Gadjah Mada International Journal of Business
Vol. 22, No. 1 (January-April 2020): 49-73

The Evolution in the Value Relevance of Accounting Measures in Indonesia

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Abstract: This paper utilizes the model for share price, which is derived from the valuation model of residual income, to rigorously assess the evolution of the value relevance of accounting measures in Indonesia. As an emerging country, Indonesia's capital markets have had their equity valuations changed substantially. This research uses two different approaches, which are cross-sectional and panel regressions. The statistical results indicate a strong linear association between share prices and fundamental accounting measures. Cross-sectional yearly price regressions provide strong evidence of non-linear changes to the value relevance of the accounting measures over time. Moreover, using panel data analysis, the results of unconditional comparisons reveal that the increased value-relevance of the financial statements are offset by a reduction in the value relevance of earnings per share during the IFRS regime. This could potentially contribute to explain the decrease in the value relevance of accounting numbers during the switchover to IFRS in Indonesia. This study infers that IFRS did not provide robust and recent evidence of its accounting relevance in emerging market countries. Therefore, the usefulness of adopting IFRS needs to be reviewed. It also recommends that the adoption of IFRS should consider common business practices in Indonesia, since this adoption may empower investors' decision making.

Keywords: value relevance; accounting measures; share price model; IFRS;

JEL Classification: M21, O16, and P44.

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ISSN: PRINT 1411-1128 | ONLINE 2338-7238
http://journal.ugm.ac.id/gamaijb

Introduction

Being part of the classical research designs into market-based accounting studies, the topic of the value relevance of accounting measures has been empirically analyzed in various settings. While the earlier studies focused on mature markets, more recent research has been concerned with the value relevance of accounting measures in developing/emerging market countries, which provide a unique setting (Amir et al., 1993; Graham and King, 2000). Featuring their development toward well-functioning institutions, the unique setting motivates some studies to analyze the stability of value-relevance as well as its potential evolution. Some studies undertaken in this unique setting observed mixed results, and some inconsistencies were attributed to the problems of the researches' designs (Abdel-Khalik et al., 1999; Chen et al., 2001; Sami and Zhou, 2004). In addition to the nature of value relevance studies in emerging market countries, there has also been growing interest toward value relevance's superiority. Accordingly, the debate on whether International Financial Reporting Standards (IFRS), which represent international accounting standards, have more value relevance than national accounting standards in those economies remains open as consensus about this is far from consistent.

Answering a call from the previous literature, such as in Schipper (2005); Weetman (2006); and Tsalavoutas et al., (2012), this paper rigorously assesses the extent to which the accounting measures in financial reports serve as useful information for the equity valuations performed by investors in the capital market in Indonesia, an emerging market country which has had its equity valuation changed substantially. Little is known about value relevance in the country, but similar emerging countries have attracted the attention of many investors, who try to diversify their portfolios and expect new investment opportunities. Therefore, this paper addresses two main objectives: (1) Detecting changes in the value relevance of accounting measures over a set period. (2) Examining the value relevance during the reform of the accounting-information system. Focusing on a single emerging country, this paper seeks to clearly articulate the objectives, since the research design allows us to control some factors that affect the financial reporting processes of companies and the investment behavior of stock market players (Harris et al., 1994; Ruland et al., 2007; Sarumpaet et al., 2017).

As an emerging market country, Indonesia offers an attractive environment because of its economic and institutional factors. More importantly, the factors are in a steadily changing condition. Being one of the oldest exchanges in the emerging market economies, the Indonesia Stock Exchange has become necessary in the emerging financial markets of Asia (Alford et al., 1993; Suwardi, 2004). However, according to Baralexis (2004), the financial market is not supported by a mature and robust accounting/audit profession. This potentially affects the regulation of accounting practices. Moreover, the reform of the accounting information system in Indonesia, which was expected to improve pricing efficiency, now provides an environment that enables this paper to analyze whether accounting measures made under IFRS have a superior value relevance than those prepared under Indonesian Financial Accounting Standards.

By employing share price models derived from Ohlson's (1995) valuation model of residual income, this paper analyzes

the value relevance of accounting measures in Indonesia over the period from 2002 to 2018 using two different data sets, which are cross-sectional and panel data. Without making any distinction about the applicable set of accounting standards, the results of our yearly cross-sectional regressions uncovered two key findings. First, the accounting measures, represented by the book value and earnings per share, are relevant to the process of equity pricing and valuation in Indonesia's capital market. The results from the relative and incremental approaches indicate earnings persistence in the effort to set share prices in Indonesia. Second, value relevance and its incremental form appeared to change over the duration of this study. Going beyond graphical inspections, we formally modeled the incremental explanatory power of accounting measures on a time trend and found a significant non-linear pattern for the value relevance. We accurately document the change with an upward trend during the 2002 to 2012 period and a downward trend during the period from 2012 to 2018.

This study takes into account certain assumptions to strengthen its associated examination between fundamental accounting information and stock prices. First, this study assumes that the Indonesian capital market is at a semi-strong hypothesis level. This assumption shows that fundamental accounting information should be perfectly reflected by stock market prices. This reflection process means that in the Indonesian capital market, there is no dominant private information, since all information is public information and is reflected in the share prices (W. Beaver et al., 1980; Morck et al., 2000; Ohlson, 1983). In other words, this study assumes that information leakages, ceteris paribus, did not occur during this research period. Second, this study believes that the political cost hypothesis (Makar and Alam, 1998; Watts and Zimmerman, 1990) does not significantly affect accounting information and accounting numbers. Even though this research has removed the accounting period that can affect accounting information, this research still assumes that during this research period, there were no political changes by the Government of Indonesia (GoI) or the accounting regulator to the policies that affect the volatility of accounting information. Third, this study considers that macroeconomic information does not significantly affect the association between accounting information and stock market prices on the Indonesian capital market. This study, furthermore, believes that the volatility of the Indonesian rupiah does not affect this association too much (Beisland and Hamberg, 2013; Guenther and Young, 2000; Joh and Lee, 1992). In other words, the volatility of the rupiah, in comparison with the US dollar, has an average ratio of adjustment, which is transmitted into the stock prices as the formulation of the trade-offs by the money market and capital market.

Panel data models are employed to examine whether the 2012 switchover to IFRS in Indonesia contributed to the change in the value relevance of accounting measures. Using unconditional comparison tests, the results from our panel data models reveal that the value relevance during the use of the Indonesian Financial Accounting Standards was higher than the corresponding measure under the current regime of IFRS. In other words, the informativeness of accounting measures, especially earnings per share, tended to decrease after the mandatory switch to the international accounting standard. Moreover, the more significant role of the book value under IFRS indicates the positive impact of assets and liabilities recognition and fair value treatment. In contrast, earnings do not play

a pivotal role under IFRS, and the underlying reason for this finding is related to the curtailment of income smoothing practices.

