THE COMBINED IMPACT OF HIGH DEBT LEVELS AND NEGATIVE EARNINGS ON THE VALUE RELEVANCE OF ACCOUNTING INFORMATION

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Abstract

This study examines how high debt levels and negative earnings affect accounting information's value relevance. Positive correlations between stock prices, book value of equity per share (BVPS), and earnings per share (EPS) demonstrate the value relevance of accounting information. The sample includes 1,209 the Indonesia Stock Exchange (IDX)-listed enterprises in 2018-2019, in the period before the Covid-19 Pandemic. The hypotheses were tested using multiple linear regression analyses. The results prove the worth of BVPS and EPS. Next, high debt levels do not cause BVPS or EPS to lose relevance. Negative earnings reduce the relevance of BVPS and EPS. Low debt levels paired with negative earnings lower the value relevance of EPS but not BVPS. High debt levels and negative earnings lead BVPS and EPS to lose relevance. The observation period before the COVID-19 pandemic may affect the value relevance of EPS and BVPS in this investigation. This sample was chosen to avoid pandemic-related outcomes. Future research might evaluate pandemic effects. This finding demands management to control debt and prevent losses. These findings can inform authorities about excessive debt and negative earnings, such as in "special notices" on the Indonesia Stock Exchange's website. This analysis contributes to the literature by showing how high debt levels and company losses affect EPS and BVPS value relevance

Keywords: Value Relevance, Accounting Information, Debt Levels, Negative Earnings, Indonesia Stock Exchange

PENDAHULUAN

Financial reporting is designed to provide information that is useful for investors in making investment decisions (IAI 2016; IASB 2016). The usefulness of financial information is often investigated by testing the value relevance of accounting information (Agbodjo, Toumi, and Hussainey 2021; Ahmadi and Bouri 2018; Badu and Appiah 2018a; El-Diftar and Elkalla 2019; Bin Khidmat, Wang, and Awan 2019; Ki, Leem, and Yuk 2019). Accounting information that is often tested is earnings information that is associated with stock prices because the purpose of investment is to obtain results that increase investor prosperity. This prosperity is reflected in the increase in the market value of equity participation (share prices), and this is generally achieved due to the company's success in generating profits. Therefore, earnings information is relevant for investors for stock valuation, which is indicated by the positive relationship between earnings and stock prices. However, the positive relationship between earnings and stock prices is not monotonous because there are factors (information) that affect earnings information. This information can be in the financial statements or outside the financial statements. This is in line with fundamental analysis (Penman 2013), whose process requires information both in financial statements and outside financial statements.

The purpose of this study was to investigate the role of the level of debt accompanied by the company's profit (loss) in explaining the value relevance of accounting information. The level of debt and the existence of profit (loss) are important in examining the value relevance of accounting information, especially information on the book value of equity and profit because debt financing is expected to provide additional benefits for investors. However, this can be realized only when debt financing is accompanied by success in generating profits.

A recent study by (Rahman and Liu 2021) examined the relationship between profitability and debt financing (leverage) with stock prices. However, each of these variables is separately associated with stock prices. Another previous study by (Shahid, Khakwani, and Hamza 2016) examined the relationship between debt ratios and the market value of equity but did not examine how earnings relate to the market value of equity. Other studies (such as Abdollahi, Rezaei Pitenoei, & Safari Gerayli, 2020; Almujamed & Alfraih, 2019, 2020; El-Diftar & Elkalla, 2019; Krismiaji & Surifah, 2020; Shan & Troshani, 2021) did not examine the impact of debt levels, which are accompanied by a profit (loss). In fact, in practice, various combinations of debt levels and profits (losses) can occur, namely low debt levels accompanied by profits, high debt levels accompanied by losses, high debt levels accompanied by profits, and high debt levels accompanied by losses. Thus, there is a research gap that explains how high debt levels accompanied by negative earnings impact the value relevance of accounting information. This study fills that gap. This study was conducted using a sample of companies in Indonesia because the findings of (Henny Wirianata 2019) indicated that the number of companies in Indonesia that reported negative earnings was rather large and the negative earnings had an impact on high corporate debt costs.

