

The Influence of Net Profit Margin On Stock Price with Earnings Per Share (Eps) As Moderating Variables: The Case Study On Food and Beverage Sub Sector Companies Listed On the Indonesia Stock Exchange from 2015 to 2019

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ABSTRACT

This study aims to investigate: the effect of Net Profit Margin (NPM) on stock prices and whether EPS is a moderating variable on the effect of NPM on stock prices. The case study was determined on the food and beverage sub-sector companies listed on the Indonesia Stock Exchange from 2015 to 2019. The population of this study was 26 companies, with the sampling technique used was the purposive sampling method. The use of this sampling technique resulted in 11 companies that met the criteria. The data analysis techniques used include simple regression (t test), multiple regression (F test), and interaction-type moderation tests using Moderated Regression Analysis. Data processing was carried out with the help of the IBM SPSS Ver 22 program. The findings of this study were that NPM had an effect on stock prices and EPS became a moderating variable (strengthened) on the effect of NPM on stock prices.

1. Introduction

As one of the elements of the modern economic system, the capital market has a major role in the economy of a country. The two main functions of the capital market are economic function and financial function. The capital market performs an economic function because it provides facilities that bring together two interests, namely those with excess funds (investors) and those who need funds (issuers). With the capital market, those who have funds can make an investment to get returns, while the issuer can use these funds for investment purposes without waiting for the availability of funds from the company's operations. The Capital Market is said to have a financial function because the capital market provides the possibility and opportunity to get returns for the owner of the funds according to the characteristics of their chosen investment (Pakpahan. K. 2003).

The Law of the Republic of Indonesia, Number 8 of 1995 concerning the Capital Market state that the capital market has a strategic position in national economic development. Capital market activities are concerned with public offerings and securities trading, where the growth of a capital market is highly dependent on the performance of securities companies. Effective leadership is needed to coordinate capital, technical support, and human resources in capital market development. Companies must establish a close collaboration to create a market that can provide various types of products and investment alternatives for the public.

According to the Indonesian Financial Services Authority (OJK), the party who conducts the Public Offering to sell Securities to the public based on the procedures regulated in the applicable laws and regulations is referred to as the Issuer. Issuers can be individuals, companies, joint ventures, associations, or organized groups. The price of securities (stocks) represents the value of a company. The stock of a good-performance company will be in great demand by investors. Their good performance is shown in the financial statements published by the company (issuer). Stock exchange authority requires the publication of financial statements, and it is very useful for investors in making investment decisions. The company's stock price fluctuates, making it very difficult for investors to invest. Therefore, investors must be careful and rational in investing their funds. Various information, such as the company's condition (which is reflected through the company's performance), the similar industry conditions, the

fluctuations, the exchange rates, the transaction volume, the stock exchange conditions, the economic, social, political conditions and the national stability of a country must be taken into consideration in investment.

One of the measuring tools for financial performance is the profitability ratio. According to Kasmir (2016), the profitability ratio is used to assess the company's capability to seek profit. A consistent level of profitability will be a benchmark on how the company is able to survive in its business by obtaining an adequate profit (return), compared to their risk. One of the ratios used to measure company profitability is NPM (Net Profit Margin). NPM measures the company's capability to earn its net profit from each sale. The greater the NPM, the higher the company's stock price (Wulandari A.I. & Badjra I. B., 2019). Another study related to factors that can increase stock prices is conducted by Endraswati H. & Novianti A. (2015). One of the conclusions of this study is, with the moderation test conducted showing that the higher the EPS, the stronger the influence of NPM on stock prices. This study took a case study on a manufacturing company listed on the IDX.

Based on the description in the previous section, the purpose of this study is to investigate: 1) whether there is an influence between NPM on stock prices and 2) whether EPS is a moderating variable on the effect of NPM on stock prices, the case study on food and beverage sub-sector companies that listed on the Indonesia Stock Exchange for the period 2015 up to 2019.