This study could provide robust and recent evidence of accounting relevance in emerging market countries, and it is expected to contribute to the accounting literature in two ways. First, it enriches the knowledge regarding value relevance in developing market countries by considering a country that experienced a reform in its accounting-information system. To warrant its findings, this paper was supported by an accurate methodological choice and by the awareness of the presence of critical arguments on the design of value relevance that have been raised by previous studies (Barth et al., 2001; Barth and Clinch, 2009). Second, this paper questions the extent to which the convergence between Indonesian Financial Accounting Standards and IFRS will contribute to the betterment of the accounting system's quality and, as a result, increase the value relevance of the accounting measures. In other words, the advantages of IFRS adoption have been challenged because there was no significant improvement in the value relevance (Clarkson et al., 2011). Therefore, the empirical shreds of evidence presented in this paper should be of interest to investors in the capital market and the setters of accounting standards in emerging market countries.

The remainder of this paper is structured as follows. In the next section, this paper reviews the previous research into the value relevance of accounting measures and discusses the institutional setting of financial reports in Indonesia, and especially its accounting standards. The section that follows is devoted to the model specification and data selection used in this paper. Then, the empirical results are presented and discussed. This paper will end with a conclusion and caveat of the study.

Literature Review

Relevant Prior Studies

The concept of value relevance, which traditionally refers to the ability of accounting measures to capture underlying information about equity prices in the capital market from financial statements, has presented an examination of the role of accounting measures in providing useful information for making economic decisions about the equity market (Francis and Schipper, 1999). Since the seminal works of Ball and Brown (1968) and W. H. Beaver (1968), the relationship between share prices and accounting measures has frequently been examined. Different contexts of such research involve related issues that contribute to the growing body of value relevance studies. The earlier studies investigated the empirical relationship between accounting measures and share prices in developed economies. The structural changes that occurred in some developed countries motivated fresh reviews of the evolution of value relevance (Balachandran and Mohanram, 2011; S. Brown et al., 1999; Sumiyana S el at., 2019).

While most value relevance studies using the United States (US) database concluded that value relevance decreases over time, the findings of similar studies in developing/emerging market countries provide mixed evidence (Barth and Kallapur, 1996; Filip and Raffournier, 2010; Sami and Zhou, 2004). Some institutional factors, such as tax laws, the legal framework, and the enforcement of accounting standards, have been claimed to be the primary factors that could contribute to the variations in the value relevance

of accounting measures. However, the findings from developing countries have indicated that value relevance cannot be predicted.

Recently, the studies of value relevance in developing/emerging market countries have compared the information quality in financial statements under different sets of accounting standards. The main objective has been to analyze whether the implementation of new accounting standards leads to a higher value relevance for the accounting information (Clarkson et al., 2011). In particular, the mandatory adoption of IFRS by many countries has been regarded as the catalyst for the recent value relevance studies. Some studies concluded that IFRS implementation contributed to a higher value relevance of accounting measures (Liu and Liu, 2007), while other studies produced contrary results (Hung and Subramanyam, 2007). According to Barth et al., (2008), different consequences of accounting standards are partially affected by the interdependency between the accounting standards and the country's characteristics.

This research mitigates the effect of different institutional factors in the value relevance of accounting measures prepared under different accounting standards. Some studies, however, have focused on single-country studies instead of cross-countries comparisons. The single-country studies have focused on some developed countries such as Australia (Goodwin and Ahmed, 2006; Goodwin et al., 2008), the United Kingdom (UK) (Christensen et al., 2009), and German (Jermakowicz et al., 2007). Similar studies in developing/emerging market countries are beginning to appear (Liu and Liu, 2007; Tsalavoutas et al., 2012; Sumiyana S, 2020).

From a methodological perspective, there were some efforts to minimize bias inferences in the value relevance studies under the regression approach (Ali and Hwang, 2000; Barth and Kallapur, 1996). The first effort was related to the choice or specification of the model because value relevance can be mathematically modeled using either the share price or stock returns as the measured variable. The price model specifies the share price as a linear function of the book value and earnings per share. The specification was based on what developed from Ohlson's (1995) concept of residual income valuation. On the other hand, the returns model expresses share price returns as a function of earnings and changes in earnings (Easton and Harris, 1991).

Having noticed the relative merits and shortcomings of the models, many researchers believe that both models represent distinct features. The price model's specification should be applied if the focus is on the relationship between accounting measures and company share price (Ohlson, 2001; Sunder, 1973). The price model is more relevant for analyzing how the changes in the new accounting measures affect companies market values. Technically, many previous studies have also realized that both models also seem to suffer from econometrical problems. The price model could produce a less biased regression coefficient, but the explanatory power of the model can be biased due to the size effect, and the omitted-variable problem (Easton and Sommers, 2003). Moreover, the price model also suffers from a spurious scale effect because high share prices seem to be closely linked with high book values and earnings per share (S. Brown et al., 1999). On the other hand, the return model's regressions could mitigate the size effect by the scale and produce reliable explanatory powers, but there is a potential error caused by an independent variable problem. This could create bias in the coeffi-

cient of earnings response toward zero (Sriprakask P Kothari and Zimmerman, 1995).

The second effort to minimize bias inferences in the value relevance studies under the regression approach is related to the choice of a time window that will be set in the company market value estimations. Using a sample of United States' companies, Collins and Kothari (1989) explained that the choice of a time window could have an undesired effect on the value relevance studies, in the context of a single-country analysis. Moreover, there are three opinions for time window choices. According to the first opinion, a 12-month time window was selected using three different types of ending, namely ending at fiscal year-end, ending at three months after fiscal year-end, and ending at four months after the first year-end. Moreover, the second opinion offers a 15-month window by ending three months after fiscal year-end. The third opinion employs an 18-month window, by ending six months after fiscal year-end.

The Indonesia Stock Market and Accounting Environment

Although it initially opened on August 10, 1977, Indonesia's capital market began to grow too big in the last decade. At the beginning of the 2000s, there were 286 companies listed on the Indonesia Stock Exchange, with a trading value of IDR 122.8 trillion (US $ 1 = IDR 9,595). By the end of 2018, there were 619 companies listed on the Indonesia Stock Exchange, with a trading value of IDR 2.040,09 trillion (US $ 1 = IDR 14,481). Reaching a total market capitalization of 485.01 billion US dollars, the Indonesia Stock Exchange was one of the 30 largest stock markets in the world in 2018 (see data source https://www.world-exchanges.org).

Listed companies in Indonesia are subject to disclosure regulations. According to the Capital Market Law No. 8 (1995), it is compulsory for companies listed on the Indonesia Stock Exchange to publish periodic reports and submit them to the capital market authorities. Moreover, the listed companies are also required to have published an annual audited balance sheet and income statement in two Indonesian newspapers, one of which must have a nationwide circulation. The reports should be publicly available within 90 days of the date of the balance sheet. Before the implementation of IFRS, all the published reports must comply with the Indonesian Financial Accounting Standards (or the Statement of Financial Accounting Standards - SAK).

