IMPACT OF MACROECONOMIC VARIABLES AND FINANCIAL PERFORMANCE ON STOCK PRICES OF OIL AND GAS MINING COMPANIES

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Abstract
This research is aimed at examine and analyze Inflation Influence, Exchange Rate, World Oil Price, DER & ROA on Stock Price. The research data is the annual data for the 5 year observation period (2012 to 2016). The sampling method used is purposive sampling. Of the population of 7 oil and gas companies listed on the Indonesia Stock Exchange, 6 oil and gas companies listed on the Indonesia Stock Exchange meet the criteria as sample. The method of analysis used in this research is panel data regression. The results showed Inflation, Exchange rate, world oil prices, DER & ROA simultaneously significantly influence the Stock Price. Partially Inflation and Return on Asset (ROA) have a negative and significant effect on Stock Price, while Exchange Rate and Debt to Equity Ratio (DER) have no effect on Stock Price. And for World Oil Prices have a positive and significant effect on Stock Price. World Oil Price is the biggest significant variable on Stock Price.

Keywords: Stock price, macroeconomic variable, financial performance

INTRODUCTION

The Capital Market has an important role for the economy of a country because the capital market carries out two functions, namely first as a means for business funding or as a means for companies to obtain funds from the investor community. Funds obtained from the capital market can be used for business development, expansion, additional working capital, etc., both capital markets become a means for people to invest in financial instruments such as stocks, bonds, mutual funds, and others (Indri, 2018a).

As is well known, macroeconomic variables continue to fluctuate in each period so that it is indicated to affect investment activities in the capital market. World oil prices in the last 5 years have continued to decline, even according to data from PwC consultants, there are around 87,000 employees who were laid off during 2015 worldwide. In Indonesia alone, there have been no major work stoppages in oil companies, although some time ago there was widespread news that some world-class oil companies would perform significant employee efficiency because one of them had decided not to extend the employment contract (Fathom, 2016).

There are a number of reasons why world prices can now be like this, among others: the abundant oversupply of US shale oil and shale gas with low production costs has caused the selling price to be cheap, oil oversupply from Iran due to the lifting of the economic embargo, and China's economic slowdown is a large consumer of oil (Fathom, 2016).

Exchange rates or currency exchange rates of a country always change. Many factors cause these changes. The rupiah exchange rate is moving weaker after touching the lowest level in the last five years (Fore, 2013). The influence of the exchange rate on the JCI is related to investor expectations of the economy of a country. For example if the rupiah exchange rate against the dollar depreciates, it will cause anxiety among investors. For investors themselves, the depreciation of the rupiah against the dollar indicates that Indonesia's economic outlook is grim. Because the depreciation of the rupiah can occur if the economic fundamentals of Indonesia are not strong, so the US dollar will strengthen and will reduce the Joint Stock Price Index on the IDX. Investors will certainly avoid risk, so investors will tend to sell and wait until the economic situation is felt to improve. This investor selling action will encourage a decline in the stock price index on the IDX (Gobble, 2016).

This condition raises problems for stock prices, especially the oil and gas sector. Coupled with the many research gaps regarding factors that can affect stock prices in terms of macroeconomic or internal company itself. Therefore, this study aims to analyze the effect of inflation, turtle value, world oil prices, DER and ROA on stock prices.

THEORITICAL REVIEW

Stock price. Share prices are the value of evidence of equity participation in limited companies that have been listed on the stock exchange, where the shares have been circulated. The stock price can also be defined as a price that is formed from the interaction between the sellers and buyers of shares that are motivated by their expectations of the company's profits. The closing share price is the price requested by the seller or the last trading price for a period (Endri, 2016). Goninan (2010) analyzed the impact of daily price changes on stock returns from various industries and found that the sensitivity of industrial returns to changes in oil prices varied across industries. Shares are a charter that contains important aspects for the company, including the rights of the shareholders and the special rights they have in relation to share ownership. An example is the right to get a fixed income from a company besides having an obligation to take the risk if the company is liquidated. The shareholders also have the right to control the company in accordance with the capacity (number) of shares that they have through a general meeting of shareholders by using their voting rights (Ross *et al.,* 2002).

