Information
Previous studies revealed the different findings about the effects of IFRS 16 Leases adoption on the value relevance of accounting information. Topal (2018) examined the effects of IFRS 16 adoption on value relevance of accounting information for European companies listed in airlines, retails, travel, and leisure sectors. He summarized that value relevance of earnings per share and book value of equity per share after IFRS 16 adoption has improved significantly. Mikkonen (2016) studied the value relevance of capitalized operating leases under U.S.GAAP. The data was from the periods 1993–2013 and the samples were comprised of listed companies in air transportation industry, totaling 850 observations. The current accounting practice is classified into operating leases and financial leases for lessees. The study did not provide the incremental information content for constructively capitalized operating lease beyond that contained in reported assets, liabilities, and sales. Xu, Davidson, and Cheong (2017) investigated how capitalized operating leases under IFRS 16/AASB 16 affected the financial statements and value relevance of accounting information. They summarized that changes on book values of equities because of capitalizing operating leases were value relevant. Giner and Pardo (2018) examined the value relevance whether as-if capitalized operating leases were priced by investors for Spanish listing firms during 2010–2013. They indicated that market participants used the notes to financial statements and they did not attach a different value to recognized debt and off-balance sheet liabilities derived from the property right perspectives. Chen, Chen, and Lin (2021) compared whether the value relevance of lease accounting has improved since IFRS 16 implementation. The results showed that the post-IFRS 16 adoption provided the incremental power for changes in share prices compared with pre-IFRS 16 adoption.

According to previous studies stated above, there were mixed findings about the effects of IFRS 16 Leases adoption on value relevance of accounting information. Some prior studies found an improvement of value relevance of accounting information (e.g., Topal, 2018; Chen et al., 2021). Nonetheless, the evidence also showed that recognized liabilities did not increase the value relevance of earnings, but increased only the value relevance of book value (e.g., Xu et al., 2017). In addition, in some context, investors did not perceive differently between the recognition of operating leases as liabilities and disclosed items in the notes to financial statements (Giner & Pardo, 2018).

2.3 Development of Research Hypotheses

Almost previous studies showed that earnings and book values were value relevant information and they were positively and significantly related to stock prices and/or stock returns in the U.S. stock market (e.g., Easton & Harris, 1991; Warfield & Wild, 1992; Collins et al., 1997). Consistent with the developed markets, earnings and book values were also value relevant information in emerging markets: MENA countries (Anandarajan & Hasan, 2010); African and Asian regions (Chebaane & Othman, 2014); Ghana (Badu & Appiah, 2018). Moreover, Anandarajan et al. (2011) also found that earnings and book values were value relevant information for 138 European banks. Based on previous findings combined with EMH as the underlying theory, earnings and book values would have the effect on share prices and this information could positively affect the investors to make more effective decisions. Therefore, this study expects that earnings and book values of financial institutions in Thailand are also value relevant information. The hypotheses H_{1a} and H_{1b} in terms of alternative hypotheses are set as follows.

H_{1a}: Earnings are value relevant information.

H_{1b}: Book values of equities are value relevant information.

Although the adoption of TFRS (revised 2019) in Thailand is composed of many TFRS, one of key accounting standard is TFRS 9 Financial Instruments which affects the other comprehensive income. The accounting items affecting OCI are the effectiveness portion of gain/loss on hedging instrument in a cash flow hedge, gain/loss on remeasuring of an investment in equity. Previous studies showed mixed findings on value relevance of OCI. Other comprehensive income was value relevant information (e.g., Zoubi et al., 2016; Kim, 2017; Jahmani et al., 2017; Mita et al., 2020). However, some contradict findings showed that OCI could not explain the variability on stock prices (e.g., Aldheimer & Huynh, 2014; Elshamy et al., 2019). Although the mixed evidences on value relevance of OCI are indicated, this research expects that other comprehensive income is value relevant information for

banking and finance & securities sectors in Thailand. The main reason is that financial assets are the significant components of assets in these sectors which are stated at fair values through OCI or fair values through profits and losses. Fair values have the relevant properties (e.g., Barth et al., 1996). Therefore, the hypothesis H_{1c} in terms of alternative hypothesis is set as follows.

H_{1c}: Other comprehensive income is value relevant information.