In December 2008, the Indonesia Financial Accounting Standards Board decided that the Indonesian Accounting Standard will be gradually converged to IFRS, as of 2012. The process of convergence was divided into three stages; adoption (2008 to 2010), preparation (2011), and full implementation stage (2012). Although there was slow progress during the first phase, the Board had successfully revised 15 accounting standards and revoked 15 non-IFRS based rules by 2010, which led to a limited gap between SAK and IFRS (Bank, 2011). The capital market authorities complied with the new development of accounting standards in Indonesia, and it then issued regulation No. KEP-346/BL/2011. The companies listed on the Indonesia Stock Exchange released their first financial reports using international accounting standards at the end of March 2012.

Methods

Specification of Share Price Model

The analysis of the value relevance of accounting measures in this paper is based on the valuation model of residual income, which was initially proposed by Ohlson (1995). The model starts with the dividends discounted model, which assumes that the equity value equates to the present value of expected future dividends, with the given consideration of homogeneous preferences, the neutrality of risk, and non-stochastic interest rates. In the infinite-period setting, the model can be written as follows:

$$EV_t = \sum_{\tau=1}^{\infty} \frac{E_t(D_{t+\tau})}{(1+R)^{\tau}} \quad (1)$$

where EV_t is equity value at time t, $E_t(D_{t+\tau})$ is the expected dividends to be received at time $t+\tau$, and R is the constant risk-adjusted discount rate.

Holding the assumption of clean surplus relation (CSR), the book value per share is used to represent the equity value of a company. Specifically, the CSR assumption dictates that any changes to the book value of a stock are associated with changes to the income generated and retained by the company. These relationships can be expressed as follows:

$$BV_t = BV_{t-1} + xt - D_t \quad (2)$$

where BV is the book value of the share at the end of the period t, by analogy $BV_{(t-1)}$ is the book value of shares in the previous period, x_t is accounting earnings for period t, and Dt is dividends paid at time t. Moreover, using a simple algebraic manipulation, this paper introduces an abnormal earnings equation and rewrites Equation 2 thus:

$$D_t = x_t^a + (1+R)BV_{t-1} - BV_t \quad (3)$$

where x_t^a is abnormal earnings and is defined as $x_t^a = x_t - R(BV_{t-1})$. Using Equation 3, $D_{(t+\tau)}$ in Equation 1 is replaced to derive the basic residual income valuation model, as shown below.

$$EV_t = BV_t + \sum_{\tau=1}^{\infty} E_t\left(\frac{x_{t+\tau}^a}{(1+R)^{\tau}}\right) \quad (4)$$

Equation 4 implies that the equity value would be determined by the book value of shares and the present value of expected abnormal earnings. Moreover, Ohlson (1995) introduces a conceptual framework called linear information dynamics that accommodates the linkage between accounting information and a company's intrinsic value. There are some assumptions about the time-series behavior of abnormal earnings in Equation 4. Accordingly, the abnormal earnings are generated by the following process:

$$x_{t+1}^a \psi x_t^a + \nu + t + \varepsilon_{1t+1,} \quad (5)$$

$$\nu_{t+1} = \gamma \nu_t + \varepsilon_{2t+1} \quad (6)$$

Where v_t is other information besides abnormal earnings, ψ is a persistence parameter of abnormal earnings x_{t+1}^a $(0 \leq \psi < 1)$, γ is a persistence parameter of other information $v_t (0 \leq \psi < 1)$, and $\varepsilon_{1t}, \varepsilon_{2t}$ are zero-mean random disturbance terms.

The valuation model of the clean surplus residual income is combined with the linear information dynamics, as shown below.

$$EV_t = BV_t + \frac{\psi}{1+R-\psi} x_t^a + \frac{1+R}{(1+R-\psi)+(1+R-\gamma)} v_t \quad (7)$$

Equation 7 is further reformulated to obtain a model in which abnormal earnings can be substituted by earnings, as shown below.

$$EV_t = (1-k)BV_t + k(\varphi x_t^{earning} - D_t) + a_2 v_t$$

(Capital Market Law No. 8, #48)

Where $k = a_1 R = \frac{R\psi}{1+R-\psi}$ and $\varphi = \frac{R+1}{R}$. The term k describes the relative importance of

accounting information measures in equity valuation.

Equation 8 can be rewritten to express a linear relationship between the equity value and accounting measures, as in the following specification.

$$EV = \beta_1 BV + \beta_2 Earning + \beta_3 Devidend + B_4 v + e \qquad (9)$$

Equation 9 serves as the theoretical foundation for our value relevance study. If dividend and other information have no roles in the long term, we utilize the equation to develop our basic specification on the share price model as follows:

$$EV_{i,t} = \beta_0 + \beta_1 BV_{i,t} + \beta_2 Earning_{i,t} + e_{i,i,t} \qquad (10)$$

Where the dependent variable $EV_{(i,t)}$ is the share price of a company *i* four months after the end of the fiscal year *t* (i.e., April 30 in year *t*+1). Similar with Barth et al., (2008), the choice for the specific time window of the share price is to ensure that the accounting measures have been in the public domain because, in most emerging market countries, including Indonesia, all the companies' financial reports for the year *t* will be fully available in March or April in the year *t*+1. Therefore, the share price after four months is assumed to reflect the utilization of the accounting information by investors in the capital market. The independent variables $BV_{(i,t)}$ refer to the book value of equity per share, which indicate the net asset value of the company on a per-share basis, and $Earnings_{(i,t)}$ refers to earnings per share of company *i* for the period at time *t*.

The share price model shows that the book value per share (*BV*) and earnings per share (*Earnings*) provide valuable information for the valuation of equity. The book value coefficient β_1 is predicted to be a significant value driver, especially when companies are reporting losses (Bao and Chow, 1999; Barth et al., 1998; Darrough and Ye, 2007; Dobija and Klimczak, 2010). Moreover, both independent variables are expected to have a significant positive effect on the share price. The intercept β_0 is expected to be statistically insignificant since the valuation model implies there is no theoretical role for the intercept.

Regression Analysis and Value Relevance Metric

The authors evaluate the value relevance of accounting measures in Indonesia. This paper estimates Equation 10 in two different settings: cross-sectional and panel regressions. The cross-sectional regression is critical for several investigations (Barth and Kallapur, 1996; S. Brown et al., 1999; Stephen P Kothari, 1992). First, it allows us to assess the relationship between accounting measures and the share price of the company. Second, it also allows us to identify whether there is a shift in the value relevance of the accounting measures over the period.

If the linear relationship between accounting measures and share price is statistically significant, the degrees to which accounting measures explain the variations in equity price will be utilized as the value relevance measure (Amir et al., 1993; Bartov et al., 2005). In other words, the explanatory power of the combined book value and earnings per share (i.e.,-*adjusted* R^2) represents the value relevance metric. Changes in the metric over time is therefore the first research objective.