Inflation. Inflation is an economic phenomenon that occurs in an attractive economic system to be discussed, especially related to the broad impact on the overall economic system. Inflation can lead to reduced competitiveness of export goods and can lead to deficits in current transactions. Inflation is the presentation of rising prices in a given year compared to the previous year (Sadiron, 2010). According to www.bi.go.id, simply inflation is defined as rising prices in general and continuously. The price increase of just one or two items cannot be called inflation unless the increase extends (or results in a price increase) in other goods.

Based on this definition, general price level increases that occur only once cannot be said to be inflation. There are three components that must be fulfilled in order to be said to have happened inflation, the components are: 1) the price tendency to increase, which means that the price level

that occurs at a certain time falls or rises compared to before, but still shows the tendency to increase.2) That the increase in price level takes place continuously, which means it does not happen at any given time, but it can take some time. 3) Whereas the price level in question is a general price level, which means that the price level that has increased is not only for one or several commodities but for the price of goods in general

Exchange rate. According to Sadiron (2002: 23), the exchange rate or exchange rate is a value that indicates the amount of the domestic currency needed to get one unit of foreign currency. Exchange rate or foreign exchange rate according to Dahl an (2001) is the price of a currency expressed in the price of another currency. For example the rupiah exchange rate against the US dollar shows the value of the rupiah needed for each US dollar. Changes in the rupiah exchange rate against the US dollar have a different impact on each type of stock, meaning that a stock is positively affected while the other shares are negatively affected. Examples of a sharp rise in the USD against the rupiah will have a negative impact on issuers that have dollar debt while the issuer's products are sold locally, while export-oriented issuers will receive a positive impact from the USD exchange rate resulting in an increase in stock prices (Prasetiono, 2015).

The traditional approach says that the relationship between exchange rates and stock prices is positive, where changes in exchange rates affect the company's income and operating costs, which in turn causes changes in stock prices. The "portfolio balance" approach assumes stocks as part of wealth so that it can influence exchange rate behaviour through the law of demand for money that is in accordance with the monetary model of exchange rate determination. This approach assumes there is a negative relationship between stock prices and exchange rates, with the direction of causality from the stock market to the money market; in accordance with very fast financial market interactions (Kwela, 2012). The finding that the relationship between stock prices and selling prices and the exchange rate given negatively indicates that when the dollar depreciates, each sector exports more and benefits from trading.

World Oil Prices. Mohan *et al.,* (2011) examined the relationship between changes in oil prices and US oil and gas stock prices. They found that the risk exposition of oil prices from oil and gas companies was generally positive and significant, but varied among industrial sub-sectors. For example, the transportation industry may have a negative exposure to price changes (consumer dependence and / or cost dependence on oil), while the oil and gas industry may have a positive exposure to price changes (producers depend on demand for oil). Adebayo *et al.,* (2009) investigated the relationship between crude oil prices and the performance of North American oil and gas companies using accounting measures. They found that oil prices were significantly positively related to the financial performance of oil and gas companies.

World crude oil prices are measured from the spot price of the world oil market. Currently the standard price of crude oil that is commonly used is West Texas Intermediate (WTI) or light sweet. Crude oil traded in West Texas Intermediate (WTI) is high quality crude oil. This is because the crude oil has low sulphur content and is very suitable to be used as fuel, so that this oil price is used as a benchmark for oil trade in the world (Hanafiah, 2015). The increase in

world oil prices can have a different impact on each share price, namely the shares of companies engaged in mining and companies that move outside the mining sector. In non-mining companies, an increase in oil prices can have a negative impact because it will lead to an increase in production costs and indirectly will reduce stock prices. While mining companies increase oil prices bring a positive impact on the revenue that will be obtained which will result in an increase in stock prices (Prasetiono, 2015).

The world oil price used in this study uses American oil prices. Because America uses WTI or light-sweet as a measure of oil trading standards. WTI itself is a type of oil that has high quality. So that the price of oil is used as a standard for world oil prices. In addition, the size that is often used to measure the mass of oil is bbl or often also called a barrel. This measure is used in the oil trade in America (Hanafiah, 2015).

