THE INFLUENCE OF *DEBT TO EQUITY RATIO* (DER) AND *PRICE EARNING RATIO* (PER) FACTORS TOWARD THE STOCK PRICE OF THE FOOD AND BEVERAGE INDUSTRY SECTOR: AN EMPIRICAL STUDY ON THE INDONESIA STOCK EXCHANGE

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ABSTRACT

The objective of this research is to study the influence factors of Debt to Equity Ratio (DER) and Price Earnings Ratio (PER) factors toward the Stock Price of the Food and Beverage Industry Sector (An Empirical study on the Indonesia Stock Exchange). The methodology approach of this research has use 5 sample of companies with purposive sampling to determine sample criteria on the Food and Beverage companies listed in period of 2012 – 2016, which consistently publish their Annual Financial Report on the website of Indonesia Stock Exchange (IDX). And also, Kolmogorov-Smirnov test (KS test) was used to examine normality of distribution of variables. Durbin-Watson test was used to examine correlation of variables. Multi-variable regression was used to test assumptions. Multiple regression analysis is used to conduct hypothesis test (test of assumptions) of the relationship and its influence of GCG factors toward EVA (company's performance indicator). Also, confidence level of test of assumptions was 95%. It means maximum error level is 5%, namely assumptions may be accepted or rejected in error level of α ≥ 5%.

The finding shows that there is an influence between of those independent variables debt to Equity Ratio (DER) (X1) and Price Earnings Ratio (PER) (X2) toward Stock Price (Y). which F-Test has shown sig value of 0.03 less than the α sig. of 0.05. This study can contribute in providing an overview on how to create a firm value in Indonesia which can be used by managers to create a decision making and reinforcing the factors influences of the Stock Price

Keywords: Debt to Equity Ratio (DER), Price Earning Ratio (PER), Stock Value

INTRODUCTION

The food and beverage industry sector is one of many sectors that have a good potential to be developed in Indonesia. It is because Indonesia is a country that has rich natural resources, in this case is plantation and forestry which mostly could be a resources for the food and beverage. This sector has a big contribution to Indonesia's economic growth. Total investment on the manufacturing is reach 24,3% of GDP. Based on the trade sector, the realization of domestic investment, and the largest in the industry and plantation crops worth Rp 9.4 trillion, followed by the paper industry and paper goods and printing (Rp 9.3 trillion). Then the electricity and water (Rp 9.1 trillion), transportation, warehouse and telecommunications (Rp 8.1 trillion), and the food industry (Rp 8 trillion). Food and beverage is the big 5 (five). All non-oil/gas industrial sectors recorded positive growth, with base metal, iron and steel industry taking the lead with 13.1 percent, followed by food, beverages and tobacco industry 9.2 percent, textile, leather product and footwear industry 7.5 percent. (Indonesia Fact & Figures, 2012).. Investment realization in Indonesia's food and beverage industry totaled IDR 40 trillion in 2015 (http://www.indonesia-investments.com). And, Turnover in Indonesia's food and beverage sector reached IDR 400 trillion (approx. USD

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$30.3 billion) in the first quarter of 2016, up 7.55 percent from the same period one year earlier. This fact can be used to attract investors, either locally or foreign, to invest in the food and beverage industry sector. This paper is examine the influence of the Debt to Equity Ratio **(DER)** and Price Earnings Ratio **(PER)** Factors toward the Stock Price Value of the Food and Beverage Industry Sector that the goal of this paper is to provide empirical evidence to a proposition, which has not been tested in prior literature especially in the case of the food and beverage industry in Indonesia.