This paper also analyzes the value relevance of each explanatory variable to indicate which accounting information is a better summary measure for setting equity

prices. Technically, this calculation of the relative explanatory power of the book value and earnings per share would be obtained from the regression models, as shown below. Adjusted R_2 for equations 11 and 12 are denoted by R^2_{BV} and R^2_{EPS} respectively.

$$EV_{it} = \alpha_0 + \alpha_1 BV_{it} + e_{it} \quad (11)$$

$$EV_{it} = \gamma_0 + \gamma_1 Earning_{it} + e_{it} \quad (12)$$

Following King and Langli (1998), this paper decomposes the incremental component of the book value per share, R^2_{BV}, and the incremental component of earnings per share, R^2_{EPS}. The decomposition aims at providing insights on whether the book value or earnings per share present different information to the capital market investors when they set share prices. Technically, the incremental explanatory power of earnings per share (Incremental EPS) is derived by subtracting the adjusted R^2 of Equation 11 from the adjusted R^2 of Equation 10 (i.e. *Incremental EPS*= R^2_{Total}-R^2_{BV}). Similarly, the incremental explanatory power of the book value per share (Incremental BV) is obtained from the difference between the adjusted R^2 of Equation 12 and Equation 10 (i.e., *Incremental BV*=R^2_{Total}-R^2_{EPS}).

Panel data analysis is employed to answer whether there is a change in accounting quality as a result of the reform of the accounting information system in Indonesia. This paper estimates the value relevance of accounting measures in the pre- and post-periods of IFRS implementation. Using panel analysis, this paper also examines whether there is a similar result regarding the positive relationship between accounting measures and share price among loss- and profit-making companies for earnings.

Sample and Data Collection

The population for this study covers all the listed companies on the Indonesia Stock Exchange. Following previous studies, some firms with negative book value per share were eliminated from the analysis (Collins et al., 1999). Moreover, the data covers the 2002 to 2018 period and were chosen for the data's quality and availability. The selected period consists of a six year period before IFRS implementation (2002 to 2007) and eleven years after IFRS implementation (2008 to 2018).

As explained in the previous section, the value relevance of accounting measures would be examined by two regression settings, namely cross-sectional and panel regressions (Aboody et al., 2002; S. Brown et al., 1999). For the cross-sectional regression analysis, the final sample comprised of a different number of firms each year, as provided in Table A.1 in the Appendix. On average, there were 223 firms included in the example in the year concerned or about 52.20% of the initial population. Furthermore, for the panel regression analysis, there was an additional criterion used to select the sample. Accordingly, only firms in existence both before and after IFRS adoption were included, because the objective of the panel regression analysis is to capture the potential effect of the accounting reform. Therefore, the final sample contained 194 firms for the full sample.

This study collected the data on share prices, the book value per share, and earnings per share from the Indonesian Capital Market Directory (ICMD) provided by the Indonesia Stock Exchange. To check the accuracy of the data, this paper randomly compared the data for some companies from the ICMD database with the reported financial statements of the same companies, which

are usually uploaded on the company's website, and found no discrepancies in the data.

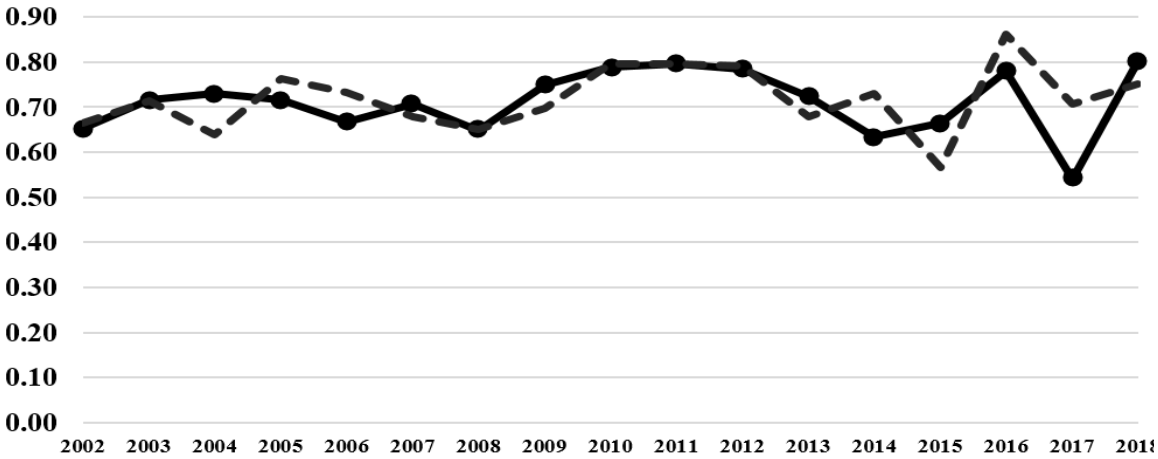

Figure 1. Correlation Between Accounting Measures and Share Price

Results

Yearly Cross-Sectional Regressions

This study investigated the statistical moments of the main variables and then observed that the variables did not follow a normal distribution in a strict form. As shown in Table A.2 in the Appendix, there is a considerable gap between the two measures of location, namely the mean and median of the main variables. Moreover, there is some evidence of positive skewness and kurtosis for all the variables in the sample. The positive skewness values imply that observations are concentrated on the left side. The positive kurtosis values indicate a sharper peak and flatter tails (Westfall, 2014). This descriptive statistic was provided after controlling for outliers. The effort to control the outliers is based on several statistical measures that may influence them, such as the studentized residual, the covariance matrix ratio, etc.

The results from the correlation coefficients provide preliminary evidence that the book value and earnings per share have a positive effect on the share price. As shown in Figure 1, the correlation coefficient for the book value with share price has a range between 0.54 and 0.80. The highest correlation coefficients occurred in 2018. The coefficient of the yearly correlation coefficients between earnings and share prices had a greater fluctuation, with a range of values between 0.57 and 0.86. Moreover, the annual correlation coefficients for both the book value and earnings with prices share a similar trend. The yearly correlation coefficients decline gradually during the 2011 to 2014 time period. A considerable fluctuation followed this decline in the correlation coefficients until the end of 2018.

Performing long term value relevance studies, this paper estimates cross-sectional price regressions on the book value and earnings per share using ordinary least squares (OLS) with White's heteroskedasticity-adjusted standard errors. As shown in Table 1, there is strong evidence that the book value and earnings per share are value relevant, as they are statistically significant for explaining the variation in share price. It is observed that the impact of these two variables is positive. Moreover, the coefficients of the book val-

ue per share are statistically significant in 16 out of 17 years. However, the magnitude of the book value coefficients is smaller than earnings in most of the pooled cross-sections. Possible reasons for this result could be related to the ability of income to provide information regarding the utilization of company resources (S. Brown et al., 1999; Holthausen and Watts, 2001). Therefore, expressing the share price as a weighted function of the book value and earnings per share, this paper observes that the

Table 1. Yearly Cross-Sectional Regressions of Share Price on Accounting Measures