This study investigates in greater depth, first, the effect of high versus low debt levels and positive versus negative earnings on the value relevance of book value of equity per share (BVPS) and earnings per share (EPS). The impact of the cross combination of high (low) debt level and positive (negative) profit on value relevance is next examined. Finally, tests are done to examine the impact of high debt levels and negative earnings on the value relevance. This study contributes to the existing accounting literature by providing empirical evidence on how the combined impact of the level of debt and profit (loss) on the value relevance of accounting information, especially BVPS and EPS.

LITERATURE REVIEW

Development

Previous studies on the value relevance of accounting information, especially earnings per share (EPS) and book value per share (BVPS) have been carried out in recent years. These studies were conducted in various countries, such as India (Srivastava et al. 2024), Taiwan (Chiang, Kleinman, and Lee 2017), Europe (Kouki, 2018), Korea, Japan, China (Kwon 2018), Tunisia (Ahmadi and Bouri 2018), Gana (Badu & Appiah, 2018), Qatar (Almujamed and Alfraih 2019), Middle East and North Africa (El-Diftar and Elkalla 2019), Kuwait (Almujamed and Alfraih 2020; Omran and Tahat 2020), Iran (Abdollahi, Rezaei Pitenoei, and Safari Gerayli 2020), the United States and Japan (Shan and Troshani 2021) and in Indonesia (Krismiaji and Surifah 2020). However, the combined impact of debt levels and the existence of profit (loss) on accounting value relevance has not been a special concern in previous studies. The current study is a study of the value relevance of EPS and BVPS accounting information that focuses on the role of debt levels (low versus high) and the existence of profits (losses).

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Impact of debt level and the existence of profit (loss) on the value relevance of EPS

The level of debt and the existence of profit (loss) are predicted to have an impact on the relationship between EPS and stock prices (the value relevance of EPS). EPS has a positive relationship with stock prices either when debt levels are low or high, as long as profits are earned. On the other hand, EPS has no relevance when debt levels are low or high for companies that suffer losses. This means that for companies with either low or high debt levels, the higher the earnings per share the higher the stock price, but this positive relationship between earnings and stock prices does not apply to companies suffering losses. That is, when the losses are relatively small (negative EPS is small), the stock price is not relatively high. Conversely, when the losses are relatively large (negative EPS is relatively large), the stock price is not relatively low.

(Salim and Yadav 2012) found that, in general, debt is negatively related to earnings (EPS), and debt also has a negative relationship to firm value. Their study did not examine the relationship between earnings and firm value. Earnings are value-relevant for profit-generating firms but irrelevant for firms that suffer losses (Badu and Appiah 2018b; Kwon 2018). (Papadaki and Siougle 2007) even found a negative relationship between earnings and stock prices. Therefore, the hypotheses of the impact of debt level and the existence of profit (loss) on the value relevance of EPS are formulated as follows.

H1a. EPS has value relevance for companies with low debt levels and positive earnings.

H1b. EPS has value relevance for companies with high debt levels and positive earnings.

Impact of debt level and the existence of profit (loss) on the value relevance of BVPS

The book value of equity is the value of equity reported in the financial statements. The book value of the equity is theoretically the value received by investors if they liquidate the company or sell all of the company's assets and pay all liabilities. The actual value received by investors from liquidation is, of course, not the same as the book value because the proceeds from the sale of assets and the realization of the settlement of liabilities are generally not the same as the book values of assets and liabilities.

Empirical findings (Abdollahi, Rezaei Pitenoei, and Safari Gerayli 2020; Agbodjo, Toumi, and Hussainey 2021; Mardini, Tahat, and Power 2010; Mirza, Malek, and Abdul-Hamid 2018; Omran and Tahat 2020; Shan and Troshani 2021; Sutopo et al. 2018) have shown that the book value of equity has value relevance. The results of the study by (Gee-Jung 2009) even show that the book value of equity is more relevant than earnings. The book value of equity is predicted to be more relevant to investors in stock valuation than earnings when the company has high debt levels and suffers losses. (Badu and Appiah 2018b; Shamy and Kayed 2005) find that the book value of equity is more relevant than profit in the presence of a loss (negative earnings). This leads to the formulation of the following hypotheses on the impact of debt levels and profit (loss) on the value relevance of BVPS.