In Indonesia, food and beverage sub-sector companies are growing rapidly. In the first quarter of 2019, the Gross Domestic Product (GDP) of the food and beverage sub-sector contributed 35.58% to the GDP of the Non-Oil and Gas industry and 6.35% to the National GDP. In the first quarter of 2020, the food and beverage sub-sector contributed 36.4% to manufacturing GDP. In the same period, the growth of this industrial sector reached 3.9%. According to the Ministry of Industry, in the first semester of 2020, the food and beverage industry contributed the most to the achievement of export value in the manufacturing sector, with a figure exceeding USD 13.73 billion (<https://www.pikiran-rakyat.com/>).

2. Literature Review

2.1. Signaling Theory

Jogiyanto (2010) explains that the publication of information as an announcement will signal investors in making investment decisions. The announcement contains information that can trigger a market reaction, in the form of stock price fluctuations. When the information is announced and all market participants have received the information, then market participants will analyze the information as a good signal or a bad signal. If there is an increase in stock prices, the announcement or information contains a positive signal. On the contrary, if the information has a negative impact, then the signal is negative. Signal theory explains that companies report voluntarily to the capital market so that investors are willing to invest their funds.

Signalling theory emphasizes the importance of information issued by the company towards the investment decisions of parties outside the company. Information is an important element for investors and business people as it presents information, notes or descriptions for past, current and future conditions of the company's survival and how the stock market will be. Investors in the capital market need complete, relevant, accurate and timely information as an analytical tool to make investment decisions.

2.2. Efficient Market Theory

Fama, Eugene, F. (1991) define three forms of capital market efficiency, namely:

- A. Weak form efficiency, where the current security prices describe all information in the past security prices so that no investor can obtain excess returns by using trading rules based on past price or stock information.
- B. Semi-strong form efficiency where the prices of other securities describe all published information so that no investor can obtain excess returns consistently with trading rules based on published information. Strong form efficiency, where security prices reflect past price or return information, published information, and unpublished information.
- C. Strong form efficiency. It is a market condition in which all available relevant information is reflected in the stock price. So that both published and unpublished information (private information) will be reflected in the stock price. Under these circumstances, no investor can obtain abnormal returns (excess returns) by using any information.

2.3. Stock Price

Stock indicates a portion of ownership of a person or a group in a company or a limited company. Stock is in the form of a piece of paper explaining that the paper's owner is the company's owner that issues the securities (Darmadji & Fakhruddin, 2012).

The stock price is the stock price that occurs in the market exchange at a particular time determined by the market mechanism, which consists of the demand and supply of stocks (Jogiyanto, 2010). The stock price is the market value because it can maximize the wealth of the shareholders if the company's stock price increases. The management takes several policies to increase stock prices, namely by increasing the wealth of stock owners and stockholders, which is reflected in the stock price (Brigham, 2010).

2.4. Hypothesis

The hypotheses in this study include the following:

H1: It is suspected that NPM affects stock prices in food and beverage sub-sector companies listed on the Indonesia Stock Exchange.

H2: It is suspected that EPS as a moderating variable on the effect of NPM on stock prices with the food and beverage sub-sector companies listed on the Indonesia Stock Exchange.

Based on this hypothesis, the conceptual framework of this research is as follows:

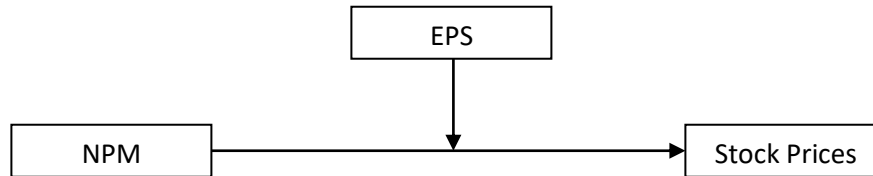


Figure 1. Research Conceptual Framework

3. Research Method

3.1. Population and Sampling Criteria

The population in this study is the food and beverage sub-sector companies listed on the Indonesia Stock Exchange during the 2015 – 2019 period, totalling of 26 companies. After applying the specified sample criteria, there are only 11 companies that fulfil the criteria. The determinant of the sample in this study was carried out by purposive sampling, where the criteria are as follows:

- A. The companies that are categorized as food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange
- B. The Company publishes complete and continuous financial reports as of December 31, 2015 until 2019
- C. Companies that earn profit continuously during the 2015 - 2019 period
- D. The sample companies who publish financial statements in the rupiah exchange rate

After applying the specified sample criteria, there were only 11 companies that fulfilled the criteria.

3.2. Data Types and Sources

The type of data used is quantitative secondary data. The data was obtained through the Indonesia Stock Exchange website (www.idx.co.id) and the Saham Ok website (www.sahamok.net).

3.3. Variable Operational Definition

The variables used in this study include:

- A. The Independent Variable in this study is NPM, which is one of the profitability ratios that measure the company's net profit compared to its sales (Brigham and Huston, 2010). The NPM formula is as follows:

$$NPM = \frac{Net\ Profit}{Revenue} \times 100\% \tag{1}$$

- B. The Dependent Variable in this study is the Stock Price, which is the closing price of the food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange during the period 2014 – 2019.
- C. The moderating variable in this study is Earning Per Share (EPS), which is a ratio to measure the success of management in earning profits for shareholders. A low ratio means that management has not succeeded in satisfying shareholders. On the contrary, with a high ratio, the prosperity of shareholders increases. The EPS formula is as follows:

$$EPS = \frac{Net\ Profit}{Number\ of\ Shares\ Outstanding} \times 100\% \tag{2}$$

4. Analysis Method

This study uses simple, multiple linear regression analysis techniques and Moderated Regression Analysis (MRA) using the IBM SPSS Ver. 22 programs. The steps taken are descriptive statistical test, classical assumption test, formulation of the regression analysis model, t test, F test, and interaction test using MRA. The specifications of the model/regression equation used in this study are:

$$Y = \beta_0 + \beta_1 X_1 + e \quad (3)$$

$$Y = \beta_0 + \beta_1 X + \beta_2 Z + \beta_3 (X * Z) + e \quad (4)$$

Explanation:

Y = Stock Price

β_0 = Constanta

β_{1-3} = Regression Coefficients

X = Net Profit Margin

Z = Earning Per Share (EPS)

$X*Z$ = Interaction between independent variables and moderating variables

5. Results and Discussion

5.1. Descriptive statistics

The analysis used to see the minimum, maximum, average (mean), and standard deviation (std. Deviation) values of the collected data. The following table is the descriptive statistics of the estimated variables.

Table 1: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
NPM	55	,000455	,3900221	,1187	,10835
Harga Saham	55	308,00	30.500,00	4.929,6545	5.491,74355
EPS	55	2,00	627,00	217,3455	181,48035
Valid N (listwise)	55				

Sumber: Hasil olah data SPSS 22, 2021

5.2 Classic assumption test

A classical assumption test is a test of statistical assumptions that must be fulfilled in multiple linear regression analysis based on ordinary least squares (OLS). For model makers, assumptions are researchers' assumptions informing statistical models that can be used in certain data conditions. The regression equation must be BLUE (Best Linear Unbiased Estimator), meaning that decision making through the F test and T test should not be biased. To produce a BLUE decision, the classical assumption test must be fulfilled.

5.2.1. Normality test

Normality test aims to determine whether in the regression model, the confounding or residual variables have a normal distribution or not. There are two ways to detect whether the residuals are normally distributed or not, namely by graphical analysis and statistical tests. In this study, the normality test used graph analysis, the normal probability plot graph and the statistical test, namely the non-parametric Kolmogorov-Smirnov (K-S). The conclusion that can be drawn is that the data is normally distributed, so the regression model meets the assumption of normality.