Year	BVPS	EPS	C	Adj R2	F-test	N
2002	0.485** (0.1818)	1.896* (1.012)	16.467 (72.861)	0.596	147.007***	199
2003	0.174** (0.048)	6.834*** (0.951)	189.186*** (34.033)	0.586	148.665***	210
2004	0.658** (0.214)	3.242* (1.587)	199.725* (93.820)	0.420	76.691***	210
2005	0.246** (0.121)	9.026*** (1.637)	174.255** (47.191)	0.528	127.310***	227
2006	0.912* (0.512)	8.896** (2.346)	13.994 (148.559)	0.384	66.895***	212
2007	0.423** (0.195)	7.430** (1.811)	255.061** (82.184)	0.524	132.025***	239
2008	0.2581** (0.103)	2.481*** (0.528)	313.114*** (48.218)	0.499	103.578***	207
2009	0.2331* (0.137)	6.419*** (0.824)	377.663*** (69.137)	0.831	597.324***	244
2010	0.298* (0.171)	9.058*** (1.653)	205.922** (73.722)	0.655	218.982***	231
2011	0.004 (0.288)	12.748*** (1.589)	231.137* (133.941)	0.700	288.646***	248
2012	0.526* (0.311)	10.390*** (3.429)	72.855 (170.788)	0.580	142.017***	205
2013	1.006** (0.309)	2.235 (1.650)	414.832** (203.187)	0.276	47.013***	243
2014	1.167** (0.478)	1.889 (1.737)	2,100.846** (849.194)	0.120	17.124***	237
2015	1.155*** (0.105)	0.628* (0.331)	453.439* (246.085)	0.167	22.239***	213
2016	0.433* (0.240)	10.532*** (2.845)	73.468 (368.42)	0.750	345.221**	230
2017	0.452*** (0.127)	5.224*** (0.962)	594.017*** (115.691)	0.648	194.100***	210
2018	0.847*** (0.231)	3.815** (1.920)	394.480** (166.199)	0.675	293.203***	227

Values in parentheses report robust standard errors. *, **, and *** indicate statistical significant at the 10%, 5%, and 1% levels, respectively.

weight is dependent on earnings persistence.

According to the cross-sectional regressions, the combined explanatory power of the accounting measures in explaining share prices, taken four months after the fiscal year ended, varies over the sample periods. Within the sample period, we observe three periods with significant differences in explanatory power. During the 2002 to 2007 time period, the mean of the adjusted R^2 values of cross-sectional regression were 50%, indicating that the accounting measures explain about 50% of the variance in the share price. During 2008 to 2011, which marks the IFRS adoption phase in Indonesia, the book value and earnings per share indicated substantial explanatory powers to describe the variations in share prices. The mean of the adjusted R^2 values of all the cross-sectional regression were 67.1%. Moreover, the explanatory power during the era of IFRS implementation appears to be more volatile. Accordingly, the adjusted R^2 values range from 12% to 75%, with an average of 45.9% for the 2012 to 2018 period.

Conducting relative value relevance studies, we estimate two univariate regression models, as explained in Section 4. As summarized in Table A.5, the results indicate that earnings play a primary role in predicting future cash flows. Specifically, the explanatory power of earnings per share is relatively higher than the explanatory power of the book value per share in the sample period. The mean of the adjusted R^2 values of earnings (46.7%) exceed that of the book value (39.9%). Moreover, the incremental value relevance studies show that earnings per share have more incremental value relevance than does the book value per share in 12 of the 17 years. On average, the book value and earnings per share explain 6% and 13% respectively, of the total variation in share prices. This finding implies that each measure provides different information to investors setting the equity prices. Therefore, it is consonant with the theoretical framework of Ohlson (1995).

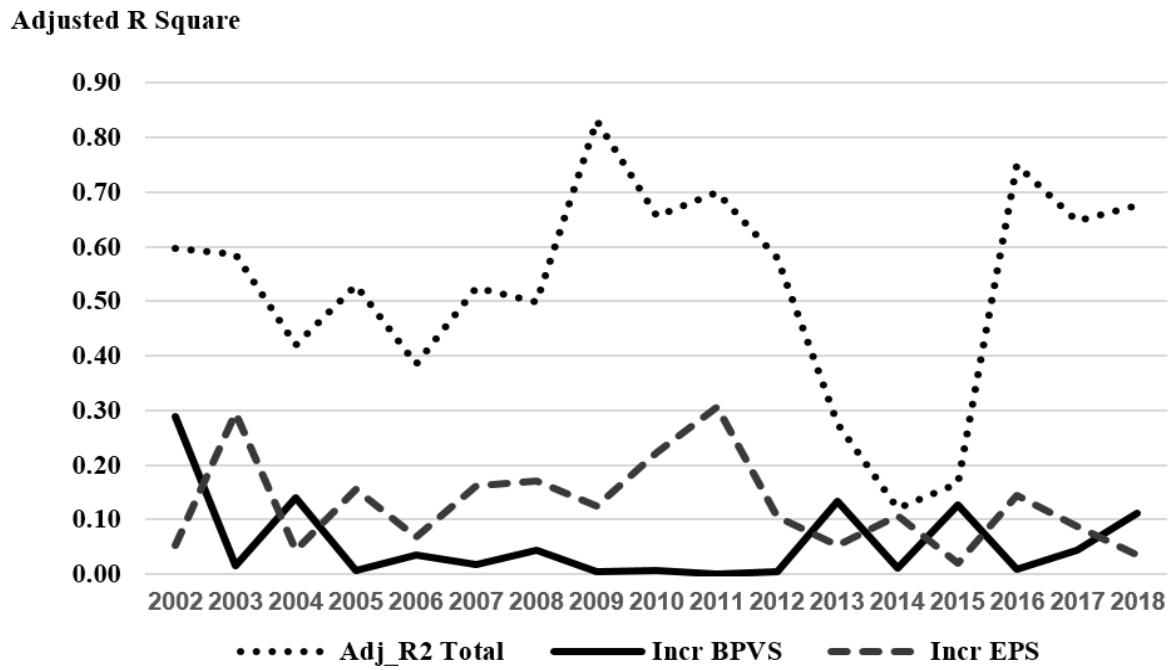

Figure 2. The Combined and Incremental Explanatory Power in 2002-2018 Period

To inspect any changes in the value relevance and its incremental form over the period, the adjusted R^2 values of the cross-sectional regression and the incremental explanatory power of the accounting measures are plotted in Figure 2. The results show that the adjusted R^2 values appear to follow a non-linear trend during 2002 to 2018. Regarding the adjusted R^2 values, this paper documents a change with an upward trend during the 2002 to 2009 period. The adjusted R^2 values reached their peak in 2008 (Adjusted R^2=83%). For the 2010 to 2014 period, the adjusted v values decreased substantially. This period included a short-transitory year, when listed firms began to apply the new regulation regarding accounting standards. This adjustment might lead to difficulties in assessing company performance, as is indicated by the decrease in the adjusted R^2 values.