H2a. BVPS has value relevance for companies with low debt levels and either positive or negative earnings.

H2b. BVPS has value relevance for companies with high debt levels and only if it generates positive earnings.

METHODS

Data and sample

The sample includes companies listed on the Indonesia Stock Exchange (IDX) for the 2018-2019 period. EPS, BVPS, debt level, and profit (loss) data are calculated from the data available in the financial statements. The source of stock price data is the IDX website.

The number of companies included in the sample is 575 observations for 2018 and 634

observations for 2019 which results in a final sample of 1209 observations. Firms from all sectors (sectors 1-9) were included in the sample.

Statistical models

This study uses (Ohlson 1995) model, which has been widely used in previous studies (Al-Shaer, Albitar, and Hussainey 2022; Al-Shaer and Zaman 2019; Carson et al. 2022; Chen, Hudgins, and Wright 2022; Tshipa et al. 2018). This research employed two regression models. Model 1 examines the connection between earnings per share (EPS) and stock prices. Model 2 examines the correlation between book value per share (BVPS) and stock prices. To minimize multicollinearity issues, EPS and BVPS were divided into separate models due to the substantial positive correlation between the two variables.

Each model uses the full sample and subsamples based on the level of debt and/or positive (negative) earnings. A low debt level is if the ratio of total liabilities to total assets is less than or equal to 45 percent, and vice versa. Positive earnings is a subsample of net income reported in the company's income statement. Negative earnings (losses) is a subsample of net loss reported in the income statement.

$$P = \beta_0 + \beta_1 EPS + \beta_2 Ekuitas\_Neg1Pos0 + \beta_3 EPS * Ekuitas\_Neg1Pos0 + \beta_4 DAR + \beta_{18} SIZE\_LNMVE + \beta_n \sum_1^n Year + \beta_n \sum_1^n Industry + \varepsilon \quad (1)$$

$$P = \beta_0 + \beta_1 BVPS + \beta_2 Ekuitas\_Neg1Pos0 + BVPS * Ekuitas\_Neg1Pos0 + \beta_4 DAR + \beta_{18} SIZE\_LNMVE + \beta_n \sum_1^n Year + \beta_n \sum_1^n Industry + \varepsilon \quad (2)$$

Variables

There are three types of variables used in research: dependent variables, independent variables, and control variables. The subsequent text provides a description of these variables.

The dependent variable is the stock price (P), and in the regression equation, P is the natural logarithm of the stock price (in Indonesian Rupiah/IDR). The independent variables include earnings per share, EPS (in thousands of IDR), which is the independent variable in Model 1, and the book value of equity per share, BVPS (in thousands of IDR), which is the independent variable in Model 2. Share price (P) or market value of equity (MVE), the book value of equity (BV) is widely used in previous studies (Agbodjo, Toumi, and Hussainey 2021; Al-Hares, AbuGhazaleh, and Haddad 2012; Barth, Beaver, and Landsman 1998; Chebaane and Othman 2014; Clarkson et al. 2011; Ki, Leem, and Yuk 2019; Marques, Dalmacio, and Rezende 2022; Ndubizu and Sanchez 2006; Qu and Zhang 2015).

Control variables include firm size (SIZE), year of observation (YEAR), and industrial sector (INDUSTRY). SIZE is proxied by the natural logarithm of total assets. YEAR is a dummy variable, with 1 for the year of observation and 0 for years other than the year of observation. SIZE can have an impact on the relationship between book value and earnings with stock prices. Therefore, size was included in the model as a control variable, as in the study by (Marques, Dalmacio, and Rezende 2022). Stock prices can vary between years. Therefore, the year of observation was included in the regression model as a control variable (dummy year), as in the study of (Agbodjo, Toumi, and Hussainey 2021). INDUSTRY is also a dummy variable, with 1 for the type of industrial sector to which the company belongs, 0 for industrial sectors other than that sector. Stock prices can also differ between industry sectors, and therefore the industrial sector is included in the regression model as a control

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variable as in the study (El-Diftar and Elkalla 2019).