Many prior studies showed that IFRS adoption has enhanced the value relevance of accounting information (e.g. Iatridis & Rouvolis, 2014; Chebaane & Othman, 2014; Krismiaji et al., 2016; Okafor et al., 2016). However, some contrast findings indicated that value relevance of accounting information has declined after IFRS adoption (e.g., Wu et al., 2007; Sun & Sari, 2016; Badu & Appiah, 2018; Ki et al., 2019). The key principles of accounting changes from TFRS (revised 2019) adoption were TFRS 9 Financial Instruments and TFRS 16 Leases. The mixed findings on the effects of IFRS 9 and IFRS 16 were indicated. Schaap (2020) showed that the adoption of IFRS 9 increased value relevance of earnings, but book values had lost their value relevance. Yaghobee and Zick (2021) found that financial assets at cost and fair values through OCI are value relevant. Expected credit loss model under IFRS 9 were value relevant. Topal (2018) and Chen et al. (2021) indicated the consistent findings that value relevance of accounting information has enhanced after the adoption of IFRS 16. In the opposite direction, some evidence showed the decrease in overall value relevance of accounting information from the adoption of IFRS 9 (e.g., Schaap, 2020) or IFRS 16 (e.g. Xu et al., 2017). Therefore, this research expects that value relevance of accounting information after the adoption of TFRS (revised 2019) which are mainly composed of TFRS 9 and TFRS 16 has changed from before adoption. However, the direction of changes (increases or decreases) in value relevance of accounting information cannot be predicted. The hypotheses H_{2a}, H_{2b}, and H_{2c} are set as follows.

H_{2a}: There are changes in the value relevance of earnings after TFRS (revised 2019) adoption.

H_{2b}: There are changes in the value relevance of book values of equities after TFRS (revised 2019) adoption.

H_{2c}: There are changes in the value relevance of other comprehensive income after TFRS (revised 2019) adoption.

3. Research Methodology

3.1 Sample Selection

The study uses the samples from listed companies in banking and finance & securities sectors on the Stock Exchange of Thailand, as at December 31, 2020. Financial industry is significantly affected by the adoption of TFRS 9 Financial Instruments (e.g., Schaap, 2020; Yaghobee & Zick, 2021). In addition, TFRS 16 also affects the accounting practices of financial institutions substantially for the lessees' role. The financial industry is composed of three sectors as follows: banking, finance & securities, and insurance. However, insurance companies are excluded from the samples because they can defer the implementation of TFRS 9 in 2020. The insurance companies can select to apply Accounting Guidelines for Financial Instruments and Disclosures for Insurance Companies until TFRS 17 Insurance Contracts is effective. There are 16 from 18 insurance companies selecting to apply this guideline instead of TFRS 9 Financial Instruments and TFRS 7 Financial Instruments: Disclosures. Therefore, it is necessary to cut-off the insurance companies from the samples. In addition, this study excludes the Non-December year-ended firms. The main reason is to control the effects of external factors on stock prices. The samples should be listed in banking and finance & securities sectors on the Stock Exchange of Thailand covering the periods of the year 2019-2020. The year 2019 (2020) is the period before (after) the adoption of TFRS (revised 2019). Moreover, the study also excludes the early TFRS 9 and TFRS 16 adoption firms. The number of samples is summarized in Table 1.

Table 1 Number of Samples

Firms' Characteristics	Number of Samples
Number of listed companies on financial industry (excluded the insurance companies) as at December 31, 2020.	
Banking sector 11 firms	
Finance & Securities sector 36 firms	47 firms
<u>less</u> Non-December year ended	(1) firm
Non-complete data and early adoption firms	(4) firms
Net number of samples	42 firms
Number of years in the study	2 years
Number of samples	84 firms-years
Less outlier (more than +/−3 Standard deviation)	(2) firms-years
Final number of samples	82 firms-years

From Table 1, the final number of samples is 82 firms-years. Based on match-paired sample, there are 41 firms-years before adoption and 41 firms-years after adoption of TFRS (revised 2019).

3.2 Research Model and Data Analysis

The research model in this study is based on Ohlson (1995) and Feltham and Ohlson (1995). The dependent variable is the stock price at the submission date of annual financial statements because the accounting information is publicly available on that date. The stock price is used as the dependent variable because it reflects the cumulative information content of both surprising component and expected component of earnings (Kothari & Zimmerman, 1995). The independent variables are earnings and book values. However, the model is modified by adding the other comprehensive income as one more explanatory variable which is consistent to Aldheimer and Huynh (2014), Jahmani et al. (2017), Elshamy et al. (2019), and Mita et al. (2020).

In addition, the study adds the control variables for controlling other factors which may affect the stock prices. The control variables are size, leverage, and growth. Most previous studies frequently utilized size as the control variable in the value relevance test (e.g., Collins et al., 1997; Charitou, Clubb, & Andreou, 2001; Habib & Azim, 2008). Moreover, leverage is used as the control variable because the risk level influences the value relevance of accounting information (Kothari, 2000; Habib & Azim, 2008). Finally, security returns or stock prices will be high for higher growth firms (Charitou et al., 2001), therefore growth of firm is also used as control variable. The main research models for investigating the value relevance of accounting information are as follows.