While the incremental explanatory power of earnings follows a similar pattern to the combined value relevance, the book value per share saw its incremental explanatory power increase after the implementation of IFRS in 2012. To formally document any trends that existed in the incremental explanatory power over time, this paper regressed the incremental explanatory power of the book value and earnings per share on the independent variable of a time trend. Specifically, the regressions were based on the following models.

$$R_t = \delta_0 + \delta_1 Time_t + e_t \quad (13)$$

$$R_t = \delta_0 + \delta_1 Time_t + \delta_1 Time_t^2 + e_t \quad (14)$$

Where R represents the incremental explanatory power of accounting measures, book value and earnings per share. The *Time* variable refers to the 17 years of the sample. If the *Time* variable shows a significant positive coefficient, it implies that the value relevance measures experience a particular increase. Conversely, a coefficient with a significant negative result suggests a decrease in the value relevance measures. In Equation 14, a quadratic term of the time trend variable is also fitted to indicate whether there is a non-linear trend. Table 2 reports the result of the time-series regression of the incremental explanatory power on the time-trend vari-

Table 2: Regressions of the Incremental Explanatory Power

Model Specification	**C**	**Time$_t$**	**Time^2_t**	**R^2**	**F-statistics**
Dependent Variable: **Incremental EV**					
Model 1	0.166*** (0.031)	-0.0040.002711		0.06	1.06
Model 2	0.093 (0.053)	0.018 (0.013)	-0.001* (0.001)	0.171	1.453
Dependent Variable: **Incremental BV**					
Model 3	0.086 (0.052)	-0.003 (0.004)	-	0.03	0.61
Model 4	0.200*** (0.083)	-0.039** (0.017)	0.002*** (0.000)	0.36	3.98**

Values in parentheses report robust standard errors. *, **, and *** indicate statistical significant at the 10%, 5%, and 1% levels, respectively.

ables. In general, the results show no evidence for a reliable increase or decrease in the incremental explanatory power throughout the period. However, this paper found a significant non-linear trend for the value relevance metric. Regarding the incremental explanatory power of earnings, this paper documents a positive coefficient for the term $Time_t$ and a negative coefficient for the quadratic term $Time^2_t$, which supports a significant non-linear trend in the incremental explanatory power throughout the sample period. It implies that the increasing change in the incremental explanatory power of earnings is less than linear, because of the downward force of the quadratic term. Furthermore, the result of the incremental explanatory power of the book value reveals the opposite pattern. In particular, the linear time has a downward effect while the quadratic time has an upward impact. It implies that the trend line will level off and head upward. Finally, all findings confirm the simple observation of Figure 2, which then leads to a piece of strong evidence that the value relevance experiences a change in its non-linear trend over the duration of the study.

Panel Regressions

After observing a significant change in the value relevance of accounting measures over the sample period, in the Indonesian context, this paper examines whether the shift is partly attributed to the reform of the accounting information system. Since 2012, firms listed on the Indonesia Stock Exchange must fully comply with IFRS for all their published financial statements. The descriptive statistics in Appendix 1 indicate that there are significant differences between accounting measures prepared under IFRS and those made under the Indonesian Financial Accounting Standards. The differences in the mean of the book value and earnings

Table 3. Fixed Effect Panel Analysis

Model				N
Panel A: All Firms				
2002-2018	1.309* (0.711)	14.367*** (3.136)	0.651	3,298
2002-2011 (The Regime of Indonesian Financial Accounting Standards)	0.754* (0.443)	12.665*** (3.669)	0.784	1,940
2012-2018 (The Regime of IFRS)	3.672** (1.851)	12.755** (5.002)	0.638	1,358
Chow Test	148.35***			
Panel B: Excluding Losses				
2002-2018	2.216** (1.065)	14.600*** (3.293)	0.671	1,343
2002-2011 (The Regime of Indonesian Financial Accounting Standards)	1.231** (0.617)	14.598*** (3.807)	0.845	790
2012-2018 (The Regime of IFRS)	6.207** (2.567)	11.211** (4.885)	0.668	553
Chow Test	84.39***			

Values in parentheses report robust standard errors. *, **, and *** indicate statistically significant at the 10%, 5%, and 1% levels, respectively.

per share during the pre-and post-IFRS periods are 460 (significantly different from zero at the 0.01 level) and 116 (substantially different from zero at the 0.10 level), respectively. Therefore, the 2012 switch to IFRS motivates this paper to explore the possibility of the extent to which the financial statements prepared using international accounting standards are more valuable.

To analyze the change in the linear relation between market values and accounting measures under different reporting regimes, this paper uses a two-sample unconditional comparison test, which specifies the two reporting regimes as independent samples. Utilizing panel data, the test is accommodated by the fixed effect regression model. The regression estimator is relevant as it enables us to control the effect of any omitted variables and unobserved heterogeneity.

Summarized by Panel A in Table 2, the result for all the firms in the sample suggests that, in general, accounting information is value relevant during the 2002 to 2018 period, as shown by the significance levels of the independent variable's coefficients. Moreover, the unconditional comparison tests reveals that the value relevance of the accounting measures in the regime of the Indonesian Financial Accounting Standards is high (Adj R^2=0.784), compared to the corresponding measure in the regime of IFRS (Adj R^2=0.638). The Chow test for differences in the combined explanatory power of the book value and earnings per share during the pre- and post-period of IFRS adoption rejects the null hypothesis of no difference in the value relevance, suggesting that the value relevance of the book value and earnings declines after IFRS adoption.

Evaluating the coefficients of the accounting measures, this paper found that book value coefficients are statistically significant at the 10% and 5% level, respectively, in both regimes. However, the coefficient of the book value per share under IFRS is significantly higher than that of the corresponding coefficient for the Indonesian Financial Accounting Standards. IFRS requires firms to be more committed to the more significant usage of fair values. To comply with the requirement, firms are encouraged to curtail their practices of creative accounting related to their balance sheets. As a result, the balance sheets numbers become more value relevant. This finding is similar to Hung and Subramanyam (2007) and Devalle et al., (2010), who report an increase in the book value coefficient after the switchover to IFRS, in the context of Germany and the United Kingdom, respectively.

The unconditional comparison tests also show that the coefficient of earnings is value relevant in both the accounting regimes. It could also imply that the introduction of fair value adjustments in the income statements under IFRS does not lead to a decline in the persistence of net income.

Similar results found in the unconditional comparison tests using the full sample are also valid when the sample is limited to a positive-earnings sample. Accordingly, balance sheet numbers would be more value relevant, but income statement numbers would be less value relevant under IFRS. Moreover, the decreased explanatory power of accounting measures (from 84.5% to 66.8%) is also observed using a positive-earnings sample. In addition to the findings, there are two noticeable differences between the full sample and the positive-earnings sample. First, during the pre-IFRS adoption period, the coefficients of earnings per share for the positive-earnings sample tend to be relatively high, compared

to those for the full sample. This may indicate that investors view losses as temporary because investors could execute their choice to liquidate the company rather than to endure losses. Therefore, compared to positive earnings, losses are weakly associated with market values. Second, the magnitude of the book value coefficient under IFRS is getting larger, even if it is compared to the coefficient of earnings in the same regime. This finding justifies the notion that a balance sheet with more fair values leads to an increase in the value relevance of the book value per share.

