THE IMPACT OF DIVIDEND POLICY AND FIRM SPESIFIC FACTORS ON SHARE PRICE VOLATILITY

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Abstract

Indonesia is in the top five positions with its mining wealth and is a sector industry with a large contribution to the country's economy. There are several phenomena that appear recently in mining companies in the global and regional environment to be observed include: The movement of shares follows the movement of commodity prices; Gold prices shot up due to an increase in instruments that are often considered as safe haven, Coal prices soared at the end of 2020 winter used a lot coal-fired Steam Power Plants (PLTU) mainly from China; Nickel also made a surprise in 2020 along with plans for electric cars. Judging from the price of shares listed on the IDX, the stock price fluctuates every year. Stock price volatility is the fluctuation that occurs in stock prices in the form of: the amount of foreign exchange distance over a certain period of time. This research aims to empirically analyze how the analysis of dividend policy, leverage, firm size, trading volume, economic growth, and inflation rate on share price volatility. Research result shows that trading volume, economic growth and inflation rate have impact on share price volatility. Trading volume has positive impact on share price volatility. While economic growth and inflation rate have negative impact on share price volatility. Dividend policy, leverage and firm size have no impact on share price volatility.

Keywords: *dividend policy, firm specific factors, stock price volatility, economic grwoth, inflation rate.*

1. INTRODUCTION

The development of the capital market rises very significantly every year, as evidenced by the number of stock transactions that continue to rise even though it experienced a considerable decline during the COVID-19 pandemic in March 2020, now the number of stock transactions has started to rise again due to many discounted prices. Stocks are the most enjoyed investment instruments compared to other instruments such as bonds, mutual funds, property, precious metals, deposits and others. Stocks that have high volatility mean prices rise quickly and fall quickly, resulting in a very large difference between the lowest price and the benefits of stock investment getting capital gains and dividends and the risk of experiencing capital loss, bankruptcy, asset liquidity, delisting, suspending and others. other than that, investors can participate in the GMS so that it is attractive to investors.

The phenomenon of stock price movements occurs because of the interaction of supply and demand. A high number of requests will encourage an increase in stock prices as well as a decrease in demand will result in a decrease in stock prices. Increased demand will encourage an increase in stock prices, as well as a decrease in demand will result in changes in stock prices over time. Stock prices that often go up or down are a risky endeavor. In the stock market there are instruments that

are used as indicators of price movements and performance of stocks and some stocks so the form of an index can be individual or group of good shares of non-sectoral stock index JCI while the example of sectoral index agriculture, mining, basic industry, miscellaneous industry, consumer goods, property and real estate, infrastructure, finance, trade and service, manufacturing is all bias known because the shares in Indonesia cannot be separated from its sector.

The Macroeconomic factors affect the economy, GDP, inflation, interest rates, politics and others who provide profit impact on the company. Micro Factors that have an impact on company like change management, labor productivity and so on. Indonesia is a country with various natural resources contained in it like ease of obtaining results earth that can be used for maximize the country's economy. Besides that, there are many more such as gold, silver and so on. Data obtained from BPS statistical review of word energy (2016) obtained Indonesia is in the top 5 position with its mining wealth and is industrial sector with a large contribution the country's economy.

There are several phenomena that appeared recently on mining company in the neighborhood global and regional to observe among others: (1) stock movement follow the movement of commodity prices, when commodity prices rise, then stock prices also go up on the contrary, the increase in price itself influenced by several factors the only increase in demand. (2) Gold prices soar due to an increase instruments that are often considered as safe haven, gold is an instrument that often considered to be difficult and chaotic chaos as happened in 2020. (3) coal prices soared at the end of 2020, the reason for the increase in demand from China as winter comes use a generator a lot Steam Power (PLTU) coal-fired because China unable to meet the needs domestic from domestic products, then China imports coal from various countries including Indonesia. (4) nickel also made a surprise in 2020. Nickel is a mining commodity which much talked about in 2020 along various car development plans electricity in various parts of the world, including Indonesia, nickel is wrong a raw material for making batteries will be fuel for electric cars in Indonesia.

According to Yunus Saefulhak, Director Mineral Development and Business Directorate General of Mineral and Coal Ministry of Energy and Mineral Resources, realization of copper cathode production until November 2020 has reached 91% of target, 85% gold, 80% silver, tin 70%, ferronickel 1010%, nickel pig iron (NPI) 127%, and nickel matte 108%. According to him, the achievement of tin is only 70% because the price is depressed, so production is reduced. Meanwhile, the average export achievement mineral commodities also show this positive except ferrometal about this because the smelter should belong to PT. Aneka Tambang Tbk is still constrained because of the problem yet availability of electricity supply so that operations must be postponed, achieve export amazing copper cathode has been achieved 102%, gold 104%, next to domestic sales for cathode copper is quite low at 57.8% due in part to the cable industry cannot absorb all production, then 95% silver, and 101% gold. (cnbcindonesia.com 2020).

