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Value Relevance of Accounting Information and Noise Trading in Banks and Financial Institutions

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Abstract This study aimed to analyze the financial accounting information's relative and incremental value relevance between 2012 and 2019. It also analyzed the relationship between noise trading and the value relevance of financial accounting information using 564 firm-year observations on banks and financial institutions in the Indonesia Stock Exchange (IDX) from 2012 to 2019. The price valuation model prepared by Ohlson [1] was used to test the value relevance of accounting information. The findings showed the relative and incremental value relevance of earnings and book value during the study. Furthermore, noise trading has a moderating effect on the earnings' value relevance. The samples used were from the financial sector to compare value relevance from previous literature on manufacturing companies. The results could be useful to current and potential investors while considering investing in the financial sector.

Keywords Earnings Per Share, Book Value Per Share, Noise Trading, Stock Price, Bank, Financial Institutions

1. Introduction

Accounting information is provided to financial statement users, including investors, to help them make appropriate business decisions. The response to accounting information is indicated by changes in stock prices. Therefore, accounting information has value relevance when there is a change in the equity market value [2].

Various studies show a decline in the value relevance of accounting information presented in financial statements in recent years [3-8]. Business changes in industrial companies worsen financial information. In line with this, previous studies showed a decreasing relationship between accounting information and stock prices [6, 7, 9]. This provides motivation to find out whether the findings in previous studies only occur in industrial companies or also affect other types of companies, such as service companies.

Francis and Schipper [7], Lev and Zarowin [8], Ryan and Zarowin [10], Dontoh, et al. [6], and Alfraih [3] showed that earnings have decreased in value relevance repeatedly in the last few decades. According to Dontoh, et al. [6], the value relevance of accounting earnings decreased due to increased noise caused by higher trading volume at the stock price generated. This supports Lim and Park [11], which showed that the decrease in R^2 in the regression of the return on earnings for 1970-1982 was caused by noise in stock returns and earnings. The stock price failure reflects market imperfections related to noise and causes less relevant information in the capital market [3, 12, 13]. Therefore, it is important to explore the noise trading impact on the association between earnings and stock prices.

This study used financial services companies as objects, while previous studies used industrial companies. It is important to study accounting information value relevance in financial companies because of the uniqueness of financial

reporting regulations [2]. This study also used noise trading as a moderating variable between earnings per share (EPS) and stock prices, which is rarely conducted by previous studies. Many studies found a declining association between earnings and stock prices due to noise in the capital market [6, 11, 14-16]. However, studies examining noise as a factor influencing the relationship between earnings and stock prices are still limited.

2. Literature Review

Various studies have been conducted on the value relevance of earnings, book values, and cash flows. The study of value relevance began to develop after Ball and Brown [17] examined accounting earnings and Beaver [18] analyzed the content of annual earnings information. The market's reaction to changes in stock prices means that accounting information is relevant. Therefore, the market reacts when investors adjust their behavior by receiving relevant and reliable financial information. Studies on value relevance are not only conducted in western countries but also involve samples from Middle Eastern, Asian and African countries. In developed countries such as the United States and the United Kingdom, studies showed a significant presence of a relevant value in earnings, cash flow, and book value [5, 19].

The relationship between market value and accounting numbers could be explained by two theories commonly used in value relevance studies. First, the direct valuation theory, generally known as association studies, states that equity market changes have been examined by EPS and BVPS. Second, the input-to-equity theory stipulates that the valuation model inputs used by investors in firm valuation are indicated by accounting, commonly used in incremental association studies [20].

Several studies analyzed the association between stock prices and accounting information in recent years [15, 20-23]. The analysis is essential because it helps investors and regulators enhance the quality and timeliness of financial information. Many studies in the capital market analyzed the effect of financial statements on stock prices [11, 24-26]. Lim and Park [11] stated that accounting studies mainly focus on financial information regarding stock price movements, income, and disclosed book value. This means that the increasing value relevance increases financial statement information, resulting in a close relationship between the two [26].