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \varepsilon_{it} \tag{1}$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 SIZE_{it} + \alpha_4 LEV_{it} + \alpha_5 GROW_{it} + \varepsilon_{it} \tag{2}$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it} + \varepsilon_{it} \tag{3}$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it} + \alpha_4 SIZE_{it} + \alpha_5 LEV_{it} + \alpha_6 GROW_{it} + \varepsilon_{it} \tag{4}$$

P_{it} = stock price of firm i year t at the submission date of annual financial statement year t;

EPS_{it} = earnings per share of firm i year t;

BVE_{it} = book value of equity per share of firm i year t;

OCI_{it} = other comprehensive income per share of firm i year t;

$SIZE_{it}$ = 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 divided by total equity of firm i year t;

$GROW_{it}$ = growth of firm i year t measured by market value of equity divided by book value of equity of firm i year t; and

ε_{it} = error term

The coefficients α_1 and α_2 in model (1) to model (4) are used to test the value relevance of earnings and book values of equities (H_{1a} and H_{1b} test). The coefficients of α_3 in model (3) and (4) are used to test the value relevance of OCI (H_{1c} test). The control variables are added in model (2) and (4).

Furthermore, model (5) to (8) are used to test the changes in the value relevance of accounting information after TFRS (revised 2019) adoption. The dummy variable is added in the research model by partitioning the samples into before and after TFRS (revised 2019) adoption period. If dummy variable equals to 1 (0) if the period is after (before) the adoption of TFRS (revised 2019). Model (5) to (8) are presented as follows.

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 D{*}EPS_{it} + \beta_5 D{*}BVE_{it} + \varepsilon_{it} \tag{5}$$

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 D{*}EPS_{it} + \beta_5 D{*}BVE_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 GROW_{it} + \varepsilon_{it} \tag{6}$$

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 OCI_{it} + \beta_5 D{*}EPS_{it} + \beta_6 D{*}BVE_{it} + \beta_7 D{*}OCI_{it} + \varepsilon_{it} \tag{7}$$

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 OCI_{it} + \beta_5 D{*}EPS_{it} + \beta_6 D{*}BVE_{it} + \beta_7 D{*}OCI_{it} + \beta_8 SIZE_{it} + \beta_9 LEV_{it} + \beta_{10} GROW_{it} + \varepsilon_{it} \tag{8}$$

D = dummy variable = 1 if the period is after adoption of TFRS (revised 2019);

dummy variable = 0 if the period is before adoption of TFRS (revised 2019)

All other variables definitions are same as indicated above.

The coefficients of β_2 and β_3 in model (5) to model (8) are used to test the value relevance of earnings and book values (H_{1a} and H_{1b} test). The coefficient of β_4 in model (7) and (8) are used to test the value relevance of OCI (H_{1c} test). The control variables are added in model (6) and (8).

The coefficients of interaction term between dummy variables and accounting information (β_4 and β_5 in model (5) and (6); β_5, β_6, β_7 in model (7) and (8)) are used to test the changes in the value relevance of accounting information after TFRS (Revised 2019) adoption (H_{2a}, H_{2b}, and H_{2c} test). If the coefficients of β_4 and β_5 in model (5) and (6); β_5, β_6, β_7 in model (7) and (8) are statistically significant, there will be concluded that there are changes in the value relevance of accounting information after TFRS (revised 2019) adoption.

4. Empirical Results

This section is composed of four main topics: descriptive statistics, correlation analysis, regression results, and robustness check: comparative value relevance of accounting information before and after the adoption of TFRS (revised 2019).

4.1 Descriptive Statistics

The descriptive statistics of variables used for data analysis are presented in Table 2.

Table 2 Descriptive Statistics of Variables Used for Data Analysis

Variables	Mean	Standard Deviation	Minimum	Maximum	Coefficient of Variation
P (Baht)	24.4454	35.8354	0.3500	141.5000	1.4659
EPS (Baht)	2.2346	3.8152	–0.2400	18.7600	1.7073
BVE (Baht)	23.4518	49.0189	0.1540	235.8744	2.0902
OCI (Baht)	0.0840	1.2317	–4.6008	6.7397	14.6631
Total Assets (Baht)	479,426,694,307.4255	1,057,279,087,177.7418	757,190,942	3,882,959,865,000	2.2053
SIZE	10.5093	1.0457	8.8792	12.5892	0.0995
LEV (Times)	3.1870	2.7980	0.1412	9.1739	0.8779
GROW (Times)	1.5525	1.6558	0.2818	8.4618	1.0665

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis.

Mean of stock price is 24.4454 Baht. Means of EPS, BVE, and OCI are 2.2346 Baht, 23.4518 Baht and 0.0840 Baht, respectively. Mean of OCI is much less than those of EPS and BVE. The coefficient of variation of stock price is more than one which indicates the high dispersion of stock price. In the same manner with stock price, the coefficents of variation of EPS, BVE, OCI, total assets, and growth are also more than one. Mean of total asset is 479,426,694,307.4255 Baht. Mean of leverage (measured by total liability/total equity) is more than one which indicates that financial institutions in Thailand use the external financing (by issuing the debt instruments or borrowings) more than internal financing (by issuing the common stocks). Mean of growth of firms (measured by market value of equity/book value of equity) is also more than one which can be implied that the market value of equity is more than book value of equity.

4.2 Correlation Analysis

Table 3 shows the Pearson's correlation between variables used in research model (1) to model (8). The significant values (p-values) of Pearson's correlation are shown in the parentheses in the Table 3.