Research Findings and Consequences

First of all, this study finds that Indonesia, as an emerging country, only partially adopted IFRS. It, therefore, shows that there is a higher value relevance in using the former standard than the IFRS regime. The authors arguments, using some critical reasoning, follow. First, the authors argue that the accounting figures generated based on IFRS standards have relatively low verifiability. This low verifiability is due to the increased emphasis on fair value measurements offered by IFRS standards. De George et al., (2012) mentioned the implications of emphasizing the measures of fair value are subjectivity, discretion, and more professional judgment in the financial reporting process. This study proposes that the unreliable accounting figures (i.e., earnings) cause earnings persistence to be low (Richardson et al., 2005). If the relationship between stock returns and earnings depends on earnings persistence (Kormendi and Lipe, 1987), low earnings persistence could explain the weak relationship between the earnings numbers and stock returns. This study, finally, recommends that the proper accounting standard is the one which can empower companies to maintain and improve their earnings persistence.

Second, this study posits Georgiou (2018), who revealed dissonance in the relationship between the Indonesian Accounting Standards Board and the users of financial statements. The dissonance is due to the use of assumptions about the financial statement users behavior, based on the country's standard-setter, even though the purpose of financial reporting is to provide useful information. The results of Georgiou's (2018) research using the interview method showed that investors and analysts have an interest in assessing how businesses create and maintain value through a transactional approach instead of the physical one via the underlying assets and liabilities. This study noted that fair values are those that are required by the current accounting standards, which are part of the transactional approach. It, therefore, recommends that the measurement of fair value in the current accounting standards would not make the generated information more relevant for users' decision making, because of a different approach. It found that the occurrence of weak relationships between stock returns and accounting numbers was due to ambiguousness in achieving fair values for firms' assets using the transactional approach. It implies there is no need for a re-engineering process when transforming a physical-based maintenance concept to a transactional-based one.

Third, this study takes into account the effectiveness of accounting harmony in some countries in Asia, which makes an interesting study because of the diverse conservative attitudes to adopting IFRS. For example, Indonesia adopted IFRS, although when they received the new IFRS standards, the Indonesian accounting standard-setter took al-

most three years to fully implement IFRS, or adjust to its specifics. If this is compared with Malaysia, Indonesia tends to be more conservative in following IFRS harmonization. It, however, found that Indonesia has different attitudes when compared to some countries across the Asia Pacific region. This phenomenon has also not been estimated explicitly in the conclusions about the declining trend in value relevance (Lev and Gu, 2016). The nature of IFRS adoption is linear, with research conducted by Kothari and Wasley (2019), especially in their sub-study of the accounting method. The authors argue that the weak relationship is indeed not specific to an examination of the accounting methods for share price responses, but it usually is an aggregate measure of the accounting methods used in a country. This study also reveals that IFRS adoption is closely related to the political issue of IFRS harmonization in the world. It, therefore, recommends a review of whether this is based on its consciousness, coercion or even merely imitation. In other words, this study argues that IFRS adoption in Indonesia needs to be reexamined to see whether or not it is serious about implementing IFRS.

The latest, this study found that the IFRS convergence factor itself is not enough to improve the quality of accounting information (value relevance). The institutional setting of the standard-setting also determines the quality of financial information. The country-specific institutional environment includes the country's origin and the degree of enforcement of financial reporting practices. Barth et al., (2008) and Karampinis and Hevas (2011) stated that IFRS is intended for institutional environments with common law country origins, while Indonesia is a code law country. Another country-specific factor that influenced the quality of accounting information after IFRS adoption is the level of each country's enforcement of financial reporting practices. Referring to P. Brown et al., (2014), Indonesia is a country with a low level of implementation for its financial reporting practices, i.e., its rating is only 14 in comparison with the highest value of 56. It implies that the Indonesian standard-setter should take into account these two country-specific factors which need to be considered to improve value relevance after the adoption of IFRS. In other words, this study proposes that the adoption of IFRS affects not just the regulator, but the Indonesian standard-setter needs to ascertain its correct and proper implementation by all the listed firm on the stock market.

Conclusion

This paper examines whether the accounting measures had value relevance in Indonesia, an emerging market country. This entailed observing the impact of the book value and earnings per share on the market value of companies. More fundamentally, the focus of this paper was on detecting a particular change in the value relevance of accounting measures and to examine whether adopting IFRS contributed to the evolution in value relevance. Two different approaches, cross-sectional data and panel data analysis were used to address the research questions. This study concluded that IFRS adoption shows some ambiguities in improving the value relevance of accounting measures. It argues in some logical reasoning. The proper accounting standard should have the ability to maintain and enhance earnings persistence. The occurrence of the weak relationship between stock returns and accounting numbers is due to ambiguity in setting fair values for firms' assets using the transactional approach. Further reviews are needed by the Indonesian standard-setter about its consciousness, coercion,

or even imitation of the adoption of IFRS. The adoption affects not just the regulator, but the Indonesia standard-setter needs to ascertain its correct and proper implementation by all the listed firm on the stock market.

Covering a sample of firms listed on the Indonesia Stock Exchange over the period of 17 years from 2002 to 2018, cross-sectional yearly price regressions provide strong evidence that the book value and earnings per share are value relevant, as they are significantly associated with share prices. Moreover, the value relevance of accounting measures over the sample periods. During the 2002 to 2008 time period, the value relevance explains about 50% of the variance in the share price set. After exhibiting a high level during the period of the financial crisis and global imbalances, the value relevance of accounting measures appeared to decline during the 2010 to 2014 period, which coincides with the adoption and implementation of IFRS in Indonesia. This study's findings, therefore, imply that the value relevance experienced a change, with a non-linear trend, over the duration of this study.

Panel data analysis also confirms the anticipated value relevance of the book value and earnings per share. Moreover, a decrease in the value relevance after the implementation of IFRS, as expressed by the lower combined explanatory power of the book value and earnings per share, is identified in the case of Indonesian firms. In other words, the value relevance of the Indonesian National Accounting Standard is statistically higher than the value-relevance of IFRS. Furthermore, the results of unconditional comparison tests may contribute to explain the change. In particular, the results show that, for both the full sample and profit-only sample, the book value plays a more significant role under IFRS, while earnings play a greater role under Indonesian Financial Accounting Standards. The purpose of the book value under IFRS comes from the balance sheet's orientation and fair values promoted by IFRS. The meaning of earnings under Indonesian Financial Accounting Standards could be explained by the idea of earnings smoothing, which enables firms to make more frequent use of discretionary loss provisions. These findings suggest that a reduction of the value relevance of earnings per share might offset the increased value relevance of the balance sheet during the IFRS regime.