Tahat and Alhadab [27] tested cash flows from operations (CFO) value relevance before, during, and after the financial credit crisis. The accounting literature was convinced through their study because no value relevance of accounting numbers was lost. This was confirmed by Jermakowicz, et al. [28], which examined the value relevance of the book value of equity and earnings before and after IFRS adoption on DAX-30 companies in 1995-2004. The results showed that adopting IFRS significantly increased the earnings value relevance. El-Gazzar, et al. [29] tested earnings and non-earnings, or book value and operating cash flow, on the airlines' securities prices. It found that security prices are explained by earnings significantly during periods of competition and deregulation. A similar study was conducted by Mostafa [30] in Egypt, triggered by the insufficiency of literature in Middle Eastern countries. The results showed that stock prices are explained by earnings and book value significantly when tested individually. Moreover, earnings are considered to have more explanatory power on stock prices than book value when tested jointly. Der, et al. [2] investigated a sample of financial and non-financial companies listed on the Ghana Stock Exchange from 2005 to 2014. It aimed to define the distinction in the value relevance of accounting information between those sample groups. The empirical test findings showed the value relevance of dividends and earnings, but not relevant book value.

Anandarajan and Hasan [31] showed an increasing understanding among regulators regarding the factors affecting the value relevance of earnings. It examined the value relevance of earnings and related components in several North African and Middle East countries. Furthermore, Haw, et al. [32] examined the information content of the Republic of China earnings accounting standards. It found that the earnings reported on the Chinese capital market have relevant value to investors.

The value relevance of book value and earnings in industrial companies was examined by Keener [33]. The findings showed no decrease in earnings and book value relevance. However, the relevance of earnings value increased while the book value remained constant. Glezakos, et al. [34] used samples of companies in the Athens Stock Market to investigate the consequences on stock prices caused by earnings and book values. It discovered that the explanatory power of book values and earnings had increased. Additionally, there is a decrease in the role of EPS in determining stock prices relative to book values.

Accounting information has been shown to have relevant value through testing the effect of earnings and book value on stock prices. Xiao [13] found a constant increase in the value relevance of accounting information presented in China corporations' financial statements. Furthermore, the accounting values' relevance related to stock prices was investigated by Sami and Zhou [35]. It employed applied IAS and Chinese GAAP using the model by Ohlson [1]. The results showed that the earnings and book value's ability to explain stock prices increase value relevance when applying Chinese GAAP to international accounting standards. Using the same model, Bilgic and Ibis [36] tested the value relevance of accounting information presented in financial statements during the 1997-2011 era of companies on the Turkish stock market. The findings showed that earnings and book value have significant value relevance together or separately, meaning the earnings' explanatory power is lower than book value. These results indicate a rise in value relevance in testing earnings and book value.

Nyabundi [37] examined panel data for the 2005-2010 period from companies on the Nairobi Stock Exchange in Kenya to find a relationship between dividends, stock prices, book values, and earnings. The results showed the mixed impact of book value and earnings on stock prices is positive and significant. In line with this, Ahmadi and Bouri [38] found that a combined valuation model tested using regression with panel data had significant value relevance to stock prices. Qu and Zhang [39] examined a sample of listed companies in China and found that book value and earnings significantly increase value relevance. Based on these results, the following hypotheses were formulated:

H1: Earnings and book value information disclosed by banks and financial institutions have had consistent incremental and relative value relevance during the 2012-2019 period.

The capital market is where traders obtain information about company positions, economic and industrial situations, and financial statements. Traders also obtain information from friends, relatives, co-workers, or past experience. The Capital market has rational, smart money traders and noise traders making investment decisions based on rumors [40].

Noise traders lack the information to make good decisions because they rely on feelings, desires, and misunderstandings, though they always think they have some important information [41]. Black [42] stated that people engage in noise trading because they like it or do not know they are behaving that way.

Noise trading has a role and impact in the capital market, making it essential in the investment process. Some people believe that noise trading could increase liquidity and create problems related to incorrect stock pricing. Additionally, it could increase the risk of trading stocks because it is difficult to predict investors' decisions and actions.