Table 3 indicates that stock price is positively and significantly related to EPS (r = 0.895, sig. = 0.000) and BVE (r = 0.850, sig. = 0.000). It can be implied that earnings and book values are value relevant information. Investors utilize both earnings and book values of equities in valuation of their stock prices. Stock prices are also positively and significantly related to D*EPS, D*BVE, SIZE, LEV, and GROW. However, OCI and D*OCI are insignificantly related to stock prices. That is, other comprehensive income is not value relevant information. Earnings per share are positively and significantly related to BVE, D*EPS, D*BVE, SIZE, and LEV. BVE is also positively and significantly correlated with D*EPS, D*BVE, D*OCI, SIZE, and LEV. OCI is positively and significantly related to D*BVE and D*OCI. D*EPS is positively and significantly related to D*BVE, SIZE and LEV. In addition, D*BVE is positively and significantly related to D*OCI, SIZE and LEV. Among the control variables, size is positively and significantly related to leverage of firm. It can be implied that the large firms have higher leverage than that of small ones. Other control variables are not significantly correlated.

Table 3 Pearson's Correlation between variables

Variables	P	D	EPS	BVE	OCI	D*EPS	D*BVE	D*OCI	SIZE	LEV	GROW
P	1.000										
D	0.004 (0.968)	1.000									
EPS	0.895*** (0.000)	−0.095 (0.398)	1.000								
BVE	0.850*** (0.000)	0.012 (0.912)	0.890*** (0.000)	1.000							
OCI	0.128 (0.252)	−0.039 (0.728)	0.083 (0.460)	0.168 (0.132)	1.000						
D*EPS	0.599*** (0.000)	0.417*** (0.000)	0.450*** (0.000)	0.599*** (0.000)	0.041 (0.714)	1.000					
D*BVE	0.567*** (0.000)	0.321*** (0.004)	0.428*** (0.000)	0.693*** (0.000)	0.213* (0.054)	0.906*** (0.000)	1.000				
D*OCI	0.125 (0.262)	0.022 (0.844)	0.049 (0.664)	0.260** (0.018)	0.668*** (0.000)	0.095 (0.396)	0.345*** (0.002)	1.000			
SIZE	0.644*** (0.000)	0.015 (0.896)	0.658*** (0.000)	0.638*** (0.000)	0.157 (0.160)	0.432*** (0.000)	0.433*** (0.000)	0.096 (0.390)	1.000		
LEV	0.367*** (0.000)	0.006 (0.954)	0.382*** (0.000)	0.404*** (0.000)	0.099 (0.378)	0.269** (0.014)	0.291*** (0.008)	0.112 (0.316)	0.811*** (0.000)	1.000	
GROW	0.229** (0.038)	0.013 (0.910)	−0.043 (0.704)	−0.152 (0.172)	−0.032 (0.774)	−0.032 (0.774)	−0.120 (0.284)	−0.019 (0.866)	−0.078 (0.486)	−0.160 (0.152)	1.000

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis. Numbers in parentheses are significant values or p-values of Pearson's Correlation.

*** significant for two-tailed test at 0.01 level;

** significant for two-tailed test at 0.05 level; and

* significant for two-tailed test at 0.10 level.

4.3 Regression Results

The regression results are partitioned into three main sessions. Firstly, it is the test whether earnings and book values are related to stock prices without and with control variables. Secondly, the study adds other comprehensive income as the explanatory variable into research model for testing the value relevance of earnings, book values, and other comprehensive income without and with control variables. Finally, the changes in the value relevance of accounting information after TFRS (revised 2019) adoption are examined.

4.3.1 Value Relevance of Earnings and Book Values

Table 4 presents the regression results of model (1) and (2). Model (1) is used to test the value relevance of earnings and book values without control variables. Model (2) is the same test as model (1), but it is the test with control variables.

Table 4 Regression Results of Model (1) and (2)

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \varepsilon_{it} \tag{1}$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 SIZE_{it} + \alpha_4 LEV_{it} + \alpha_5 GROW_{it} + \varepsilon_{it} \tag{2}$$

Variables	Model (1)				Model (2)			
	Unstd. Coefficients	Std. Coefficients	t	Sig.	Unstd. Coefficients	Std. Coefficients	t	Sig.
Constant	6.061***		3.015***	0.003	−40.331		−1.631	0.107
EPS_{it}	6.251***	0.666	6.254***	0.000	4.506***	0.480	5.962***	0.000
BVE_{it}	0.188**	0.257	2.420**	0.018	0.301***	0.411	5.306***	0.000
$SIZE_{it}$					3.586	0.105	1.373	0.174
LEV_{it}					−0.221	−0.017	−0.276	0.783
$GROW_{it}$					6.876***	0.318	8.949***	0.000
F value = 173.302*** (Sig. F = 0.000)					F value = 159.335*** (Sig. F = 0.000)			
Adjusted R^2 = 0.810					Adjusted R^2 = 0.907			

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis.
  *** significant for two-tailed test at 0.01 level;
  ** significant for two-tailed test at 0.05 level; and
  * significant for two-tailed test at 0.10 level.