LITERATURE REVIEW

Debt to Equity Ratio (DER)

According to Ross, Westerfield and Randolph (2002, p80), DER is a proxy for stimating the level of leverage of a company. Franco Modigliani and Merton Miller published their findings about the financial world in 1958, the world assumed that one“best”debt---to---equity ratio existed for all firms. Debt to equity ratio indicates the risk of the company, where the greater Debt to Equity Ratio (DER), reflecting the greater the company's ability to guarantee the debt to equity owned (Nurfadillah, 2011). The relationship between Debt to equity ratio and stock price also has commented by bhandhari (1988) found that debt to equity had significant relationship with stock returns. Firms that are optimizing returns have a concave value function where market Value is dependent on the debt to equity ratio and debt to equity ratio squared (winn, 2014). A company with high DER may provide higher returns to its shareholders, in line with the risk that is faced by the company compared to other companies with lower DER (Yanti & Hutagaol, 2009)

Price Earning Ratio (PER)

Previous literature has examined how the Price Earning ratio can be used to estimate the cost of equity capital (Easton, 2004), to explain stock prices (Liu et al., 2002, Schreiner & Spremann, 2007; Kim & Ritter, 1999), and to predict future earnings (Ou & Penman, 1989; Fairfield, 1994; Penman, 1996; Wu, 2013). In the investment community, the P/E ratio is also heavily used by financial analysts to justify their stock recommendations (Wan & Wu, 2014).

Stock Price

Investors are looking for opportunities to invest additional resources in the most efficient capital markets and one of the main factors that every investor has in making his/her decision is to give special attention to “stock price” (Arkan, 2016). Studying the movement of stock prices and the volatility of prices is considered to be the most important mission in the financial world and markets. Some studies have also been conducted to determine the effect of the fundamental and technical variables that affect the stock price. For example, the study which tested the influence of fundamental variables on stock prices by Njo Anastasia (2003). The results showed that the book value variables affect the stock price.

RESEARCH MODEL

Based on the research background and the theory above, the research model is reflected in figure 1.

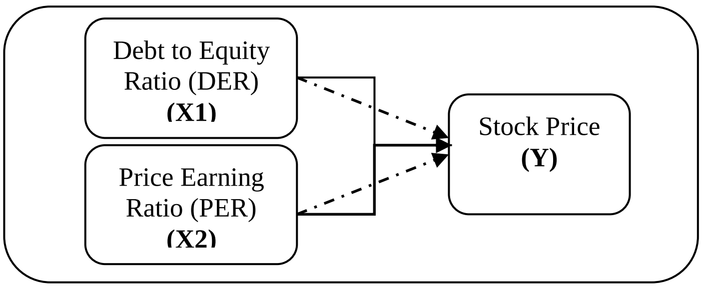

Figure 1. Research Model

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RESEARCH HYPOTHESIS

Based on theory, previous studies and the research model outlined, this study makes hypotheses to examine the relationship between variables:

H1 : Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has simultaneously influences on Stock Price (Y).

H2 : Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has partially influences on Stock Price (Y).

METHOD

The object of this research is those corporations which implement GCG, while the units of observation in this research are the Annual Reports and Financial Reports of the companies that listed on Indonesia Stock Exchange (IDX) and have been audited. From those observation units, the author observe the board of commissioners size, the availability of the audit committee, managerial ownerships by the number of shareholders volume and the EVA of companies. Those are explained in details as tables 1.

Table 1. Qualitative Research Design

Research Variables	Indicator	Item Measurement Instruments
1	2	3
Stock Price (Y)	Stock Price	Closing Stock Price
Debt to Equity Ratio (X1)	Debt to Equity Ratio (DER)	$DER = \frac{Total\ Debt}{Total\ Equity}$
Price Earning Ratio (X2)	Price Earning Ratio (PER)	$PER = \frac{Market\ Price\ Per\ Share}{Earning\ Per\ Share}$

Sampling Criteria

The methodology approach of this research has use 5 sample of companies with purposive sampling method to determine ‘sample criteria’ on Public Listed companies listed in period of 2012 – 2016, which consistently publish their Financial Report on the database of Indonesia Stock Exchange (IDX) and audited.

Sample Research

As shown in table 2 is the list of sample research of those 5companies which suitable with the criteria has mentioned.