This study used panel data regression which according to (Kalantonis et al. 2020) the application of panel data regression to avoid endogeneity and autocorrelation problems in error terms. In addition, following (Choi, Han, and Lee 2020) research variables including equity book value and earnings are scaled/divided by the number of shares outstanding so that they become the book value of equity per share (BVPS) and earnings per share (EPS). Corporate dummy variables are also included to control unobserved firm-specific fixed effects.

Empirical results

Descriptive statistics

Descriptive statistics are presented in 2 tables. Table 1a. Descriptive statistics for the full sample and subsamples that are based on debt level and subsamples based on the existence of profit (loss) or positive (negative) earnings. Table 1b. Descriptive statistics for subsamples based on debt level (low or high) and profit (loss).

Table 1a Panel B1 and Panel B2, which are details of Panel A by debt level (low or high DAR), show that companies with high debt levels are relatively larger companies (with an average total asset of 4.92 trillion IDR) compared to companies with low debt level (mean value of 1.37 trillion IDR). In addition, companies with high debt levels tend to have higher EPS and BVPS, and share prices compared to companies with low debt levels. This is indicated by the mean value of each of these variables in the two subsamples. These results may indicate that both EPS and BVPS are value-relevant for both low-DAR and high-DAR subsamples.

Table 1a Panels C.1 and C.2 are descriptive statistics of the variables grouped based on the presence of profit (loss). Companies in the Profit subsample are companies that tend to be larger than companies in the Loss subsample. In addition, the ratio of mean price to mean EPS seems to be much greater for profit companies than loss companies. These results may indicate a difference in the relevance of the EPS and BVPS values between the two subsamples.

Table 1b presents the descriptive statistics for the low DAR and high DAR subsamples, and each is further grouped into the Profit (Loss) subsamples. Based on the mean value, it seems that for the "Low DAR, Profit" subsample (Panel A), the PER value is relatively high (PER = 12.7). Likewise, for the "High DAR, Profit" subsample (Panel C), the PER value is high (PER = 10.5). However, for the subsample of loss-firms, the PER value is negative (Panel B and Panel D). EPS may not have value relevance for loss-firms at either low or high debt levels. The results for BVPS were similar to those for EPS except for the "Low DAR, Loss" subsample in Panel B, where the BVPS remained higher than 1 and was even higher than the PBV in the other groups. These results indicate the important role of BVPS in determining share value in situations of high debt and loss.

Table 1. Descriptive statistics for the full sample and subsamples by the level of debt and subsamples by profit (loss)

Variable	Mean	Median	Std. Deviation	Min	Max
Panel A: Full Sample (N = 1209)					
P	1665	450	4371	50	83625
EPS	.10	.01	1.14	-20.52	31.29
BVPS	1.25	.33	6.58	-5.39	171.39
TA	20.50	2.46	97.70	0.0013	1416.76
SIZE	28.62	28.53	1.91	20.95	34.89
Panel B1: Subsample of Low DAR (N = 456)					
P	1545	475	3669	50	53000
EPS	.09	.01	.40	-2.26	5.65
BVPS	1.06	.31	2.36	-5.39	26.47
TA	4.92	1.27	10.78	.0013	100.32

SIZE	27.89	27.87	1.72	20.95	32.24
Panel B2: Subsample of High DAR (N = 753)					
P	1738	428	4746	50	83625
EPS	.10	.02	1.41	-20.52	31.29
BVPS	1.37	.34	8.13	-5.24	171.39
TA	29.94	3.90	122.59	.0027	1416.76
SIZE	29.07	28.99	1.87	21.71	34.89
Panel C1: Subsample of Profit Firms (Positive Earnings) (N = 903)					
P	2023	665	4935	50	83625
EPS	.18	.03	1.11	.0000075	31.29
BVPS	1.44	.44	6.23	-5.39	171.39
TA	24.83	3.16	109.06	.0013	1416.76
SIZE	28.86	28.78	1.89	20.95	34.89
Panel C2: Subsample of Loss Firms (Negative Earnings) (N = 306)					
P	610	180	1467	50	16000
EPS	-.15	-.02	1.19	-20.52	-.000036
BVPS	.71	.13	7.49	-5.24	130.13
TA	7.73	1.32	49.12	.01	842.61
SIZE	27.92	27.91	1.77	22.38	34.37

P = share price (in Indonesian rupiah, IDR); EPS = earnings per share (in thousands of IDR); BVPS = vook value of equity per share (in thousands of IDR); TA = total assets in trillion IDR); SIZE = natural logarithm of total assets (in IDR). Profit = positive earnings; Loss = negative earnings; DAR = debt-to-assets ratio.