The findings in Table 4 also show that overall model (1) and (2) are statistically significant (F value = 173.302 and 159.335, respectively). At least one explanatory variable can explain the changes in stock prices with adjusted R^2 0.810 for model (1) and 0.907 for model (2). The coefficients of earnings (α_1) and book values (α_2) are positively and significantly related to stock prices in model (1) and (2) which are also consistent with the results shown in the correlation analysis in Table 3. That is, earnings and book values are value relevant information for listed companies in banking and finance & securities sectors on the Stock Exchange of Thailand. This finding can be concluded that the hypotheses H_{1a} and H_{1b} are accepted. In addition, earnings can better explain the variation in stock price than that of book values (see details of standardized coefficients of earnings compared with book values).

In addition, according to model (2), size is positively related to stock price, but it is insignificant. Leverage is negatively and insignificantly related to stock price. However, only growth of firm is positively and significantly related to stock price.

4.3.2 Value Relevance of Earnings, Book Values, and Other Comprehensive Income

Table 5 presents the regression results of model (3) and (4). Model (3) is used to test the value relevance of earnings, book values, and other comprehensive income simultaneously without control variables. Model (4) is the same test as model (3), but it is the test with control variables.

Table 5 Regression Results of Model (3) and (4)

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it} + \varepsilon_{it} \tag{3}$$

$$P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it} + \alpha_4 SIZE_{it} + \alpha_5 LEV_{it} + \alpha_6 GROW_{it} + \varepsilon_{it} \tag{4}$$

Variables	Model (3)				Model (4)			
	Unstd. Coefficients	Std. Coefficients	t	Sig.	Unstd. Coefficients	Std. Coefficients	t	Sig.
Constant	6.018***		2.980***	0.004	−38.976		−1.556	0.124
EPS_{it}	6.345***	0.676	6.253***	0.000	4.569***	0.486	5.911***	0.000
BVE_{it}	0.178**	0.243	2.229**	0.029	0.296***	0.405	5.094***	0.000
OCI_{it}	0.903	0.031	0.622	0.536	0.455	0.016	0.444	0.658
$SIZE_{it}$					3.444	0.100	1.302	0.197
LEV_{it}					−0.196	−0.015	−0.243	0.808
$GROW_{it}$					6.871***	0.317	8.893***	0.000

Table 5 Regression Results of Model (3) and (4) (Cont.)

Variables	Model (3)				Model (4)			
	Unstd. Coefficients	Std. Coefficients	t	Sig.	Unstd. Coefficients	Std. Coefficients	t	Sig.
F value = 114.766*** (Sig. F = 0.000)					F value = 131.410*** (Sig. F = 0.000)			
Adjusted R^2 = 0.808					Adjusted R^2 = 0.906			

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis.

  *** significant for two-tailed test at 0.01 level;

  ** significant for two-tailed test at 0.05 level; and

  * significant for two-tailed test at 0.10 level.

According to model (3) and (4), the findings show that both models are statistically significant (F value = 114.766 and 131.410, respectively). The adjusted R^2 of model (3) and model (4) are 0.808 and 0.906, respectively. It can be implied that earnings, book values, and other comprehensive income can explain the variation in stock prices at 80.80% in the model (3). Earnings, book values, OCI, and control variables can explain the changes in stock prices at 90.60% in the model (4). However, the adjusted R^2 of model (3) has declined when compared with model (1). In the same direction, the adjusted R^2 of model (4) has also decreased when compared with model (2). The adding OCI in model (3) and (4) does not provide the incremental value relevance beyond earnings and book values.

The coefficients of earnings (α_1) and book values (α_2) are positively and significantly related to stock prices in both models (3) and (4). It can be indicated that earnings and book values of equities are value relevant information. The findings can be implied that the hypotheses H_{1a} and H_{1b} are accepted. Further, earnings can better explain the changes in stock prices than that of book values which are consistent results with model (1) and (2). However, the coefficients of other comprehensive income (α_3) in model (3) and model (4) provide the contradict findings. Other comprehensive income is positively related to stock price, but it is insignificant. That is, other comprehensive income is not value relevant information which provides the consistent findings with the correlation analysis in Table 3. That is, the hypothesis H_{1c} is rejected.

For the control variables, the result shows that only growth of firm is positively and significantly related to stock price. However, size and leverage have insignificantly positive and negative relationships with stock prices, respectively.

4.3.3 Changes in the Value Relevance of Earnings and Book Values after TFRS (Revised 2019) Adoption

Table 6 presents the regression results of model (5) and (6) for testing the changes in the value relevance of earnings and book values by adding the dummy variable. Dummy variable is used for classifying the samples into before and after the TFRS (revised 2019) adoption (D = 1 after the adoption of TFRS (revised 2019) period; D = 0 before the adoption of TFRS (revised 2019) period). Model (5) is used to test the changes in the value relevance of earnings and book values without control variables. Model (6) is the same test as model (5), but it is the test with control variables.