Table 2. Sample Research

No	Nama Perusahaan	Kode Perusahaan
1	PT. Delta Djakarta, Tbk.	DLTA
2	PT. Fast Food Indonesia, Tbk.	FAST
3	PT. Indofood Sukses Makmur Tbk	INDF
4	PT. Mayora Indah, Tbk.	MYOR
5	PT. Tunas Baru Lampung, Tbk.	TBLA

RESULT AND DISCUSSION

Data Analysis

The data has provided was examined by using multiple linear regression analysis and analysis of variance (ANOVA). Multiple linear regression analysis was managed using the Statistical

Package for Social Sciences (SPSS) version 20.0. And, the data was extracted from the annual reports of financial report published by on the Indonesia Stock Exchange (IDX). And, in order to compute the ratios needed of each company, it was used Microsoft Excel spreadsheet. And the data would be formatted and then exported to SPSS applications.

In order to get the assessment of the informative force of the regression model, an analysis of variance (ANOVA) was directed to examine whether any of the independent variables had influences with the dependent variable by utilizing the following hypothesis:

H0: $\rho 1 = \rho 2 = 0$: That Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has no partially significant influence toward Stock Price (Y).

H1: At least one ρ is not equal to zero/ ρ should be above or below zero : That Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has partially significant influence toward Stock Price (Y).

If the null hypothesis is accepted, then there is no influence between independent variables towards its stock repurchases. If the null hypothesis is rejected, then it has influences between independent variables toward the dependent variables of stock repurchases. On the regression model, to test the F value, it was dictated by its noteworthy p esteem got from the SPSS PC programming at Confidence level of 95 percent. The computed F value m was ascertained as takes after: Computed F value = mean sum of squares/mean sum of error terms.

The technique utilized at appropriation and tried on the incomplete autonomous factors to characterize which one is significant, it may utilize the following hypothesis:

H0: $\rho = 0$: That Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has no partially significant influence toward Stock Price (Y).

H1: $\rho \neq 0$: That Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) has partially significant influence toward Stock Price (Y).

If the null hypothesis is accepted, then there is an influence between the independent variables toward Stock Price. If the null hypothesis is rejected, then the individual independent variable has influences toward Stock Price.

Normality Test - Kolmogorov-Smirnov test (KS test)

The Kolmogorov-Smirnov test (Chakravart, Laha, and Roy, 1967) is used to determine whether a sample of a population comes with a specific normal distribution. This is a step function that increases by 1/*N* at the value of each ordered data point. Table 3 has shown that the significant amount shows 0, 200 for DER, 0,061 for PER and 0,082 for Stock Price more than α (2-tailed) 0.05 which means that it has normal distributions.

Table 3. Kolmogorov-Smirnov test (KS test)
Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
DER	,203	5	,200*	,975	5	,906
PER	,435	5	,061	,597	5	,001
Stock Price	,329	5	,082	,779	5	,054

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Note. from SPSS version *20.0* output, 2016

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Multicollinearity Analysis

According to Batterham, et al (1997) is an issue that happens when at least one free factor have a high connection with a blend of the other autonomous factors/ independent variables on a regression analysis.

Table 4. Multicollinearity Test

Independent Variables (Dimension)		Collinearity Statistics		Collinearity Statistic Remarks
		Tolerance	VIF	
1	(Constant)			
	DER	,898	1,113	Not Multicol
	PER	,898	1,113	Not Multicol

Note. from SPSS version *20.0* output, 2016

As the above table 4, Multicollibeariy Test has shown that VIF (Variance Inflation Factors) index shows that the conclusion remarks is < 10 (Not Multicoll), it means that between dependent variables and independent variables not in highly correlated.