Debt to Equity Ratio. Basically, every company will always need capital for company growth. This is due to meeting the survival of the company. Therefore, to facilitate the company in obtaining capital, there is a capital market which is where investors and issuers meet to conduct stock sale and purchase transactions. To meet these funding needs, currently more and more people are setting up a financial institution engaged in the provision of funds or goods that will be used by other parties in developing their businesses. At present, leasing is one of the ways companies obtain assets or ownership without having to go through a prolonged process. Everything has been arranged by leasing companies provided by various companies. Leasing is also one of the steps to avoiding high risk that is currently realized by existing entrepreneurs.

Debt to Equity Ratio (DER) shows how the composition of the funding itself or utilizes its debts, the greater the DER, the greater the risk of the company. According to Endri (2018), Debt to Equity Ratio is the ratio used to assess debt with equity. This ratio is useful for knowing the amount of funds provided by the borrower (creditor) with the owner of the company. This ratio can see how far the company is financed by debt or outside parties with the company's ability described by capital (Harahan, 2010). Debt to Equity Ratio (DER) is one of the leverage or solvency ratios. Solvency ratio is the ratio to determine the company's ability to pay liabilities if the company is liquidated. This ratio is also referred to as the leverage ratio that assesses the company's limits in borrowing money (Damson, 2010: 54-55). Based on several definitions that have been described, it can be concluded that the debt to equity ratio is a ratio that measures how far the company is financed by debt and the company's ability to fulfil its obligations with equity held.

Return on Assets. The company's ability to generate profits and assess whether the company is efficient in utilizing its assets in the company's operational activities can be seen from Return on Assets (ROA) The return on investment results or better known as return on investment (ROI) or return on total assets is a ratio that shows results (return) on the amount of assets used in the company (Indri, 2018b). Understanding return on assets according to Indri (2018b) namely "return on total assets is a ratio that shows the results (return) of the total assets used in the company". According to Brigham and Houston (2010: 148) said that ROA is "the ratio of net

income to total assets measuring returns on total assets". Based on the definition according to these experts, it can be concluded that return on assets (ROA) is a profitability ratio that is used to measure the effectiveness of a company in generating profits by utilizing its assets. ROA is obtained by comparing the net income after tax (NIAT) to average total assets:

Return on Asset = (Net Income Before Tax) / (Total Assets) x100%

The higher return on assets shows that companies are more effective in utilizing assets to generate net income after tax.

METHODOLOGY

Data and Samples. The type of research approach that I use is quantitative as a scientific method because the data used are concrete, objective, measurable, rational, and systematic. The type of data used in this study is secondary data. Secondary data is data obtained not from direct research of an object, but obtained from financial reports that have been published by the Indonesia Stock Exchange and by companies directly. Inflation and exchange rate data in this study are sourced from BPS web www.bps.go.id and BI through the web www.bi.go.id, for oil price data from WTI (West Texas Intermediate) via the web id.investing.com. DER, ROA and share prices, in this study sourced from the financial statements of oil and gas mining companies on the IDX through the www.idx.co.id website for the 2012 to 2016 period and Yahoo.finance.com. Determination of the sample in this study was based on purposive sampling method, where the sample of the company was chosen based on certain criteria.

Regression Model. Panel data regression model in this study can be formulated as follows:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \varepsilon_{it}$$

Note:

Y   = Stock Price

X1   = Inflation

X2   = Exchange rate

X3   = Oil Price

X4   = Debt to Equity ratio (DER)

X5   = Return on Asset (ROA)

ε = Error term

Selection of Model (Estimation Technique) Data Panel Regression. Basically the three techniques (model) estimation of panel data can be selected according to the state of the study, seen from the number of individual banks and their research variables. However, there are several ways that can be used to determine which technique is most appropriate for estimating panel data parameters. According to Widarjono (2007: 258), there are three tests to choose panel data estimation techniques. 1) F statistic test is used to choose between Commom Effect method or Fixed Effect method. 2) the Hausman test used to choose between the Fixed Effect method or the Random Effect method. 3) the Lagrange Multiplier (LM) test is used to choose between the Commom Effect method or the Random Effect method. The LM test is based on chi-squares with a degree of fredom (df) equal to the number of independent variables. If the LM statistic count is smaller than the chi-squares value of the table, then H0 is accepted. So the model used is ordinary least square. However, if the LM statistic count is greater than the chi-squares value of the table, then H0 is rejected. This means that the model used is a random effect model.