Table 6 Regression Results of Model (5) and (6)

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 D*EPS_{it} + \beta_5 D*BVE_{it} + \varepsilon_{it} \tag{5}$$

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 D*EPS_{it} + \beta_5 D*BVE_{it} + \beta_6 SIZE_{it} + \beta_7 LEV_{it} + \beta_8 GROW_{it} + \varepsilon_{it} \tag{6}$$

Variables	Model (5)				Model (6)			
	Unstd. Coefficients	Std. Coefficients	t	Sig.	Unstd. Coefficients	Std. Coefficients	t	Sig.
Constant	5.426**		2.075**	0.041	−22.490		−0.999	0.321
D	−2.092	−0.029	−0.554	0.581	−2.342	−0.033	−0.911	0.365
EPS_{it}	7.416***	0.790	5.079***	0.000	5.486***	0.584	5.162***	0.000
BVE_{it}	−0.016	−0.022	−0.116	0.908	0.156	0.213	1.618	0.110
$D*EPS_{it}$	3.416	0.216	1.496	0.139	2.996*	0.189	1.926*	0.058
$D*BVE_{it}$	0.055	0.058	0.323	0.748	0.019	0.020	0.159	0.874
$SIZE_{it}$					1.789	0.052	0.752	0.455
LEV_{it}					0.079	0.006	0.110	0.913
$GROW_{it}$					6.504***	0.301	9.402***	0.000
F value = 85.978*** (Sig. F = 0.000)					F value = 127.341*** (Sig. F = 0.000)			
Adjusted R^2 = 0.840					Adjusted R^2 = 0.926			

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis.

  *** significant for two-tailed test at 0.01 level;

  ** significant for two-tailed test at 0.05 level; and

  * significant for two-tailed test at 0.10 level.

Model (5) and (6) are statistically significant (F value = 85.978 and 127.341, respectively) with adjusted R^2 0.840 for model (5) and 0.926 for model (6). The adding of dummy variable changes the results of value relevance of BVE. Previously shown in Table 4 and Table 5, book values are positively and significantly related to stock prices. However, in the opposite direction, book value of equity is negatively and insignificantly related to stock price in model (5). For model (6), BVE is also insignificantly related to stock price, although it is the positive relationship. The findings of BVE are contrary with those of model (1) to (4). The plausible reason is the high correlation between D*EPS and D*BVE (see more details in Table 3). Nonetheless, earnings per share are still positively and significantly related to stock prices in model (5) and (6). The coefficient of interaction term between dummy variable and EPS (β_4) is positively and significantly for one-tailed test at 0.10 level in model (5) (sig. = 0.139/2 = 0.0695) in model (5). In model (6), the coefficient of interaction term between dummy variable and EPS (β_4) is still positively and significantly related to stock price for one-tailed at 0.05 level (sig. = 0.058/2 = 0.029) and two-tailed test at 0.10 level (sig. = 0.058). This can be implied that the value relevance of earnings has increased after the adoption of TFRS (revised 2019). The result indicates that there are changes in the value relevance of earnings which is consistent with the expectation of hypothesis H_{2a}. The coefficients of interaction term between dummy variables and BVE (β_5) are positively related to stock prices, but they are insignificant for both models (5) and (6). This can be inferred that the value relevance of book value of equity has not changed after TFRS (revised 2019) adoption. This result shows that the hypothesis H_{2b} is rejected. Consistent with model (2) and (4), only growth of firm in model (6) is positively and significantly related to stock price. Size and leverage are not significantly related to stock prices.

4.3.4 Changes in the Value Relevance of Earnings, Book Values, and Other Comprehensive Income after TFRS (Revised 2019) Adoption

Table 7 shows the regression results of model (7) and (8). Both models are used to test the changes in the value relevance of earnings, book values, and other comprehensive income, simultaneously. Model (7) is the test without control variables while model (8) is the same test, but it is the test with control variables.

Table 7 Regression Results of Model (7) and (8)

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 OCI_{it} + \beta_5 D*EPS_{it} + \beta_6 D*BVE_{it} + \beta_7 D*OCI_{it} + \varepsilon_{it} \qquad (7)$$

$$P_{it} = \beta_0 + \beta_1 D + \beta_2 EPS_{it} + \beta_3 BVE_{it} + \beta_4 OCI_{it} + \beta_5 D*EPS_{it} + \beta_6 D*BVE_{it} + \beta_7 D*OCI_{it} + \beta_8 SIZE_{it} + \beta_9 LEV_{it}$$
$$+ \beta_{10} GROW_{it} + \varepsilon_{it} \qquad (8)$$