Table 2. Descriptive statistics for subsamples by the level of debt and profit (loss)

Variable	Mean	Median	Std. Deviation	Min	Max
Panel A: Subsample of Low DAR, Profit Firms (Positive Earnings) (N = 353)					
P	1764	660	3991	50	53000
EPS	0.14	0.03	0.42	0.00002	5.65
BVPS	1.26	0.39	2.57	-5.39	26.47
TA	5.53	1.39	11.67	0.0013	100.32
SIZE	28.05	27.96	1.68	20.95	32.24
Panel B: Subsample of Low DAR, Loss Firms (Negative Earnings) (N = 103)					
P	792	180	2086	50	16000
EPS	-.08	-.02	.25	-2.26	-.000036
BVPS	.36	.12	1.18	-3.46	6.80
TA	2.84	0.85	6.54	0.01	55.08
SIZE	27.35	27.47	1.77	22.38	31.64
Panel C: Subsample of High DAR, Profit Firms (Positive Earnings) (N = 550)					
P	2189	673	5452	50	83625
EPS	.21	.04	1.39	.0000075	31.29
BVPS	1.55	.47	7.72	-.52	171.39
TA	37.22	5.02	138.06	0.0027	1416.76
SIZE	29.38	29.24	1.84	21.71	34.89

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Panel D: Subsample of High DAR, Loss Firms (Negative Earnings) (N = 203)					
P	517	177	1014	50	7750
EPS	-.18	-.02	1.46	-20.52	-.00015
BVPS	.89	.13	9.16	-5.24	130.13
TA	10.21	1.73	60.02	0.01	842.61
SIZE	28.21	28.18	1.70	22.44	34.37

P = share price (in Indonesian rupiah, IDR); EPS = earnings per share (in thousands of IDR); BVPS = vook value of equity per share (in thousands of IDR); TA = total assets in trillion IDR); SIZE = natural logarithm of total assets (in IDR). Profit = positive earnings; Loss = negative earnings; DAR = debt-to-assets ratio.

Regression results

The regression results are presented in 4 (four) tables. Table 2a contains the regression results for the value relevance of the EPS, which include the full sample, subsamples based on debt level, and subsamples based on profit (loss). Table 2b presents the regression results for the value relevance of BVPS, which are broken down into subsamples based on debt level and profit (loss). Table 3a presents the regression results for the value relevance of the EPS which is broken down into subsamples based on debt level, and each is further grouped into subsamples based on profit (loss). Table 3b is the regression results for the value relevance of the BVPS which is grouped into subsamples based on debt level and further grouped into subsamples based on profit (loss).

The regression results in Table 2a, Panel A, Panel B1, Panel B2, and Panel C1 show that the EPS coefficient is positively significant at the 1 percent level. In contrast, the EPS coefficient in Panel C2 is not significant. These results indicate that EPS has value relevance for firms with both low and high debt levels and profitable firms. On the other hand, for companies that suffer losses, EPS has no value relevance. Beta EPS in Panels B1 and B2 is greater than Beta EPS in Panel A. These results indicate a larger role of EPS in explaining stock prices when the sample is divided into 2 subsamples, low debt levels (low DAR) and high debt level (high DAR). Furthermore, the beta in Panel B1 is greater than the beta in Panel B2, which means that EPS plays a bigger role in explaining stock prices for the low DAR subsample compared to that for the high DAR subsample. A comparison of Beta in Panels C1 and C2 indicates that EPS has a role in explaining stock prices for companies that earn profits but not for companies that suffer losses.

SIZE is an important control variable in explaining stock prices which is indicated by a positive and significant regression coefficient at the 1 percent level. These results are consistent for all subsamples across all panels in Table 2a.

