
Factors Affecting Earning Per Share: The Case of Indonesia

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Abstract:

The main aim of this study is to examine if financial factors such as Return on Assets, Price to Book Value and Debt Equity Ratio have any influence on the Earning Per Share.

The analysis is focusing on the manufacturing sector of Indonesia using companies indexed in the Indonesian Stock Exchange.

The results showed that there is an influence of Price to Book Value on Earning Per Share as well as of Debt Equity Ratio to Earning Per Share.

The coefficient of determination is relatively high supporting the results.

Keywords: *Return on Assets (ROA), Price to Book Value (PBV), Debt Equity Ratio (DER) and Earning Per Share (EPS).*

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1. Introduction

Financial investment is one of the activities taking place in Capital Markets with a considerable contribution to country's national income (Hsing, 2011). Indonesian Stock Exchange is a capital market for various long-term financial instruments that can be traded, either in the form of debt or own capital (Rapach, 2002). Shares are one of the capital market instruments which the investors are very interested in (Wahyu, 2017; Thalassinos *et al.*, 2012). Shares are characterized "*as a sign of participation or possession of a person or entity within a limited company or individual*" (Apergis and Eleftheriou, 2002).

Manufacturing companies are the companies in the Indonesian Stock Exchange with the highest level of industrial development (Ali, 2011). One of the manufacturing subsectors with good growth is the real estate and the private property subsector (Farka, 2010). This can be verified from the developments in Indonesia since the last 15 years. The growth development in the country has a positive sign. The development of the property and real estate sector will certainly attract investors because of the rising prices of land and buildings, the supply of land is fixed while the demand will always increase in line with the increase in the population and the increasing human need for shelter, offices, shopping centers, and others.

The earning per share ratio (EPS) is used to measure the success of management in achieving profit for the owners of the company. EPS describes the company's profitability which is reflected in each share (Geetha *et al.*, 2011). The higher the value of EPS the greater the profit and the possibility of increasing the amount of dividends received by the shareholders.

The return on investment known as (ROI) or Return on Total Assets (RoTA) (Shahed *et al.*, 2008) is the ratio showing return on the amount of assets used in the company. ROI is also a measure of management effectiveness in managing its investment. But EPS is very volatile, so it is very difficult to predict, the novelty of it, which is influenced by the return on assets, price to book value and debt equity ratio. In our case this refers to the manufacturing companies listed on the Indonesian Stock Exchange.

2. Literature review

Return on Assets (ROA):

This ratio looks at the extent to which the investments that have been inculcated are able to provide the expected return on profit, and the investment is actually the same as the company's assets, which are invested.

Earnings Per Share (EPS):

In this study earning per share is an independent variable. EPS is the rate of profit earned from each share. EPS is the ratio of net profit after tax in one fiscal year to the number of shares issued.

Debt Equity Ratio (DER):

Debt equity ratio is the ratio of debt to measure the loan rate from corporate finance and its calculation is based on the ratio of total liabilities compared to total equity. DER is used to indicate how much of a company's debt is used to perform its operations which is compared to its equity value.

Price to Book Value (PBV):

Price to book value or in Indonesian called price ratio to book value means an investment valuation ratio that is often used by investors to compare the market value of a company's stock with its book value. This PBV ratio shows the exact value of the company based on the price of shares.

3. Methodology

In accordance with the above consideration, the manufacturing section of the real estate industries with the property sub sector listed in the Stock Exchange is taken as the sample of this research. They are the various types of manufacturing companies of real estate sub-sector and property available in the Indonesian Stock Exchange in the period of 2013-2016 consisting of 11 companies.

As dependent variable, that will be the object of this research, we consider the earning per share of the sample (11 manufacturing companies in real estate and property). As independent variables or free variables we consider ROA, PBV and DER.

The type of data obtained is in the form of documentary data from the Indonesian Stock Exchange, which can be accessed from the web site www.idx.co.id. Other sources of data for this study are secondary data obtained from the financial documents of the companies participated in the sample. The collecting method is documentation of financial statements, annual financial statements and publications reports of ROA, PBV, DER and EPS of real estate manufacturing companies.

4. Results and Discussion

To accept the data, we have to run some statistical tests as shown below in Tables 1-5 and Figure 1. These tests are required in order to investigate possible problems with the quality of data to protect the research from deficiencies and to come up with more accurate conclusions.

Multicollinearity Test:

Table 1. Multicollinearity Test

	PBV	ROA	DER
PBV	1.000000	0.368626	0.070922
ROA	0.368626	1.000000	0.751241
DER	0.070922	0.751241	1.000000

Source: Data processed with E-views 9.

Based on the test of correlation coefficient value above, there is no variable whose value is more than 0.8 so it can be concluded that there is not any detected multicollinearity problem.