Currently there are 45 companies mines that have been established in Indonesia and listed its shares in Indonesia stock exchange. Here are the data mining company stock price listed on the Indonesia Stock Exchange during the period 2016-2020. In predicting stock prices can use fundamental analysis corporate and technical. Analysis for evaluate stock price movements based on statistical data such as graphs, charts, volume indicators, and others from activities trading while analysis fundamental to know the condition healthy company.

In this study, the researcher wants to examine the various factors that affect price volatility stocks, where the variables used in this study, namely the policy dividend is a policy in which company pays revenue to shareholders versus hold them to invest back at the company. Volume Trading is an indicator that shows the number of shares in markets traded in the period certain time. Leverage is related company ability fulfillment of obligations. Asset growth is the average wealth growth company. Company size is related to the size company with total ownership asset and macroeconomic conditions: crude oil price, gross domestic product and inflation rate.

2. LITERATURE REVIEW

Stock Price Volatility

One of the analytical tools in assessing stock prices is through the company's fundamental analysis through analysis of its financial ratios (Safitri, 2013). High price volatility shows a change in price that is rising or falling rapidly. A stock buyer wants the stock price to be

low and increase after its purchase. Conversely, the seller wants a high stock price at the time of sale. This gives rise to different goals between investors and issuers and results in fluctuations in stock prices called volatility.

Stock price volatility is a statistical measurement for fluctuations in stock price movements, where stock prices move drastically in both directions (Ramadan, 2013). High stock price volatility can make it difficult for investors to predict future stock prices and the uncertainty of returns that investors will get is also higher because companies with volatile stock prices have relatively more difficult future profits to predict (Rohmawati, 2017). Stock price volatility is calculated using the extreme value method, the calculation formula is as follows (Parkinson in Lashgari and Ahmadi, 2014):

$$SPV = \frac{SP\ (high) - SP\ (low)}{0.5\ (SP(high) + SP\ (low))}$$

Where:
SPV = Stock Price Volatility
SP(High) = Highest stock price
SP(Low) = Lowest stock price

Dividend Policy

The dividend policy is high because dividends are less risky than the capital gains expected from retained earnings investments. Investors are considered rational so they want to avoid risk which refers to the possibility of not getting a return on investment (Kumaraswamy, 2017). Dividend policy is a decision whether the profits earned by the company will be distributed to shareholders as dividends or will be retained in the form of retained earnings to finance investment in the future (Sartono, 2014: 281). Dividends are payments that will be made by the company to shareholders, either in the form of capital or cash. This is determined by the board of directors in the company so that the company determines the policy to distribute dividends (Sudana, 2009: 146). Dividend payments are made by investors to make investment decisions. high dividend policy because dividends are less risky than the capital gains expected from retained earnings investments. Investors are considered rational so they want to avoid risk which refers to the possibility of not getting a return on investment (Kumaraswamy, 2017).

Dividends are payments that will be made by the company to shareholders, either in the form of capital or cash. This is determined by the board of directors in the company so that the company determines the policy to distribute dividends (Sudana, 2009: 146). Dividend payments are made by investors to make investment decisions. Rowena & Hendra (2017) dividend policy is a company that has benefited has provisions whether it will be given to investors as retained earnings or in the form of dividends, which will be used as investment financing in the future. Dividend payments are an interesting issue in the financial literature (Kautsar, 2014). Dividend policy is proxied using the dividend payout ratio (DPR) and dividend yield (DY). The dividend payout ratio describes how much the company uses its net income to make payments to investors using dividends.

Trading Volume

Stock trading volume is the number of shares of an issuer that are traded in the capital market every day at a price level agreed by the seller and the buyer of the shares. This stock trading volume is often used as a benchmark (benchmark) to study information and the impact of various events. Trading Volume is an indicator that shows the number of shares in the market that are traded or transacted in a certain period. If a stock is more frequently traded or traded in the market, it shows that the stock is the most active and in great demand by investors. According to Chordia (2001) in Hugida (2011) explains that the impact of the volatility of trading activities on this is often used as a benchmark. While Chan and Fong (2000) have provided an explanation of various models regarding the relationship between trading volume and volatility where trading volume affects stock price volatility because volume reflects the information received by market participants. Information in the market is needed by investors. Stock trading volume can be used as an indicator to see the condition of an exchange, the greater the trading volume, the more investors are interested in the

stock, meaning that more shares are traded (Khajar, 2016). Changes in stock trading volume show stock activity on the stock exchange so that it can make investors decide to invest.