5.2.2. Multicollinearity Test

According to Ghozali (2016), multicollinearity testing determines whether the regression model found a correlation between independent variables. The effect of this multicollinearity is to cause high variables in the sample. This means that the standard error is large. As a result, when the coefficient is tested, the t-count will be smaller than the t-table. This shows no linear relationship between the independent variables that are influenced by the dependent variable.

To find the presence or absence of multicollinearity in the regression model, it can be seen from the tolerance value and the value of the variance inflation factor (VIF). Tolerance value measures the variability of the selected independent variables that other independent variables cannot explain. Therefore, a low tolerance value is the same as a high VIF value, as $VIF = 1/\text{tolerance}$, and indicates high collinearity. The cut-off value used is a tolerance value of 0.10 or a VIF value above the number

10. Based on the results of the multicollinearity test that has been carried out, it can be concluded that the data in this study, multicollinearity does not occur and it is stated that the multicollinearity test is fulfilled.

5.2.3. Autocorrelation Test

The autocorrelation test is to test whether in a linear regression model there is a correction between the confounding error in period t and the error in period t-1 (previous). The test method that is often used is the Durbin-Watson test (DW test). The results of the autocorrelation test above show that the D-W value is 1.127. This indicates that the D-W value is less than 2 so there is no autocorrelation.

5.2.4. Heteroscedasticity Test

The heteroscedasticity test is to test whether the regression model has variance inequality from the residuals of one observation to another observation. The method used is to look at the scatter plot graph. Based on the scatter plot, it is known that the points spread randomly above and below zero on the Y axis and do not form a certain pattern. Therefore, it can be concluded that there is no symptom of heteroscedasticity.

5.3. Simple Linear Regression Analysis and Hypothesis Test I (t test)

Simple linear regression aims to determine the effect of the independent variable, namely Net Profit Margin (NPM) on the dependent variable, namely Stock Price Results of Multiple Linear Regression Test and t Test

Table 5: Results of Multiple Linear Regression Test and t Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2315.242	1003.397		2.307	.025
	NPM	22031.231	6270.279	.435	3.514	.001

a. Dependent Variable: Harga Saham
 Sumber: Hasil olah data SPSS 22, 2021

Based on table 5 Simple Linear Regression Test Results it is concluded that NPM has a positive effect on stock prices because the sig. is less than 0.05, and the regression equation becomes as follows: Stock Price = 2315,242 + 22031,231 NPM + e

5.4. Coefficient of Determination: The Effect of NPM on Stock Prices

The coefficient of determination (R Square) is used to measure how far the ability of a model to explain the variability of the dependent variable. A value close to 1 (one) means that the independent variables provide almost all the information needed to predict the variation of the dependent variable (Sarwono, 2006:114). The coefficient of determination is indicated by the size of the Adjusted R square. Based on the output of the SPSS program, it is known as follows:

Table 6: Coefficient of Determination: The Effect of NPM on Stock Prices

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.435 ^a	.189	.174	4.992,28933

a. Predictors: (Constant), NPM
 b. Dependent Variable: Harga Saham
 Sumber: Hasil olah data SPSS 22, 2021

Based on table 6, the R Square value is 0.189. This shows that the ability of the model to explain the effect of the NPM variable on stock prices is 18.9%, the remaining 0.811 or 81.1% is influenced by other factors that are not included in the model.