Heteroscedasticity Test:

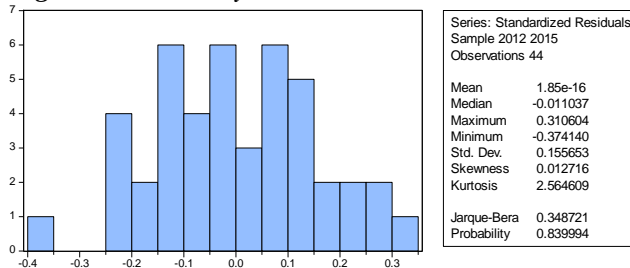
Table 2. Heteroscedasticity Test

Parameter	CE Unweighted	CE weighted
Prob t - statistic	The all three 0.05	The all three 0.05
R Squared	0.717063	0.827938
Prob (F – statistic)	0	0
Parameter	CE Unweighted	CE weighted
Prob t - statistic	The all three 0.05	The all three 0.05
R Squared	0.838633	0.895251
Prob (F – statistic)	0	0

From Table 2 the R-squared coefficient of common effect changes, in the unweight model, from 0.717063 to 0.827938 after cross section weights. Besides the fixed effect also changed with the unweighted value of 0.838633 to 0.895251 after cross section weight. Based on these results it can be concluded that there is no problem of Heteroscedasticity in this research.

Normality test:

Figure 1. Normality Test



Based on the normality test above, the probability of 0.839994 is greater than 0.05 so it can be concluded that the data is normally distributed.

Chow Test:

Table 3. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.260118	(10,30)	0.0413
Cross-section Chi-square	24.707808	10	0.0059

Source: Data processed with E-views9.

From the above research it can be concluded that the value of chi square statistic with 10 degrees of freedom is 24.707808 with probability $0.0059 < 0.05$ therefore the fixed effect model is accepted in this stage. It is now necessary to proceed with the Hausman test to determine whether a Fixed Effect or a Random Effect model is selected.

Table 4. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.278796	3	0.0635

Source: Data processed with E-views 9.

From the Hausman Test, the probability value of 0.0635 is greater than 0.05 so that the conclusion is that Random Effect model is better to be used. To see whether a Fixed Effect or a Random Effect model has to be used, the Lagrange multiplier test is required.

Table 5. Lagrange Multiplier Test

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	2.672663 (0.1021)	1.567378 (0.2106)	4.240041 (0.0395)

Source: Data processed with E-views 9.

Based on the above the coefficient of cross-section according to Breusch-Pagan statistic is 2.672663 with probability value of 0.1021 which is greater than 0.05. Therefore, the conclusion is that Random Effect is better to be used than the Fixed Effect model with common effect.

The estimation of the model is given in Table 6.

Table 6. Estimation of Linear Model (Cross-section Random Effect model)

Dependent Variable: EARNING PER SHARE

Method: Panel EGLS (Cross-section random effects)

Sample: 2013-2016

Periods included: 4

Cross-sections included: 11

Total panel (balanced) observations: 44

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.607579	0.151922	10.58164	0.0000
ROA	0.046549	0.143160	3.025154	0.0000
DER	0.498511	0.129484	3.849989	0.0004
PBV	0.330292	0.095201	3.469414	0.0013
Effects Specification				
			S.D.	Rho
Cross-section random			0.055706	0.1355
Idiosyncratic random			0.140733	0.8645
Weighted Statistics				
R-squared	0.875286	Mean dependent var		2.225784
Adjusted R-squared	0.733707	S.D. dependent var		0.286935
S.E. of regression	0.148068	Sum squared resid		0.876971
F-statistic	40.49218	Durbin-Watson stat		1.908522
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.715924	Mean dependent var		2.838837
Sum squared resid	1.045995	Durbin-Watson stat		1.600120

4.1 Effect of ROA on EPS

Based on the results above, ROA with t statistic 3.025154 which is greater than 1.684 from the t table and probability value 0.00 which is less than 0.05 concludes that ROA positively influences ERS of manufacturing activities of the real estate and property companies listed in the Indonesian Stock Exchange.

4.2 Effect of PBV on EPS

Based on the results above, PBV with t statistic 3.469414 which is greater than 1.684 from the t table and probability value 0.0004 which is less than 0.005 concludes that PBV has a positive effect on ERS of manufacturing activities of the real estate and property companies in the Indonesian Stock Exchange.

4.3 Effect of DER on EPS

Based on the results above, DER with t statistic 3.849989 which is greater than 1.684 from the t table and probability value 0.0013 which is less than 0.005 concludes that DER has a positive effect on ERS of manufacturing activities of the real estate and property companies in the Indonesian Stock Exchange.

4.4 Simultaneous Effect of ROA, PBV and DER on ERS

Based on the results above, ROA, PBV, DER simultaneously influence EPS on a positive way. This is verified from F statistic in Table 6, 40.49218, which is greater than the corresponding value 2.839 from the F table. So, we conclude that simultaneously ROA, PBV and DER simultaneously affect EPS.

4.5 Coefficient of Determination (R² adjusted)

The test of the adjusted coefficient of determination R² is used to measure the model's ability to explain the relationship between the dependent and the independent variables. The greater the value of adjusted R² (close to 1) the better the projection ability of the model. The value in this research is 0.875286 which means that 87,5% of the variation is explained by these independent variables. The remaining 12.5% is may be explained by other variables that are not included in the model.

5. Conclusion

There is a positive influence of ROA, PBV and DER to EPR simultaneously. There is also an influence of each one of the independent variables on EPS on a separate way. Each variable influences the dependent variable to a certain extend. At the same time the coefficient of determination is high supporting the findings.

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