Leverage

Leverage shows the company's funding sourced from debt (Fahmi 2016). Leverage measures the company's ability to cover part or all of its debts, both long-term and short-term. Therefore, the level of leverage can pose a risk to the company, especially the potential for bankruptcy of the company in the future. Leverage is closely related to the company's financing choice policy. Leverage information contained in the financial statements can show certain signals of the company to the public, especially investors.

Depth asset ratio is a debt ratio used to measure the ratio between total debt and total assets, in other words, how much the company's assets are financed by debt or how much the company's debt affects asset management. From the measurement results, if the ratio is high, it means that there is more debt funding, the more difficult it is for the company to obtain additional loans because it is feared that the company will not be able to cover its debts with its assets. Kasmir, 2015).

Company size

Company size is a scale to classify the size of the company through total assets, net sales, and market capitalization of the company (Murniati 2015). Patriadjati (2017) states that company size is a scale where the size of a company can be classified based on the company's total assets or total sales. Companies with large sizes will very easily access the capital market and their flexibility and ability to obtain funds is higher than companies with small sizes (Selpiana and Badjra 2018). The size of the company can be described through the total assets of the company used to operate. The high size of the company can reflect the ease of access to information related to the company obtained by the public.

Economic Growth

Economic growth is a continuous process of changing economic conditions in a country leading to a better state during a certain period. Economic growth can also be referred to as the process of increasing production capacity in an economy that is formed into an increase in national income. Gross Domestic Product, abbreviated as GDP, is the total value of goods and services produced in a country. GDP is measured over a certain period of time, such as a quarter or a year. GDP as an economic indicator is used worldwide to show the economic health of a country. For low- or middle-income countries, high year-on-year GDP growth is critical to meeting the needs of a growing population. Therefore, Indonesia's GDP growth rate is an important indicator of the country's economic development and progress. Apart from measuring the health of the economy and helping the government frame policies, the GDP growth rate figures are also useful for investors in making better decisions regarding investment. Each country has a different method for calculating GDP.

Inflation rate:

Inflation is an economic condition in a country where there is a tendency to increase the prices of goods and services in general for a long time (continuous) due to an unbalanced flow of money and goods. Temporary price increases are not included in inflation, for example, price increases ahead of Eid celebration. In general, inflation occurs when the amount of money circulating in the community is more than what is needed. Inflation is an economic phenomenon that cannot be completely eliminated. Various efforts are usually only limited to controlling inflation.

Hypothesis

Based on literature and previous research, statistic and research hypothesis can be built as below:

H_1: $\beta_1 > 0$, Dividend policy has a positive impact on share price volatility.

H_2: $\beta_2 > 0$, Leverage has a positive impact on share price volatility

H_3: $\beta_3 < 0$, Firm size has a negative impact on share price volatility.

H_4: $\beta_4 > 0$, Trading volume has a positive impact on share price volatility

H_5: $\beta_5 < 0$, Economic growth has a negative impact on share price volatility.

H_6: $\beta_6 > 0$, Inflation rate has a positive impact on share price volatility

3. RESEARCH METHODS/METHODOLOGY

This study uses explanatory research using a quantitative approach because the data analysis technique is in the form of numbers and data. Explanatory research is an explanatory research that highlights causal relationships between research variables and tests hypotheses that have been formulated previously (Pandoyo and Sofyan 2018). In this study, researchers took the population of mining sector companies listed on the Indonesia Stock Exchange (IDX) for the 2016–2020 period as many as 45 companies. While the number of samples in this study were 18 companies. In this study, the researcher used an analytical tool in the form of Eviews 10 software. Data analysis in this study used panel data (pooled data), which is a combination of time series data and cross data. Panel data is obtained by combining cross section and time series data. The use of panel data regression models allows researchers to be able to capture characteristics between individuals and between times which may vary. Regression using panel data / pooled data, provides several advantages compared to the standard cross section and time series approach (Gujarati, 2012).

Data collection and research observations were carried out within 40 days, starting on March 28, 2021. The number of mining sector companies listed on the Indonesia Stock Exchange for the 2016-2020 period were 45 companies, but 18 companies met the criteria for the study and the period taken was 5 years, the total number is 90 samples.

Operationalization Variable

Indicator, measurement and source of information to indicate each variable can be found at table 1.