Dontoh, et al. [6] found that stock price information has declined due to increased noise based on rational expectations equilibrium analysis. This means that a decrease in value relevance reflected in the decreased stock price is caused by the noise in the capital market due to increased investors' trade volume. Studies showed that noise traders prefer low stock prices because they pull investment [42].

Dontoh, et al. [6] used the NREE framework to examine non-information-based trading (NIB). The results indicated that NIB trading had decreased information content due to increased stock price noise regarding future payments. The stock price and earnings relationships decrease because of increased noise in trading, not because of decreased earnings quality.

Studies have been conducted on the influence of investor confidence and perceptions on stock prices and trading activities based on important information, such as rough trading volumes. For instance, various frameworks have been used by Daniel, et al. [43], Odean [44], Lamont and Frazzini [45], Hong and Yu [46]. These studies found when investors are confident the stock price will be biased and distorted, and it implies less information when such belief is associated with increased trading activities.

Dontoh, et al. [6] complemented theoretical studies that explore excessive investor confidence as a cause of bias by showing real the factors increasing NIB trading and noise in stock prices. According to Lim and Park [11], more descriptive validity is indicated by market noise in temporal improvements. Conversely, the value relevance of earnings decreases temporally, though noise decreases the relationships over several periods. The findings show that the decline in earnings quality on stock prices does not decrease the value relevance of earnings. This study used noise trading as a moderating variable in the relationship between earnings and stock prices and formulated the following hypothesis:

H2: Noise trading moderates the relationship between earnings and stock prices.

3. Material and Methods

3.1. Sample and Data

The sample comprised financial sector service businesses listed on the Indonesia Stock Exchange (IDX) in 2012-2019. The financial sector was selected to facilitate assessing disparities in value relevance from perspectives different from previous studies using manufacturing companies. The value relevance analysis in this study was limited to banks and financial institutions to achieve better and more focused accounting results (Table 1). A general version of the Ohlson [1] model examined the relationship between earnings, book value, and company stock prices. This study used stock prices as a linear function of book value and earnings. Burgstahler and Dichev [47] and Barth, et al. [48] used the price model to study the price-accounting information relationship.

Table 1. Sample and Data

Breakdown by financial sub sector	**No. of observations**
Bank	274
Financial	196
Insurance	94
Total firm-year observations	564
Breakdown by year	No. of observations
2012	63
2013	68
2014	62
2015	59
2016	61
2017	78
2018	85
2019	88
Total firm-year observations	564

Secondary data were obtained from the Indonesian Capital

Market Reference Centre (IDX). The data comprised financial statements and annual reports issued by a public company listed on the Stock Exchange, Indonesia Capital Market Directory (ICMD), finance.yahoo.com and www.idx.co.id.

3.2. Variables and Measurements

This study used one dependent and three independent variables, one of which functioned as a moderating variable. This aimed to investigate the power of accounting information on earnings and book value in explaining stock prices. According to Alfraih [3], earnings summarize the income statement, while book value represents the balance sheet.

Price represents a firm's stock price measured three months after fiscal year t. EPS and BVPS represent the ratio of firm's earnings and book value per share, respectively, which both are decided by the common shares outstanding the third month after year t. The both dividing earnings and book value by the common shares outstanding at the end of the third month after year t aimed to reduce heteroscedasticity [30]. As the moderating variable, noise trading used trading volume activity data at the end of the fiscal year.

3.3. Analysis Technique

This study used multiple linear regression analysis with SPSS to test the hypotheses. The value relevance of accounting information on EPS and BVPS, and stock price (P) was collected to measure the extent of their effects. Furthermore, several equations were designed to describe the variables to be tested, specifically the value relevance of accounting information. Based on the hypotheses, four models were modified on the valuation framework provided by Ohlson [1]. This study designed a price model similar to the one developed by Burgstahler and Dichev [47] and Barth, et al. [48] to examine the relationship between prices and accounting information. The first hypothesis about whether EPS and BVPS had consistent value relevance was tested by estimating the three models. The test intended to determine positive coefficients of both over all periods. Moreover, (Adj.R^2), which indicates the explanatory power, was compared between the first model versus the second and third models. This was aimed to determine whether including EPS and BVPS in a similar model will efficiently describe divergences in firms' market values than having them in separate models. The three equations were used to obtain the adjusted R^2 value used in calculating changes in the value relevance of accounting information. Model (4) was also designed to test the second hypothesis.