5.5. Multiple Regression Analysis by Incorporating Moderation-Interaction Variables (NPM*EPS)

Here is the SPSS output, for that matter:

Table 7: Multiple Regression Analysis

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	6.537	.222		29.467	.000
	NPM	6.394	2.316	.624	2.761	.008
	EPS	.005	.001	.823	5.729	.000
	NPM*EPS	.372	.062	.748	5.997	.036

a. Dependent Variable: Harga Saham
 Sumber: Hasil olah data SPSS 22, 2021

Based on table 7, Multiple Linear Regression Test Results, it can be concluded that NPM, EPS and NPM*EPS (moderation-interaction) positively affect stock prices because of sig. less than 0.05, and the regression equation becomes as follows:

$$\text{Share Price} = 6,537 + 6,394 \text{ NPM} + 0.005 \text{ EPS} + 0.372 \text{ NPM*EPS} + e$$

5.6. Coefficient of Determination: Effect of NPM, EPS and NPM*EPS (moderation-interaction) on Stock Prices

The following is the output of the IBM SPSS program, for that matter:

Table 8: Coefficient of Determination:
 Effect of NPM, EPS and NPM*EPS (interaction-moderation) toward Stock Price

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.781 ^a	.609	.594	.70656	.609	40.550	2	52	.000

a. Predictors: (Constant), NPM, EPS, NPM*EPS
 b. Dependent Variable: Harga Saham
 Sumber: Hasil olah SPSS, 2021

Based on table 8, it can be seen that the R Square value is 0.609, which means that the NPM, EPS and NPM and EPS interaction variables together can explain their effect on stock prices of 60, 9% and the remaining 39.1% is influenced by other factors outside the factors that become the research variables.

5.7. Moderation Test

By looking at the magnitude of R Square on the influence of NPM on the Stock Price of 0.819 compared to the influence of NPM, EPS and NPM*EPS (moderation-interaction) on the Stock Price of 0.609, it means that there is an increase in R Square after entering the interaction variable (NPM*EPS). Therefore, it can be concluded that EPS can strengthen the influence of NPM on the Stock Price. In other words, EPS is a moderating variable of the effect of NPM on the Stock Price.

5.8. The Influence of Net Profit Margin on Stock Price, with EPS as Moderator

NPM shows the capability of a company to generate a net profit. The greater the NPM indicates the company's productive performance to earn a profit through a certain level of sales and the company's capability to reduce its operational costs. This increases investors trust to invest in the company. It results in the increasing demand for the company's stock, which the increase will then follow in their stock price. Thus, it can be said that the higher the NPM value, the stock price will increase and vice versa, the lower the NPM value, the stock price will also decrease. This research is in line with research conducted by Andhani, D. (2019).

EPS is a ratio that shows how much profit (return) is earned by investors or shareholders per share (Darmadji, T &Fakhrudin M.H. 2006). According to Simamora, H. (2006), EPS is the net profit per share of ordinary shares outstanding during a certain period. The higher the EPS, the investor's interest in investing will increase, and this strengthens the influence of NPM on stock prices. This research is in line with the research conducted by Endraswati, H. &Novianti, A. (2015).

6. Conclusion

Data processing is carried out appropriately in order to answer the objectives of this study, namely 1) Whether there is an influence between NPM on stock prices and 2) whether EPS is a moderating variable on the effect of NPM on stock prices, the case study on food and beverages sub-sector companies that are listed on the Indonesia Stock Exchange for period 2015-2019.

Based on the discussion in the previous chapter, it can be concluded that: 1) NPM has a positive effect on stock prices, the higher the NPM value, the stock price will increase and vice versa, the lower the NPM value, the stock price will also decrease 2) EPS is a moderating variable in which the effect strengthens the influence of NPM on stock prices.

The result of this study provides enrichment to research related to factors that are likely to affect stock prices. In this study, the role of EPS proved to be an important factor in influencing a company's stock price. The main limitation of this study lies in only one independent variable, namely NPM. In the following research, it is suggested to add other variables, such as liquidity ratio and leverage, so that the research model gets better and can further investigate the moderating role of the NPM variable on the effect of liquidity ratios and leverage on stock prices.