Table 3. Regression results for value relevance of EPS - the full sample and subsamples by the level of debt and subsamples by profit (loss)

Variable	B	Beta	Sig.
Panel A: Full Sample (N = 1209)			
(Constant)	-3.608		0.000
EPS	0.248	0.192	0.000
SIZE	0.335	0.434	0.000
Year dummy variables	included		

Industry dummy variables	included		
Adjusted R Square	0.229		
F	33.560		0.000
Panel B1: Low DAR (N = 456)			
(Constant)	-3.171		0.002
EPS	0.971	0.269	0.000
SIZE	0.323	0.386	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.289		
F	17.803		0.000
Panel B2: High DAR (N = 753)			
(Constant)	-4.192		0.000
EPS	0.217	0.206	0.000
SIZE	0.354	0.446	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.234		
F	21.841		0.000
Panel C1: Profit Firms (Positive Earnings) (N = 903)			
(Constant)	-3.146		0.000
EPS	0.272	0.213	0.000
SIZE	0.323	0.431	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.244		
F	27.398		0.000
Panel C2: Loss Firms (Negative Earnings) (N = 306)			
(Constant)	0.636		0.600
EPS	-0.005	-0.005	0.935

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SIZE	0.166	0.232	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.061		
F	2.795		0.002

Dependent variabel = Ln (Price); B = Unstandardized Coefficients; Beta = Standardized Coefficients

There are similarities between the results in Table 2b and the results in Table 2a. The BVPS coefficient is positive and significant at the 1 percent level in both Panel A, Panel B1, Panel B2, and Panel C1, and BVPS has an insignificant coefficient in Panel C2. These results indicate that BVPS has value relevance, and it is not affected by debt level. The impact of profit (loss) shows that BVPS has value relevance for companies that earn profits and BVPS is irrelevant in determining share value for companies that suffer losses.

The regression results in Table 2b of Panels B1 and B2 show similar results to those in Table 2a of Panels B1 and B2. Beta BVPS in Panels B1 and B2 is greater than Beta BVPS in Panel A. These results indicate a larger role of BVPS in explaining stock prices when the sample is divided into 2 subsamples, low debt level (Low DAR) and high debt level (High DAR). DAR). Furthermore, Beta BVPS in Panel B1 is also greater than Beta BVPS in Panel B2 which means that BVPS plays a bigger role in explaining stock prices for the low DAR subsample compared to that for the High DAR subsample. A comparison of Beta in Panels C1 and C2 indicates that BVPS has a role in explaining stock prices for companies that earn profits but not for companies that suffer losses.

As in Table 2a, SIZE in Table 2b also shows an important role as a control variable in explaining the stock price. The SIZE coefficients for all subsamples are positively significant at the 1 percent level.

Table 4. Regression results for value relevance of BVPS - subsamples by the level of debt and by profit (loss)

Variable	B	Beta	Sig.
Panel A: Full Sample (N = 1209)			
(Constant)	-3.041		0.000
BVPS	0.038	0.171	0.000
SIZE	0.316	0.409	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.220		
F	32.000		0.000
Panel B1: Low DAR (N = 456)			
(Constant)	-0.852	0.000	0.384
BVPS	0.286	0.467	0.000
SIZE	0.232	0.278	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.407		

F	29.427		0.000
Panel B2: High DAR (N = 753)			
(Constant)	-3.6066	0.000	0.000
BVPS	0.027	0.148	0.000
SIZE	0.3352	0.422	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.213		
F	19.484		0.000
Panel C1: Profit Firms (Positive Earnings) (N = 903)			
(Constant)	-2.884	0.000	0.000
BVPS	0.056	0.247	0.000
SIZE	0.313	0.418	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.258		
F	29.573		0.000
Panel C2: Loss Firms (Negative Earnings) (N = 306)			
(Constant)	0.721	0.000	0.553
BVPS	0.004	0.021	0.715
SIZE	0.163	0.227	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.061		
F	2.808		0.002

Dependent variabel = Ln (Price); B = Unstandardized Coefficients; Beta = Standardized Coefficients

Table 3a presents the regression results for the relevance of the value of EPS which are grouped into subsamples based on debt level and further divided into subsamples based on profit (loss). EPS has a significant positive coefficient at the 1 percent level in Panel A1 and Panel B1. In contrast to these results, EPS has a significant negative coefficient in Panel A2 and is insignificant in Panel B2. These results indicate that EPS has value relevance only for profitable firms. On the other hand, EPS is irrelevant for investors if the company suffers losses.