$$P_{it}=\beta_0+ \beta_1 EPS_{it}+ \beta_2 BVPS_{it}+\varepsilon_{it} \quad (1)$$

$$P_{it}=\delta_0+ \delta_1 EPS_{it}+\varepsilon_{it} \quad (2)$$

$$P_{it}=\gamma_0+ \gamma_1 BVPS_{it}+\varepsilon_{it} \quad (3)$$

$$P_{it}=\alpha_0+ \alpha_1 EPS_{it}+ \alpha_2 BVPS_{it}+ \alpha_3 EPS_{it}*NoiseTrading_{it} + + \alpha_4 SIZE_{it}+\varepsilon_{it} \quad (4)$$

Note:

P_{it}: stock price per share of firm i at three months after the financial year-end

EPS_{it}: accounting earning per share of the firm i in year t

$BVPS_{it}$: book value per share of the firm i in year t

NoiseTrading: trading volume activity of the firm i in year t

$SIZE_{it}$: natural logarithm of total assets for firm i in fiscal year t

t: 2012,…, 2019, corresponding to the years 2012-2019

$\beta_0,\delta_0,\gamma_0, \alpha_0$: the intercept of constant

$\beta_1,\beta_2,\delta_1,\gamma_1,\alpha_1,\alpha_2,\alpha_3$: the estimated coefficient of variables

ε_{it}: the error term for each firm i at year t.

4. Results

Descriptive Statistics

Table 2 shows the results of descriptive statistics and matrix correlations for banking and financial institutions from 2012 to 2019, with Price as the dependent while EPS and BVPS are independent variables. Panel A contains the results of the descriptive statistics, while B shows the matrix correlations results for each variable. Price per share data was obtained on firm i three months after the fiscal year-end of period t confirms the required accounting information was available for use by investors. EPS and BVPS are earnings and book value, respectively, which both are separated by the number of common shares outstanding at the end of the third month after year t.

The stock price in the last three months during the fiscal year has an average value and standard deviation of 1684.0606 and 3175.24706, with the highest and lowest values of 27750 and 50, respectively, as shown in Table 2 Panel A. The EPS mean and standard deviation are 111.2168 and 278.55258, with the lowest and highest values being −2280 and 2720, respectively. Furthermore, the mean and standard deviation of BVPS are 949.6173 and 1480.7861, respectively, with the highest value being 8820. The result shows that the standard deviation of the three variables is high due to the large average distance of each data unit from the mean count. The standard deviation in Panel A shows the heterogeneity of data or their average variability.

Panel B in Table 2 shows the positive and significant Pearson bivariate correlation coefficients between stock price (P_{it}) as the dependent variable with EPS and BVPS as independent variables. The correlation matrix results show the low-risk level of multicollinearity testing between dependent and independent variables. Therefore, there is no multicollinearity in the testing between these variables.

Table 2. Descriptive Statistics and Correlation Matrix

Variable	Observation	Mean	SD	Min	Max
Panel A: Descriptive Statistics					
Price	564	1684.0606	3175.24706	50	27750
EPS	564	111.2168	278.55258	-2280	2720
BVPS	564	949.6173	1480.7861	0.64	8820
SIZE	564	29.7671	2.24726	23.61	34.89
NoiseTrading	564	0.0009192	0.0043362	0.000000003	0.065391000
Panel B: Correlation Matrix					
Variable		Price	Earnings	Book value	
Price (P_{it})		1	0.608**	0.651**	
Earnings (EPS_{it})		0.608**	1	0.736**	
Book value ($BVPS_{it}$)		0.651**	0.736**	1	

P_{it} = stock price per share of firm i at three months after the financial year-end; EPS_{it} = accounting earning per share of the firm i in year t; $BVPS_{it}$ = book value per share of the firm i in year t; NoiseTrading= trading volume activity of the firm i in year t; $SIZE_{it}$ = natural logarithm of total assets for firm i in fiscal year t.