Heteroschedasticity Analysis

According to Williams R (2015) heteroschedasticity term is actually referred to the error terms which do not have a constant variance (different variance). In order to detect the existences of the heteroschedasticity, it can also be inferred from the pattern on graphical scatter plot. It shows that there is absolutely no heteroscedastity, because its pattern on graphical scatter plot has a completely random, equal distribution of points throughout the range of X axis and its spread on above or under the 0 points on Y axis. As see on the figure. 3 it shows that there is no heteroschedasticity existed, because the plots are spread throughout the graphics.

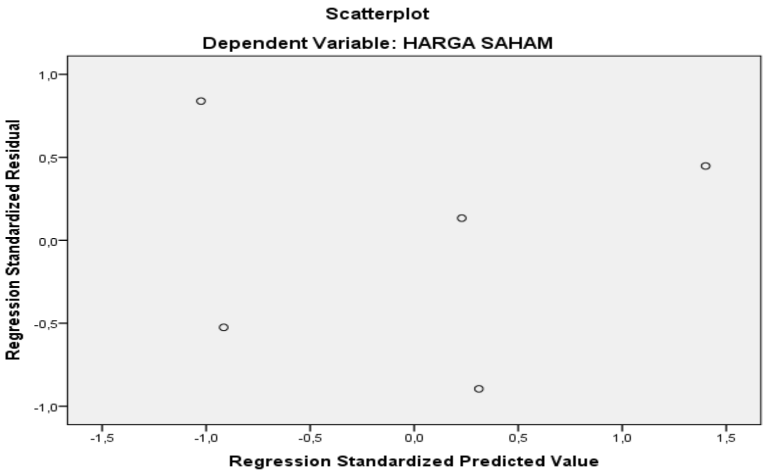

Fig. 1. Heteroschedasticity Test –
Note. from SPSS version *20.0* output, 2016

Regression Analysis

From the SPSS linear regression output as table 5., the regression line was estimated as follows:

$$\textbf{STOCK PRICE} = \textbf{2.117-}\ 1.142\ \textbf{DER} + \textbf{0}.968\ \textbf{PER} + \varepsilon$$

The objective of this research was to establish the relationship and its influences between Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) toward Stock Price

(Y). To achieve this objective, two sets of tests were carried out; an F test for testing the overall significance of the regression model and a t test for testing the significance of the independent variables partially in the regression model.

In this section, we present the results of our analysis, mainly regarding the relation between Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) toward Stock Price (Y). Based on the Regression analysis using SPSS version 20.0, it's been stated from table .5 that the Rsquare shows amount of 0.783 which means that all the dependent variables of Debt to Equity Ratio (DER) (X1) and Price Earning Ratio (PER) (X2) toward Stock Price (Y). for about 80.7%. Or, it may consider that 19.3 % is influence by other factors.

Table 4. Model Summary

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,898[a]	,807	,613	244,679	3,657

a. Predictors: (Constant), PER, DER

b. Dependent Variable: STOCK PRICE

Note. Summary from SPSS version *20.0* output, 2016

Table 5. SPSS Multiple Regression Analysis Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	(Constant)	2,177	,079		27,418	,001		
1	DER	-1,142	,093	-,519	-12,336	,007	,898	1,113
	PER	,968	,039	1,034	24,563	,002	,898	1,113

a. Dependent Variable: STOCK PRICE

Note. Summary from SPSS version *20.0* output, 2016

Hypothesis Test – F-test

To test for the overall significance of the regression model, the F test was carried out to assess whether there was an influences between the independent variable Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) toward Stock Price (Y). An Analysis of Variance (ANOVA) was performed to test whether any of the independent variables has influences with the dependent variable. The results of Model Summary are shown as in table 6.

The F test tested the following hypothesis:

H_0 : Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) has no simultaneously significant influence toward toward Stock Price (Y).

H_1 : Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) has simultaneously significant influence toward toward Stock Price (Y).