Research Hypothesis

This study formulated five hypotheses to direct the research questions:

HI: The inflation rate has a negative effect on stock prices. From previous studies that Huang and Tseng (2010) found that the inflation rate significantly affected stock prices. The relative increase in inflation is a negative signal for investors in the capital market. Inflation increases company income and costs. If the increase in production costs is higher than the price increase that can be enjoyed by the company, the company's profitability will decrease. If the profits obtained by small companies, this will result in investors reluctant to invest their funds in the company so that the stock price decreases.

H2: The exchange rate has a negative effect on stock prices. Research conducted by Mishap (2004) shows the results that the exchange rate of the rupiah against the dollar has a negative effect on stocks, if the US dollar exchange rate falls, it will cause the JCI index to rise (Rupiah appreciation). According to Samsun (2006: 202), a change in a macroeconomic variable has a different impact on stock prices, namely a stock can be positively affected while other shares are negatively affected. For example, import-oriented companies, a sharp depreciation of the rupiah against the US dollar will have a negative impact on the company's stock price.

H3: World oil prices have a positive effect on stock prices. World oil prices are one factor that can affect the mining sector's share price. Other external factors that can affect the share price of the mining sector such as inflation, interest rates, and the rupiah exchange rate must be the concern of investors. Determination of the size of the return obtained by investors from the stock price movements of the sector.

H4: The DER ratio has a negative effect on stock prices. From previous studies such as Stella (2009) stated that Debt to Equity Ratio has a negative and significant effect on stock prices. Where that Debt to Equity Ratio is the ratio used to assess debt with equity. This ratio is sought by comparing the entire debt, including current debt with all equity. This ratio is useful for

knowing the amount of funds provided by the borrower (creditor) with the owner of the company. In other words, this ratio serves to find out every rupiah of its own capital that is used as collateral for debt (Indri, 2018a).

H5: ROA has a positive effect on stock prices. Return on Assets is used to measure the effectiveness of a company in generating profits by utilizing assets owned (Indri, 2018a). ROA is obtained by comparing the net income after tax (NIAT) to average total assets. The higher return on assets shows that companies are more effective in utilizing assets to generate net income after tax.

EMPIRICAL RESULTS

Descriptive statistics. the number of valid or valid data to be processed each year is 30 samples. The standard deviation is a measure to measure the dispersion or spread of data and shows a fluctuating number. The highest standard deviation value is experienced by the Inflation variable (INF), which is 2.436162. While the lowest standard deviation value is experienced by the exchange rate variable (KURS), which is equal to 0.140935.

Model Test Results. Based on the results of paired testing of the three panel data regression models as follows: Based on the Chow test using e-views, obtained F test and chi-square test is smaller than $\alpha = 0.05$ (5%) which is equal to 0.0000. This test yields the conclusion that H0 is rejected and H1 is accepted, which means that Fixed Effect is better used in estimating panel data regression than Common Effect. For this reason, it is continued to the Housman test. The result shows that the Chi-Square value is 1.0000> of $\alpha = 0.05$ (5%) so that H0 for this model is accepted and H1 is rejected, so the estimation that is better to use is the Random effect. For this reason, because the results are inconsistent, a Langrage Multiplier Test is required. After LM test where the LM value> Chi square table (40,284> 11,070), then a better model is the Random effect than the Common effect. It can be concluded that the Random Effect in panel data regression is used further in the determinants of the stock prices of oil and gas companies listed on the Indonesia Stock Exchange during the period 2012-2016. Hypothesis Test Results. Hypothesis testing is presented in the table below.