References

- [1] Andhani, Destian. (2019). Pengaruh Debt to Total Asset Ratio (DAR) dan Debt to Equity Ratio (DER) Terhadap Net Profit Margin (NPM) Serta dampaknya terhadap Harga Saham pada Perusahaan Elektronik di Bursa Efek Tokyo tahun 2007-2016. *Jurnal SEKURITAS (Saham, Ekonomi, Keuangan dan Investasi)*, 3(1), 45-64
- [2] Brigham, E.F. & Houston, J.F. (2010). *Dasar-dasar Manajemen Keuangan Buku 1*, Edisi 11. Jakarta : Salemba Empat
- [3] Darmadji, T. & Fakhruddin M.H. (2012). *Pasar Modal Di Indonesia*. Edisi Ketiga. Jakarta : Salemba Empat.
- [4] Darmadji, T & Fakhruddin M.H. (2006). *Pasar Modal di Indonesia Pendekatan Tanya Jawab*. Jakarta: Salemba Empat
- [5] Endraswati, H. & Novianti, A. (2015). [Pengaruh Rasio Keuangan dan Harga Saham dengan EPS sebagai Variabel Moderasi pada Perusahaan Manufaktur yang Terdaftar di DES](https://doi.org/10.18326/muqtasid.v6i1.59-80). *Jurnal Muqtasid, Volume 6 No. 1, Fakultas Ekonomi dan Bisnis Islam IAIN Salatiga Ulupei, I G. K. A. 2007*. DOI: <https://doi.org/10.18326/muqtasid.v6i1.59-80>
- [6] Fama, Eugene, F. (1991), "Efficient Capital Markets: II", *Journal of Finance*, 46 (4), 1575-1617.
- [7] Ghozali. (2016). *Aplikasi Analisis Multivariete Dengan Program IBM SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.
- [8] Jogiyanto. (2010). *Teori Portofolio Dan Analisis Investasi*. Yogyakarta: BPFE.
- [9] Jogiyanto, HM. (2010). *Studi Peristiwa (Menguji Reaksi Pasar Modal Akibat Suatu Peristiwa)*. Edisi 1. Yogyakarta: BPFE Yogyakarta.
- [10] Kasmir. (2016). *Analisis Laporan Keuangan*. Jakarta : PT Raja Grafindo Persada
- [11] Pakpahan, K. (2003). Strategi Investasi di Pasar Modal. *Journal The Winnwers*, Vol. 4 No. 2, September 2003:138-147. <https://journal.binus.ac.id/index.php/winners/article/view/3838>. (8 Mei 2021).
- [12] Sarwono, Jonathan. (2006). *Metode Penelitian Kuantitatif dan Kualitatif*. Yogyakarta : Graha Ilmu
- [13] Simamora, H. (2006). *Akuntansi Basis Pengambilan Keputusan Bisnis*. Jakarta: Salemba Empat.
- [14] Wulandari, A. I. & Badjra, I.B. (2019). Pengaruh Profitabilitas terhadap Harga Saham pada Perusahaan LQ45 di Bursa Efek Indonesia (BEI). *E-Jurnal Manajemen, Vol 8 No 9 tahun 2019: 5722-5740*. DOI: <https://doi.org/10.24843/EJMUNUD.2019.v08.i09.p18>
- [15] _____. Undang-Undang Republik Indonesia tentang Pasar Modal. Undang-Undang No 8 Tahun 1995.
- [16] <https://www.ojk.go.id/id/kanal/pasar-modal/Pages/Emiten-dan-Perusahaan-Publik.aspx>. (Diakses pada tanggal: 6 Maret 2021)
- [17] <https://www.pikiran-rakyat.com/ekonomi/pr-01809782/pandemi-covid-19-industri-makanan-dan-minuman-jadi-sektor-yang-terus-dipacu>. (Diakses 1 April 2021)
- [18] *Indonesia Stock Exchange*. Tersedia di: www.idx.co.id. (Diakses 18 Maret 2021)
- [19] *Saham Ok*. Tersedia di: www.sahamok.net. (Diakses 18 Maret 2021)