Variables	Model (7)				Model (8)			
	Unstd. Coefficients	Std. Coefficients	t	Sig.	Unstd. Coefficients	Std. Coefficients	t	Sig.
Constant	5.414**		2.074**	0.042	−19.523		−0.850	0.398
D	−2.569	−0.036	−0.680	0.499	−2.463	−0.035	−0.950	0.345
EPS_{it}	7.319***	0.779	4.877***	0.000	5.313***	0.566	4.887***	0.000
BVE_{it}	−0.007	−0.010	−0.052	0.959	0.175*	0.239	1.757*	0.083
OCI_{it}	0.481	0.017	0.268	0.789	1.130	0.039	0.904	0.369
$D*EPS_{it}$	5.249**	0.331	2.039**	0.045	3.797**	0.240	2.142**	0.036
$D*BVE_{it}$	−0.074	−0.078	−0.386	0.701	−0.040	−0.042	−0.304	0.762
$D*OCI_{it}$	3.260	0.075	1.069	0.289	0.109	0.003	0.051	0.959
$SIZE_{it}$					1.483	0.043	0.610	0.544
LEV_{it}					0.130	0.010	0.177	0.860
$GROW_{it}$					6.474***	0.299	9.157***	0.000
F value = 62.050*** (Sig. F = 0.000)					F value = 101.120*** (Sig. F = 0.000)			
Adjusted R^2 = 0.841					Adjusted R^2 = 0.925			

Note: Definition of variables is presented in topic 3.2 Research Model and Data Analysis.
   *** significant for two-tailed test at 0.01 level;
   ** significant for two-tailed test at 0.05 level; and
   * significant for two-tailed test at 0.10 level.

Model (7) and (8) are statistically significant (F value = 62.050 and 101.120, respectively) with adjusted R^2 0.841 for model (7) and 0.925 for model (8). The coefficients of earnings (β_2) are positively and significantly related to stock prices in both models. The coefficient of book value of equity (β_3) is negative and insignificant in model (7) while it is positively and significantly related to stock price at 0.10 level in model (8). However, the coefficients of other comprehensive income (β_4) are positive, but they are not significantly related to stock price for both models (7) and (8). It is not value relevant information which yields the consistent findings with regression results shown

in model (3) and (4) as presented in Table 5. The coefficients of interaction term between dummy variables and EPS (β_5) are positively and significantly related to stock prices at 0.05 level for one-tailed test (sig. 0.045/2 = 0.0225 for model (7) and sig. = 0.036/2 = 0.018 for model (8)) and two-tailed test (sig. = 0.045 for model (7) and sig. = 0.036 for model (8)). This can be implied that the value relevance of earnings has increased after the TFRS (revised 2019) adoption. This is also consistent with findings of model (5) and (6) in Table 6. This finding confirms that there are changes in the value relevance of earnings after TFRS (revised 2019) adoption (Hypothesis H_{2a} is accepted).

However, the coefficients of interaction term between dummy variables and BVE (β_6) are negative and insignificant while those of between dummy variables and OCI (β_7) are positive and insignificant for both models. It can be inferred that the adoption of TFRS (revised 2019) does not affect the value relevance of book values and other comprehensive income. These results are contrast with the expectation of hypotheses H_{2b} and H_{2c} (Hypotheses H_{2b} and H_{2c} are rejected).

According to the control variables, only growth of firm is positively and significantly related to stock price while size and leverage are insignificantly related to stock prices which are consistent findings with model (2), (4), and (6).

4.4 Robustness Check: Comparative Value Relevance of Accounting Information before and after the Adoption of TFRS (revised 2019)

The study aims to compare the value relevance of accounting information before and after the adoption of TFRS (revised 2019). Therefore, model (1) to model (4) are analyzed again by dividing the data based on the period of TFRS (revised 2019) adoption. The observations are separated into two groups: before and after the adoption of TFRS (revised 2019) period. The data is match-paired samples. The regression results are not presented here. However, this article summarizes the adjusted R^2 of model (1)–(4) before and after the adoption of TFRS (revised 2019) as presented in Table 8.

Table 8 Adjusted R^2 of Regression Results of Model (1)–(4) before and after the Adoption of TFRS (Revised 2019)

Model	Adjusted R^2 before the Adoption of TFRS (Revised 2019) (n = 41)	Adjusted R^2 after the Adoption of TFRS (Revised 2019) (n = 41)
Model 1: $P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \varepsilon_{it}$	0.825	0.859
Model 2: $P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 SIZE_{it}$ $+ \alpha_4 LEV_{it} + \alpha_5 GROW_{it} + \varepsilon_{it}$	0.905	0.943
Model 3: $P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it} + \varepsilon_{it}$	0.820	0.865
Model 4: $P_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 BVE_{it} + \alpha_3 OCI_{it}$ $+ \alpha_4 SIZE_{it} + \alpha_5 LEV_{it} + \alpha_6 GROW_{it} + \varepsilon_{it}$	0.905	0.943