Notes: ** Correlation is significant at the 0.01 level (two-tailed)

Regression Result and Hypothesis Test

The slope coefficients of the three models' pooled cross-sectional time-series regression using annual data in the 2012-2019 period are shown in Table 3. Based on the annual OLS regressions, model (1)'s performance was good in all years, as shown by highly significant F-statistics. However, the earnings and book value coefficient estimates were only positive and significant in 2018. In 2014 and 2015, the coefficient estimates for earnings were positive and highly significant, but the book value results were negative and highly significant. The same applied for 2012, 2013, and 2016, indicating positive and highly significant coefficient estimations for earnings but insignificant for book value. In 2017, the coefficient estimations for earnings and book value were insignificant. This applied to 2019 showing insignificant coefficient estimates for earnings but highly significant for book values. The results show consistent value relevance for EPS and BVPS in some periods. Furthermore, model (1) was statistically significant, with F=238.945 and $p<0.01$, as indicated by the earnings and book value price regressions in Table 3. The adjusted R^2 of the yearly cross-sectional regressions is from 64% in 2015 to 40% in 2019. The explanatory powers (Adj.R^2) of EPS and BVPS enhance the relative value relevance with an adjusted R^2 of 0.557, 0.532, 0.584, 0.644, 0.501, 0.549, 0.598, and 0.397 for 2012, 2013, 2014, 2015, 2016, 2017, 2018, and 2019, respectively. Additionally, the adjusted R^2 in the model (1) is higher than that in (2) and (3), suggesting that including EPS and BVPS in the same model increases the extent of explaining the cross variation in firms' market values prices. These results confirm the existing literature that the mixed value relevance of EPS and BVPS has raised [21].

Table 3's second and third columns reveal the first and second models' pooled and yearly OLS regression give positive and highly significant coefficient estimations for earnings and book value. These results are consistent with those obtained for model (1).

Table 4 summarizes the three models' adjusted R^2 of the yearly cross-sectional regressions regarding changes in the earnings and book value relevance. In line with Collins, et al. [5], total explanatory power was decomposed into the incremental power. The joint and individual changes in the yearly earnings and book value's adjusted R^2 are illustrated in Figure 1. The figures suggest that both individually declined, with a more decrease in earnings than book value. These findings are consistent with Harris, et al. [21], which revealed the value relevance of both has declined and increased, respectively.

The first hypothesis that EPS and BVPS had consistent incremental value relevance in the 2012-2019 period was confirmed by the results in Table 3, though EPS relative value relevance decreased during the period. Therefore, EPS and BVPS ability to explain variation in firms' share prices is high when they are included in the same model.

Table 3. Pooled and yearly cross-sectional regression of price on earnings and book value 2012-2019

Column / Model		(1) $P=\beta_0+\beta_1EPS+\beta_2BVPS+\varepsilon$				(2) $P=\delta_0+\delta_1EPS+\varepsilon$		(3) $P=\gamma_0+\gamma_1BVPS+\varepsilon$	
Year	N	β_1EPS	β_2BVPS	Adj.R^2_T	F-stat.	δ_1EPS	Adj.R^2_{EPS}	γ_1BVPS	Adj.R^2_{BVPS}
2012	63	8.857***	0.202	0.557	40.007***	9.705***	0.561	1.423***	0.362
2013	68	7.560***	0.012	0.532	39.057***	7.614***	0.539	1.236***	0.384
2014	62	20.242***	-1.282***	0.584	43.817***	12.077***	0.532	1.292***	0.298
2015	59	17.794***	-0.638**	0.644	53.403***	13.400***	0.618	1.128***	0.295
2016	61	7.306***	0.577	0.501	31.063***	10.592***	0.487	1.464***	0.435
2017	78	5.313	0.751	0.549	47.863***	9.482***	0.540	1.594***	0.534
2018	85	2.623***	1.524***	0.598	63.580***	5.025***	0.230	1.739***	0.546
2019	88	-0.901	1.424***	0.397	29.629***	4.665***	0.280	1.247***	0.401
Pooled	564	3.219***	0.950***	0.458	238.945***	6.933***	0.369	1.395***	0.422

P_{it} = stock price per share of firm i at three months after the financial year-end; EPS_{it} = accounting earning per share of the firm i in year t; $BVPS_{it}$ = book value per share of the firm i in year t.