Table 3a shows the role of EPS in explaining stock prices for both low and high-debt sub-samples provided that companies have positive earnings. However, the role is greater for companies with low debt levels. This is indicated by the Beta in Panel A1 which is higher than the Beta in Panel B1.

Table 5. Regression results for value relevance of EPS - subsamples by the level of debt and profit (loss)

Variable	B	Beta	Sig.
Panel A1: Low DAR, Profit Firms (Positive Earnings (N = 353)			
(Constant)	-2.617		0.023
EPS	1.075	0.329	0.000
SIZE	0.309	0.378	0.000

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Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.336		
F	17.196		0.000
Panel A2: Low DAR, Loss Firms (Negative Earnings) N = 103)			
(Constant)	0.472		0.830
EPS	-1.774	-0.328	0.001
SIZE	0.166	0.215	0.037
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.186		
F	3.124		0.001
Panel B1: High DAR, Profit Firms (Positive Earnings) N = 550)			
(Constant)	-3.756		0.000
EPS	0.225	0.215	0.000
SIZE	0.343	0.435	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.234		
F	16.245		0.000
Panel B2: High DAR, Loss Firms (Negative Earnings) (N = 203)			
(Constant)	1.346		0.373
EPS	0.015	0.215	0.800
SIZE	0.144	0.435	0.007
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.060		
F	2.169		0.018

Dependent variabel = Ln (Price); B = Unstandardized Coefficients; Beta = Standardized Coefficients

SIZE in Table 3a also confirms its important role in explaining stock prices. The SIZE coefficients across all Panels are significantly positive at the 1 percent level, which indicates that the larger the company the higher the stock price.

The regression results for BVPS value relevance are presented in Table 3b which are grouped into subsamples based on debt level and further divided into subsamples based on profit (loss). There are similarities and differences between the results in Table 3b and the results in Table 3a. The similarity is that BVPS has a significant positive coefficient at the 1 percent level in Panel A1 and Panel B1. In addition, BVPS has an insignificant coefficient in Table B2. The difference is that BVPS has a positive and significant coefficient at the 1 percent level in Table 3b Panel A2 while in Table 3a Panel A2 the EPS coefficient is negative and significant. These results indicate that BVPS has value relevance for companies with low debt levels, both generating profits, and suffering losses. In addition, BVPS also has value relevance for companies with high debt levels as long as they generate profits.

The results in Table 3b show similar results to Table 3a, especially for the subsample of low-debt firms (Low DAR) and the sub-sample of firms with high debt levels that have positive earnings. This is indicated by Beta which is greater in Panel A1 than Beta in Panel B1 which

means a bigger role for BVPS in explaining stock prices when debt levels are low.

The SIZE coefficient in Table 3b Panel A2 is positive but not significant which means SIZE is not related to stock prices. Panel 3b reinforces the important role of BVPS, not SIZE, in explaining stock prices.

Table 6. Regression results for value relevance of BVPS - subsamples by the level of debt and profit (loss)

Variable	B	Beta	Sig.
Panel A1: Low DAR, Profit Firms (Positive Earnings) (N = 353)			
(Constant)	-1.044	0.000	0.337
BVPS	0.253	0.473	0.000
SIZE	0.247	0.303	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.425		
F	60.097		0.000
Panel A2: Low DAR, Loss Firms (Negative Earnings) N = 103)			
(Constant)	2.504	0.000	0.208
BVPS	0.643	0.559	0.000
SIZE	0.089	0.115	0.213
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.362		
F	9.926		0.000
Panel B1: High DAR, Profit Firms (Positive Earnings) N = 550)			
(Constant)	-3.552	0.000	0.000
BVPS	0.043	0.230	0.000
SIZE	0.335	0.426	0.000
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.241		
F	55.970		0.000
Panel B2: High DAR, Loss Firms (Negative Earnings) (N = 203)			
(Constant)	1.399	0.000	0.356
BVPS	-0.001	-0.009	0.902
SIZE	0.142	0.199	0.008
Year dummy variables	included		
Industry dummy variables	included		
Adjusted R Square	0.060		
F	2.164		0.018