The results in Table 8 indicate that adjusted R^2 of all models (model 1–4) after the adoption of TFRS (revised 2019) have increased when compared with before adoption period. This leads to the conclusion that the implementation of TFRS (revised 2019) increases the value relevance of accounting information. Interestingly, in the period of before TFRS (revised 2019) adoption, the findings show that there is a decrease in adjusted R^2 of model (3) (adding the other comprehensive income as the explanatory variable) when compared with model (1) (without other comprehensive income) (adjusted R^2 of model (3) = 0.820; adjusted R^2 of model (1) = 0.825). It can be implied that other comprehensive income does not provide the incremental value relevant information beyond earnings and book values in the periods before the TFRS (revised 2019) adoption. However, after the adoption of TFRS (revised 2019) period, the adjusted R^2 of model (3) has increased only little amount when compared with model (1) (adjusted R^2 of model (3) = 0.865; adjusted R^2 of model (1) = 0.859). Moreover, the adding other comprehensive income as the explanatory variable in model (4) does not affect the adjusted R^2 when compared with model (2) both before and after TFRS (revised 2019) adoption. Therefore, these findings confirmed that other comprehensive income fails to provide incremental value relevant when compared with earnings and book values both before and after TFRS (revised 2019) adoption. These results are congruent with model (3), (4), (7), and (8) for testing the value relevance of OCI.

The results in this section can be inferred that the overall value relevance of accounting information has increased after TFRS (revised 2019) adoption. However, OCI fails to provide incremental value relevant beyond earnings and book values both before and after TFRS (revised 2019) adoption.

5. Conclusion, Discussion, and Limitation

5.1 Conclusion and Discussion

This research aims to examine the value relevance of earnings, book values and other comprehensive income and to study whether are changes in the value relevance of accounting information after TFRS (revised 2019) adoption. The main results show that earnings and book values are value relevant information (Hypotheses H_{1a} and H_{1b} are accepted). The findings are consistent with many previous findings (e.g., Easton & Harris; 1991; Warfield & Wild, 1992; Collins et al., 1997; Anandarajan & Hasan, 2010; Chebaane & Othman, 2014; Badu & Appiah, 2018). Earnings can better explain the variation in stock prices than that of book values which is consistent with Badu and Appiah (2018). In the opposite direction, OCI is not value relevant information (Hypothesis H_{1c} is rejected) which is consistent with Aldheimer and Huynh (2014) and Elshamy et al. (2019). The possible reason is that OCI is not a true performance indicator because it includes the nonrecurring items (e.g., unrealized gains and losses related to changes in fair market values of available-for-sales securities). However, this finding is contradicted with many previous researches which concluded that OCI was value relevant information (e.g., Zoubi et al., 2016; Kim, 2017; Jahmani et al., 2017; Mita et al., 2020).

TFRS 9 Financial Instruments and TFRS 16 Leases are two major financial reporting standards which substantially affect the accounting practices applying to financial statements for annual reporting periods beginning on or after January 1, 2020. This will lead to the impacts on the value relevance of accounting information. Adjusted R^2 of model (1) to (4) after TFRS (revised 2019) adoption has increased when compared with before the adoption. The results show that TFRS (revised 2019) adoption increases the value relevance of accounting information which is consistent with Iatridis and Rouvolis (2010), Chebaane and Othman (2014), Krismiaji et al. (2016), Okafor et al. (2016), Topal (2018), Mechelli and Cimini (2021), Chen et al. (2021). Mechelli and Cimini (2021) concluded that IFRS 9 was more value relevant than IAS 39 in the presence of high-quality corporate governance or a high-quality investor protection environment. Both Topal (2018) and Chen et al. (2021) indicated that there was an improvement in value relevance of accounting information after the adoption of IFRS 16 Leases. However, this findings are contrary with Wu et al. (2007), Sun and Sari (2016), Budu and Appiah (2018), Ki et al. (2019) due to the different time period of the study and different sample used. Moreover, this study's finding reveals that there is an increase in value relevance of earnings

after the adoption of TFRS (revised 2019) (Hypothesis H_{2a} is accepted). This result is consistent with Chebaane and Othman (2014); Schaap (2020). Chebaane and Othman (2014) showed that role of EPS dominated that of BVE in the post IFRS period. Schaap (2020) also summarized that the value relevance of earnings have increased after the adoption of IFRS 9. However, this study indicates that the value relevance of book values and OCI has not changed after TFRS (revised 2019) adoption (Hypotheses H_{2b} and H_{2c} are rejected). OCI does not provide the incremental value relevance beyond earnings and book values both before and after TFRS (revised 2019) adoption. Therefore, the TFAC and the SEC should be cooperatives in issuing the guidelines of recognition, measurement, and disclosure related to financial instruments and leases which can improve the value relevance of book values and OCI in the future.

5.2 Limitation and Suggestion for Future Studies

The main limitation in this study there is a limited number of samples of financial institutions in Thailand. The further research should study the changes in the value relevance of accounting information of the listed companies from other industries in the Stock Exchange of Thailand. Another limitation is that the study examines the changes in the value relevance of accounting after TFRS (revised 2019) adoption without investigating whether such changes are due to TFRS 9 Financial Institutions and/or TFRS 16 Leases. Therefore, the future studies should be extended to investigate the effects of TFRS 9 and TFRS 16 on the value relevance of accounting information separately.

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