Note: **,***Significant at the 0.05 and 0.01 levels, respectively (two-tailed)

Table 4. Changes in the yearly adjusted R^2 and the incremental explanatory power of earnings and book value

Year	n	A Adj.R^2_{EPS} and BVPS (jointly)	B Adj.R^2_{EPS} (individually)	C Adj.R^2_{BVPS} (individually)	A-C Incremental Earnings	A-B Incremental book value
2012	63	0.557	0.561	0.362	0.195	-0.004
2013	68	0.532	0.539	0.384	0.148	-0.007
2014	62	0.584	0.532	0.298	0.286	0.052
2015	59	0.644	0.618	0.295	0.349	0.026
2016	61	0.501	0.487	0.435	0.066	0.014
2017	78	0.549	0.540	0.534	0,015	0.009
2018	85	0.598	0.230	0.546	0.052	0.230
2019	88	0.397	0.280	0.401	-0,004	0.117
Pooled	564	0.458	0.369	0.422	0.422	0.089

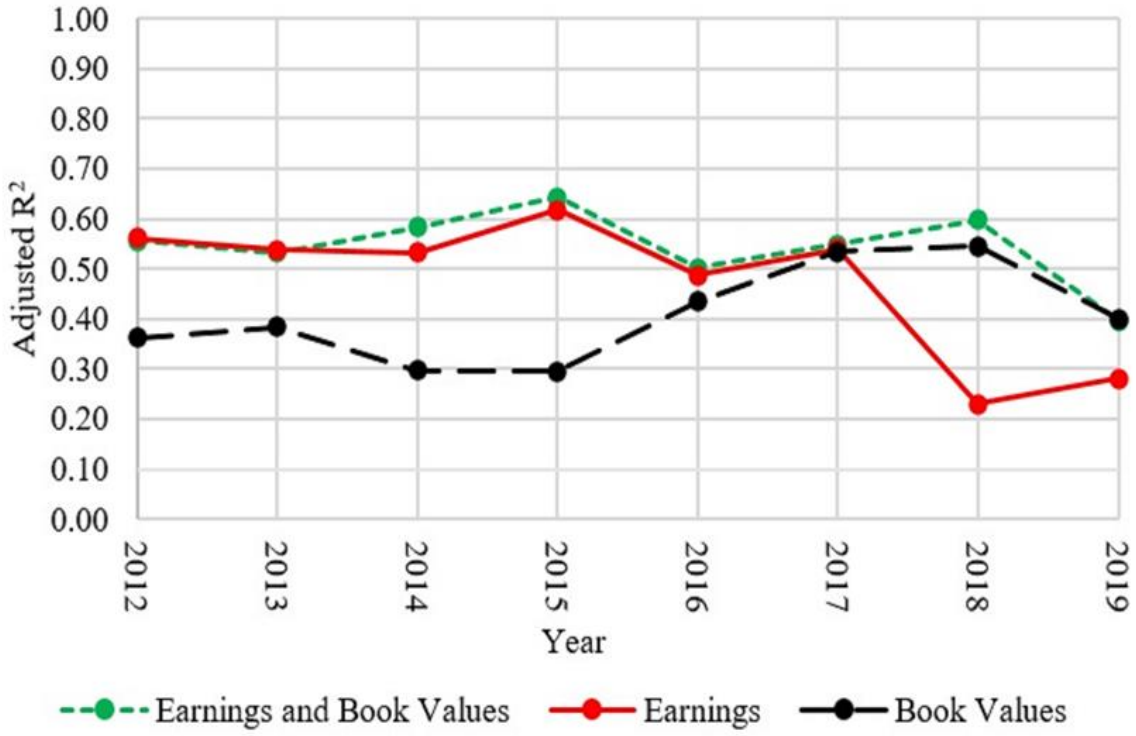

Figure 1. Trends of value relevance of earnings and book values

Table 5. Regression result for noise trading as moderator

Dependent Variable Stock Price Per Share $P_{it}=\alpha_0+ \alpha_1EPS_{it}+ \alpha_2BVPS_{it}+ \alpha_3EPS_{it}*NoiseTrading_{it}+ \alpha_4SIZE_{it}+\varepsilon_{it}$	
Intercept	-5838.490***
	(-4.403)
EPS_{it}	2.337***
	(4.886)
$BVPS_{it}$	0.679***
	(7.359)
EPS_{it}*$NoiseTrading_{it}$	5431.842***
	(8.682)
$SIZE_{it}$	212.864***
	(4.694)
Adjusted R^2	0.561
F	181.001***
Observations	564

P_{it} = stock price per share of firm i at three months after the financial year-end; EPS_{it} = accounting earning per share of the firm i in year t; $BVPS_{it}$ = book value per share of the firm i in year t; NoiseTrading= trading volume activity of the firm i in year t; $SIZE_{it}$ = natural logarithm of total assets for firm i in fiscal year t.

Notes:

a The first number represents the coefficient estimate.

b The second number in parentheses represent the t-value of significance.

c All tests are two-tailed: * if $p < 0.10$, ** if $p < 0.05$, and *** if $p < 0.01$.

Table 5 presents the regression results for noise trading as a pure moderator using the Moderated Regression Analysis method. Testing with a pure moderator was performed using interaction regression, though it does not function as an independent variable. The results tested using model (4) showed that the coefficient value of interaction between earnings and noise trading on price per share is 5431.842, with t = 8.682 and $p<0.01$). Therefore,

noise trading moderates the relationship between earnings and stock prices, supporting hypothesis 2.

5. Discussion

This study showed a significant decline in the value relevance of earnings information regarding the earnings-stock price relation. The results are consistent with [3, 6-8, 10, 21], which showed decreased value relevance of accounting earnings. Moreover, this supported the findings in examining the value relevance of accounting information. In line with this, Jermakowicz, et al. [28], Vijitha and Nimalathasan [49], Tahat and Alhadab [27] found a significant association between earnings (EPS) and stock prices of the sampled companies. The studies found that the book value (BVPS) information significantly increases value relevance. Consistent with [33, 34], this study showed that BVPS and stock price have a positive and significant relationship. This indicates that book value is relevant, while Der, et al. [2] found it irrelevant for certain financial firms.

The value relevance of earnings was decreased by the combined impact of earnings and book value on stock prices, though the value relevance of book value increased. Consistent with [37, 38, 50], this study obtained a positive relationship between the collaborative BVPS and earnings to stock price, meaning that BVPS and EPS affect stock prices. Furthermore, the results showed that noise trading increases the earnings and stock prices relationship. The increase of earnings value relevance when there is noise trading is consistent with [6, 11]. This shows that increasing or decreasing the earnings value relevance is influenced by noise trading, which increases liquidity or results in wrong stock pricing.

6. Conclusion

This study supported the proposed hypothesis that earnings per share (EPS) and book value per share (BVPS) positively and significantly affect stock prices. As a moderating variable in the earnings-share price relationship, noise trading increases investor response to earnings, liquidity and results in wrong stock price.

The regression analysis showed consistent incremental and relative value relevance of accounting information in banking and financial institutions listed in the Indonesia Stock Market. Earnings and book value have relevance and reliability to influence investor behavior. Furthermore, the market reacts to investment decisions through changes in stock prices. Earnings and book value clarify the higher distinction between banks' and financial institutions' stock prices. Therefore, companies' strict regulations, sophisticated governance structures, and media attention are high explanatory powers for banks and financial institutions.

These results have important contributions that could be adopted into market-based accounting studies. First, they are useful for current and potential investors as input for decision-making using information from earnings and book value. Second, investors could consider noise trading in making decisions that involve information in financial statements. Third, the Financial Services Authority could use the result as a material consideration regarding accounting information. This is in line with Kumari and Mishra [23], which stated that accounting regulations help the emerging markets explain alterations in value relevance of earnings and book value.

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