Dependent variabel = Ln (Price); B = Unstandardized Coefficients; Beta = Standardized Coefficients

DISCUSSION

The findings of this study that show that debt levels have a negative impact on the value relevance of accounting information can be caused by several factors. Companies that have relatively high debt tend to face relatively high risks. This reduces investor confidence in the accounting information presented by the company, which then weakens the relevance of

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accounting information In addition, relatively high debt results in relatively high interest costs, which increases the company's risk. This can reduce the quality of accounting information. Next, companies with relatively high debt have the potential to carry out earnings management due to the company's efforts to avoid violating debt contracts based on accounting numbers, especially leverage. This has an impact on the quality of accounting information and in turn weakens the value relevance of accounting information.

The findings of this study also indicate that losses experienced by the company have an impact on the value relevance of accounting information. This is partly due to investors' view that the company's losses have lower persistence than the profits that can be achieved by the company (Atanas Sixpence and Adeyeye 2018). Relatively low earnings persistence has an impact on the value relevance of accounting information due to the relatively high uncertainty over the company's future performance. As a result, the value relevance of accounting information is weakened. In addition, the relatively high uncertainty of the company's future performance can cause investors to doubt the health of the company. This also results in the weakening of the value relevance of accounting information. The weakening value relevance of accounting information caused by both high debt levels and negative earnings is consistent with the findings of Habib and Azim (2008).

BVPS and EPS, which are measures that are generated from the balance sheet and income statement, respectively, have been shown to have a considerable value relevance, according to the findings of this study (Ohlson, 1995).

The results of this study indicate that there may be a correlation between having a high amount of debt and having negative earnings, particularly when the two characteristics are taken into consideration simultaneously. The results of this study indicate that the value relevance of BVPS or EPS is not impacted by high levels of debt. Having negative earnings, on the other hand, might affect the relevance of both BVPS and EPS. One reason for this is that individuals tend to have low earnings persistence (Čupić, Todorović, and Benković 2022; Safdar 2016; A Sixpence and Adeyeye 2018).

When a high level of debt is combined with negative earnings, these results show that either BVPS or EPS lose value relevance. These findings are in line with the conclusions that Ertugrul (2021) found, even though Ertugrul's research did not establish a correlation between high levels of debt and negative earnings. The results, on the other hand, are unique when the cross combinations of debt levels and profit (loss) are considered. When earnings are negative, the impact on EPS is significant. When there is a loss in profit coupled with either a low or high debt level, EPS loses any value relevance it may have had. BVPS, on the other hand, maintains its value relevance although its profits are in the red so long as its debt level is manageable. As long as earnings are positive, a high level of debt has no detrimental effect on the value relevance of BVPS.

CONCLUSION

This study demonstrates the significance of high debt levels and negative earnings in determining the value relevance of BVPS and EPS. Similarities and discrepancies exist between the findings regarding the value relevance of BVPS and EPS. Both BVPS and EPS have value relevance whether debt levels are high or low and when a company is profitable. BVPS and EPS have no value relevance when a company is experiencing a loss. The difference in value relevance between BVPS and EPS is that BVPS has value relevance for enterprises with low debt levels but losses, whereas EPS does not. For BVPS and EPS to have value relevance, the low debt level and earned profit play a significant role.

When debt levels are low and losses are declared, only BVPS has value significance.

These results have theoretical ramifications, suggesting that high debt levels and the appearance of negative earnings matter when evaluating financial statements. If the debt level is high and the company is suffering loss conditions, then accounting information becomes meaningless for stock valuation. The conclusion for policy is clear: debt levels and corporate loss conditions need to be addressed together.

This study's limitations include the observation time before the COVID-19 pandemic, which could affect the value relevance of BVPS and EPS. Nonetheless, this sample was selected to examine the effects of debt levels and the presence of negative earnings on the value relevance of EPS and BVPS information, while minimizing the effect of the pandemic on the results. Future research could use the era of the pandemic to determine how this affects the findings.

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