Limitation

The change of value relevance observed in this paper cannot be strictly linked to an improvement due to the adoption of IFRS, since the economic environment can influence the results. The findings in this paper might call for a reexamination of such country-specific factors in describing the decrease in the value relevance of accounting measures over the period. Moreover, this paper should have a more direct measure of the change of value relevance of accounting measures. Further studies can be designed to obtain such measures. Future studies could investigate the country-specific factors in describing the variations in the value relevance of accounting measures over the period. Second, this study has a limitation due to the relationship between fundamental accounting information and stock price, ignoring either the market-wide regime shifting behavior, or that of industry-wide. It associates accounting book values and earnings with share prices in a firm-specific model only. Some extant research stated that this association is highly dependent on either the nation (country) or the industry in which it controls and authorizes its listed companies to leverage their accounting earnings. In other words, this study ignores the role of national (country) and industry authorization, which could change the earning power of the listed firms on the Indonesia Stock Market.

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Appendix

Table A.1. Number of Firms Represented in the Sample for Cross-Sectional Regression

Year	Total	Listed Firms	Firms included in the Sample	Percentage of Sample to Total Population
2002		323	199	61.61%
2003		330	210	63.64%
2004		335	210	62.69%
2005		336	227	67.56%
2006		344	212	61.63%
2007		383	239	62.40%
2008		396	207	52.27%
2009		398	244	61.31%
2010		420	231	55.00%
2011		440	248	56.36%
2012		459	205	44.662%
2013		483	243	50.31%
2014		506	237	46.84%
2015		521	213	40.88%
2016		537	230	42.83%
2017		566	210	37.10%
2018		619	227	36.67%

Table A.2. Summary of Statistics of the Sample for Cross-Sectional Regression

Period	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
			Share Price			
2002	452.59	225.00	821.50	6.23	55.68	199
2003	647.83	290.00	1,002.02	3.32	15.53	210
2004	795.05	355.00	1,329.43	4.26	27.30	210
2005	758.33	300.00	1,387.56	4.85	33.60	227
2006	945.16	400.00	1,890.92	5.11	35.22	231
2007	1,038.69	400.00	1,896.20	3.61	17.31	239
2008	683.64	312.50	1,010.15	3.20	16.36	242
2009	1,167.91	410.00	2,560.94	6.94	69.66	253
2010	1,301.58	505.00	2,091.87	3.17	15.51	238
2011	1,856.23	630.00	3,448.12	3.67	17.77	248
2012	1,894.41	590.00	3,525.50	4.55	30.10	243
2013	1,515.20	498.00	2,478.45	3.96	25.75	243
2014	4,687.93	715.00	21,571.14	10.47	126.26	237
2015	1,555.98	600.00	3,415.55	8.54	99.29	213
2016	2,285.45	900.00	5,124.55	8.95	108.31	230
2017	1,986.56	682.50	4,333.19	6.94	63.70	224

2018	2,006.97	610.00	3,353.38	3.53	20.41	227
Book Value per Share						
2002	650.42	320.84	1,036.08	5.50	44.99	199
2003	636.21	314.89	916.79	3.63	19.75	210
2004	626.24	304.05	935.38	3.71	20.36	210
2005	596.21	315.71	817.35	4.35	32.06	227
2006	533.53	348.96	573.70	2.11	8.17	231
2007	629.42	353.10	888.99	4.26	27.27	239
2008	778.02	368.75	1,429.15	7.33	79.36	242
2009	808.56	378.56	1,690.01	9.62	123.32	253
2010	714.23	391.43	843.48	2.23	8.34	238
2011	864.73	480.35	1,072.66	2.14	7.31	248
2012	787.51	482.30	919.17	2.32	9.31	243
2013	845.92	529.87	967.46	2.32	9.79	243
2014	1,256.42	487.96	2,321.46	5.24	39.98	237
2015	882.12	521.93	1,077.00	2.88	13.61	213
2016	1,479.16	786.66	2,217.08	3.94	27.40	230
2017	1,322.97	682.82	1,965.05	3.26	15.87	224
2018	1,438.76	704.78	2,175.26	3.10	14.83	227

Table A.2. Summary of Statistics of the Sample for Cross-Sectional Regression (Cont'd)

Period	Mean	Median	Std. Dev.	Skewness	Kurtosis	Observations
Earnings Per Share (EPS)						
2002	63.51	26.00	114.85	3.34	19.81	199
2003	50.86	15.00	97.49	2.32	10.46	210
2004	56.45	19.50	107.67	2.11	8.14	210
2005	48.43	15.00	94.14	4.28	34.80	227
2006	45.52	17.00	80.15	2.63	12.15	231
2007	69.59	25.00	146.00	2.95	17.84	239
2008	64.42	14.79	188.46	2.45	13.83	242
2009	89.35	25.95	290.51	10.62	142.34	253
2010	92.61	37.51	148.84	2.12	7.65	238
2011	127.19	48.81	226.37	2.89	13.86	248
2012	121.45	48.98	190.17	2.15	7.93	243
2013	111.57	40.00	273.72	7.82	89.41	243
2014	592.50	50.04	3,788.07	9.36	93.27	237
2015	132.43	20.25	832.86	13.35	188.59	213
2016	149.15	39.01	342.39	4.99	42.17	230
2017	103.86	38.60	271.34	2.63	19.43	224
2018	103.20	27.19	278.73	4.34	31.00	227

Table A.3. Two-Sample t-Test for Equal Means

	Book Value per Share		**Earnings per Share**	
	Pre IFRS	*Post IFRS*	*Pre IFRS*	Post IFRS
Mean	683.76	1,144.69	70.79	187.74
Variance	10,889.62	88,066.46	648.66	32,126.36
t-Stat	-3.94***		-1.71*	

Table A.4. Summary of Statistics of the Sample for Panel Regression

Measures	**Share Price**		**Book Value per Share**		**Earnings per Share**	
	All Firms	**Excluding Loss**	**All Firms**	**Excluding Loss**	**All Firms**	**Excluding Loss**
Mean	4,362.17	8,865.68	1,720.98	2,355.57	311.01	614.41
Median	630	1,270	573.68	847.2	43	104.43
Std. Dev.	31,828.68	49,430.35	3,620.88	4,605.09	1,664.827	2,519.53
Skewness	26.23	16.93	5.47	4.65	19.09793	13.10
Kurtosis	830.11	344.52	43.52	30.44	515.8179	235.01
Observations	3,298	1,343	3,298	1,343	3,298	1,343

Table A.5. Relative and Incremental Explanatory Power of Book value and Earnings

Year			**Incremental BVPS**	**Incremental EPS**
2002	0.543	0.307	0.289	0.053
2003	0.290	0.570	0.016	0.296
2004	0.377	0.281	0.139	0.043
2005	0.373	0.521	0.007	0.155
2006	0.316	0.348	0.036	0.068
2007	0.363	0.506	0.018	0.161
2008	0.329	0.456	0.043	0.170
2009	0.706	0.826	0.005	0.125
2010	0.433	0.648	0.007	0.222
2011	0.393	0.700	0.000	0.307
2012	0.474	0.576	0.004	0.106
2013	0.224	0.142	0.134	0.052
2014	0.013	0.108	0.012	0.107
2015	0.148	0.041	0.126	0.019
2016	0.606	0.741	0.009	0.144
2017	0.561	0.605	0.043	0.087
2018	0.639	0.563	0.112	0.036
Average	0.399	0.467	0.059	0.126