Table 6. ANOVA Model

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2,791	2	1,396	312,937	,003[b]
	Residual	,009	2	,004		
	Total	2,800	4			

a. Dependent Variable: HARGA SAHAM

b. Predictors: (Constant), PER, DER

From the F-Test Results on table 6, the computed F value of 312,937 and its significance amount as ,003 is less than the α sig. value of 0.05 and thus, it mean that the null hypothesis was rejected. Therefore, it can said that this study found a statistically significant influence between Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) has simultaneously significant influence toward toward Stock Price (Y). Base on above results it may conclude that Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) still be the best options for investors to measure the performance company through its stock price has updated. This research result is in line with the results from Kabajeh (2012), finding that the Debt to Equity Ratio (DER) has positive effect on stock prices.

Hypothesis Test – t-test

In order to test for the significance of the independent variables, each coefficient of the independent variables was tested individually or partially using the **t test** to assess whether there was a linear relationship and its influences between the independent Debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) toward Stock Price (Y). The results from the SPSS regression output with regard to the independent variables are as shown in table 7.

Table 7. t-Test Results

Model	Standardized coefficients beta	t	Sig.	Remarks
(Constant)		27,418	,001	Sig.
DER	-,519	-12,336	,007	Not Sig.
PER	1,034	24,563	,002	Sig.

Note. b. from SPSS version *20.0* output, 2016

Hypothesis of Debt to Equity Ratio (DER) *(*X1) toward Stock Price (Y)

The t test tested the following hypothesis:

H0: Debt to Equity Ratio (DER) *(*X1) has no partially significant influence Stock Price (Y).
H1: Debt to Equity Ratio (DER) *(*X1) has partially significant influence Stock Price (Y).

The sig. value of Debt to Equity Ratio (DER) *(*X1) shows 0.07 greater than 0.05 (α 5%) and the t value shows negative -12,336 thus it means that the null hypothesis with regard to these independent variables was accepted. Hence, this study found that Debt to Equity Ratio (DER) *(*X1) has no partially significant influence toward the Stock Price (Y). The results findings also suitable with Dimitropoulos (2007) showed that the Debt to Equity Ratio (DER) negatively affects the stock price and also Hijri (2007) and Grace (2008) showed that there was no effect of the DER ratio of the stock price. It might imply that investors might not consider the risk of the Debt to value the firm.

Hypothesis Price Earnings Ratio (PER) (X2) toward Stock Price (Y)

The t test tested the following hypothesis:

H0: Price Earnings Ratio (PER) (X2) has no partially significant influence toward Stock Price (Y).
H1: Price Earnings Ratio (PER) (X2) has partially significant influence toward Stock Price (Y).

The sig. value of Price Earnings Ratio (PER) (X2) 0,02 less than 0.05 (α 5%) and the t value shows positively as 24,563 thus it means that the null hypothesis with regard to these independent variables was rejected. Therefore, this study found that Price Earnings Ratio (PER) (X2) has partially significant influence toward Stock Price (Y). The results findings also suitable with Sharma (2011) and Srinivasan (2012) suggested that Price Earnings Ratio (PER) has a positive effect on stock prices. It means that is used PER ratio, investors can compare the price of the stock company with another company, and as above research results has indicate that PER is an indicator to create the value firm.

Implications of the Hypothesis Test

The results of the research mainly on the F Test Hypothesis create the implication that all those independent variables still becoming major attentions for the investors and company's managerial to increase stock price. And those factors are becoming a key point of interest in the company to increase the firm's value. But, it still open on the further research that any others factors instead of those independent variables debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) toward Stock Price (Y). Those, new variables research will become a new perspective that is useful for the investors and shareholders to do financial performance evaluation.

CONCLUSION

This study provides a detailed examination of factors of debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) has an influence toward Stock Price (Y). This study can contribute in providing an overview on how to create a firm value in Indonesia which can be used by managers to create a decision making and reinforcing the factors which has influence on the Stock Price. The study on **F-test** has found a statistically significant influence between between debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) has an influence toward Stock Price (Y).. Base on above results it may conclude that debt to Equity Ratio (DER) *(*X1) and Price Earnings Ratio (PER) (X2) is fundamental variables the firm value.

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