Table 1
Data Panel Regression (Random Effect)

Dependent Variable: HARGA_SAHAM
Method: Panel EGLS (Cross-section random effects)
Date: 03/08/18   Time: 22:58
Sample: 2012 2016
Periods included: 5
Cross-sections included: 6
Total panel (balanced) observations: 30
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-34.78129	18.50589	-1.879472	0.0724
INFLASI	-0.255322	0.086857	-2.939575	0.0072
KURS	3.067927	1.585782	1.934646	0.0649
HARGA_MINYAK	3.228060	1.002493	3.220032	0.0037
DER	-0.062001	0.064703	-0.958241	0.3475
ROA	-0.422521	0.061693	-6.848776	0.0000

Effects Specification

			S.D.	Rho
Cross-section random			0.774322	0.8831
Idiosyncratic random			0.281674	0.1169

Weighted Statistics

R-squared	0.705534	Mean dependent var	0.955786
Adjusted R-squared	0.644187	S.D. dependent var	0.505824
S.E. of regression	0.301724	Sum squared resid	2.184901
F-statistic	11.50069	Durbin-Watson stat	1.179749
Prob(F-statistic)	0.000010		

Unweighted Statistics

R-squared	-0.052230	Mean dependent var	5.952413
Sum squared resid	27.67279	Durbin-Watson stat	0.341200

Source: data processed with views

Based on the results of multiple regression analysis above, a regression line equation can be obtained as follows: Share price = -34.78129 - 0.255322 inflation + 3.067927 Exchange rate + 3.228060 HM - 0.062001 DER -0.422521 ROA.

Partially based on Table 1 it can be seen that the effect of the independent variable on the dependent variable is as follows: Inflation has a negative β coefficient of -0.255322 with a tcount (-2.940 <-2.064) and a significance value of 0.0072 smaller than 0.05 so that Ho is rejected . The effect is negative because the t count value is negative, meaning that if inflation increases then the stock price will decrease. This means that the inflation variable is shown to have a negative and significant effect on stock prices in the oil and gas company sector that goes public. The exchange rate has a positive β coefficient of 3.067927 with a tcount value (1.935 <2.064) and a significance value of 0.065 greater than 0.05 so that the second hypothesis of H0 is accepted. This means that the variable exchange rate does not affect stock prices in the oil and gas sector go public The price of oil has a positive β coefficient of 3.228060 with a value of t count> t table (3.220> 2.064) and a significance value of 0.004 smaller than 0.05 so that the third hypothesis H0 is rejected. This means that the oil price variable proved to have a positive and significant

effect on stock prices in the oil and gas company sector that went public. Debt to equity ratio (DER) has a negative β coefficient (-0.062001) with t count> -t table (-0.98> -2.064) or probability> 0.05 (0.348> 0.05) so that the fourth hypothesis Ho is accepted. This means that the DER variable does not affect the stock price in the oil and gas company sector that goes public. Return on assets (ROA) has a negative β coefficient (-0.422521) with a t count <-t table (-6.849 <-2.064) or a probability <0.05 (0.000 <0.05) so that Ho is rejected. This means that the ROA variable is proven to have a negative and significant impact on stock prices in the oil and gas companies that go public.

Conclusion

Based on the description of the results of the research in the previous chapter, it can be concluded that inflation proved to have a negative and significant effect on stock prices in the oil and gas company sector that went public in the period 2012-2016. The exchange rate proved to have no effect on stock prices in the oil and gas company sector that went public in 2012-2016. Oil prices proved to have a positive and significant effect on stock prices in the oil and gas company sector that went public in 2012-2016. DER variable has no effect on stock prices in the oil and gas company sector that went public in 2012-2016. ROA proved to have a negative and significant impact on stock prices in the oil and gas companies that went public in the 2012-2016 periods.

Suggestion. From the results of the study, several suggestions formulated are as follows: 1). For companies engaged in oil and gas sector, need to be aware of the movement of inflation, oil prices and return on assets (ROA) because in this study the three variables have an influence on stock prices. 2). For investors who will invest in oil and gas companies, it is necessary to be aware of the movements of inflation, oil prices and return on assets (ROA) in considering investment decisions because in this study these variables have a significant influence on stock prices. 3). Subsequent research can add other macro and microeconomic variables, increase the number of research samples, the number of periods and find the right analysis model so that the results of the research will be more accurate.

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