Table 1 – Operationalization Variables

Variable	Indicator	Measurement	Scale	Source
Dividend Policy (DPO)	Dividend Payout Ratio (DPR): Ratio between dividend per share (DPS) and earnings per share (EPS)	DPS/EPS	Ratio	www.idx.com
Leverage (LEV)	Debt to Equity Ratio (DAR): Ratio between Total Liability (TL) and Total Asset (TA)	TL/TA	Ratio	www.idx.com
Firm Size (FSZ)	Firm size (FSZ): Ln Total Asset in US$ (TA)	Ln (TA)	Ratio	www.idx.com
Trading Volume (TVO)	Trading volume (TVO) in IDR	Ln TVO	Ratio	www.idx.com
Economic Growth (EGR)	Gross Domestic Product in US$ (GDP)	Ln GDP	Ratio	www.data.worldbank.org
Inflation rate (IFL)	Annual consumer price index (%)	-	Ratio	www.data.worldbank.org
Share price volatility (SPV)	Ratio between share price range ($SP_{top} - SP_{low}$) price and average range share price ($0.5*(SP_{top} + SP_{low})$)	(SP_{top} - SP_{low}): $0.5*(SP_{top} + SP_{low})$	Ratio	www.data.worldbank.org

Source: Data Process, 2021

4. RESULTS AND DISCUSSION

Descriptive Statistics

Table 2 shows descriptive statistics each variable is used in this study.

Table 2 – Descriptive Statistics

Variable	Minimum	Maximum	Mean	Standard Deviation
Dividend Policy (DPO)	0.000	3.988	0.459	0.656
Leverage (LEV)	0.096	3.383	0.900	0.704
Firm Size (FSZ)	12.883	29.050	19.494	4.126
Trading Volume (TVO)	0.000	22.043	16.263	4.489
Economic Growth (EGR)	27.560	27.743	27.662	0.060
Inflation (IFL)	1.921	3.809	3.097	0.650
Share Price Volatility (SPV)	0.000	1.618	0.695	0.345

Source: Data Process, 2021

Correlation Matrix

Table 3 shows correlation matric between independent variable are used in this study.

Table 3 – Correlation Matrix

	DPO	LEV	FSZ	TVO	EGR	INF
DPO	1					
LEV	-0.169	1				
FSZ	-0.178	0.244	1			
TVO	-0.068	-0.119	-0.352	1		
EGR	0.007	0.081	0.032	-0.028	1	
INF	0.057	-0.043	-0.024	0.028	-0.461	1

Source: Data Process, 2021

Determination of the Estimation Model

First, common effect model (CEM) and fixed effect model (FEM) are compared by using Chow-test. If the probability of cross-section chi-square < 0.05, then FEM fit to estimate the model and vice versa. Then, FEM is compared to random effect model (REM) by using Hausman test. If the probability of cross-section random < 0.05, then FEM fit to estimate the model and vice versa.

Table 4 – Common Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	71.2432	14.1689	5.0281	0.0000
DPO	-0.0043	0.0431	-0.0991	0.9213
LEV	0.0162	0.0404	0.4016	0.6890
FSZ	-0.0031	0.0073	-0.4239	0.6727
TVO	0.0409	0.0065	6.2517	0.0000
EGR	-2.5501	0.5099	-5.0012	0.0000
IFL	-0.2016	0.0473	-4.2673	0.0001

Source: Data Process, 2021

Table 5 – Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	62.7083	14.2275	4.4076	0.0000
DPO	-0.0301	0.0451	-0.6684	0.5062
LEV	-0.0524	0.0601	-0.8712	0.3868
FSZ	-0.1955	0.2203	-0.8876	0.3780
TVO	0.0502	0.0127	3.9627	0.0002
EGR	-2.1072	0.6029	-3.4950	0.0009
IFL	-0.2155	0.0442	-4.8805	0.0000

Source: Data Process, 2021

Table 6 – Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	70.2474	12.5020	5.6189	0.0000
DPO	-0.0078	0.0400	-0.1950	0.8459
LEV	-0.0194	0.0451	-0.4303	0.6681
FSZ	-0.0009	0.0101	-0.0920	0.9269
TVO	0.0438	0.0080	5.4549	0.0000
EGR	-2.5161	0.4500	-5.5908	0.0000
IFL	-0.2019	0.0416	-4.8486	0.0000

Source: Data Process, 2021

Table 7 –Model Fit

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	Summary
Cross-section Chi-square	43.46266	17	0.0004	FEM
Cross-section random	0.0000	6	1.0000	REM

Source: Data Process, 2021

Coefficient Determination (R^2)

Based on the result of Chow-test and Hausman-test, common effect model is fit to estimate share price volatility as shown in table 7. Coefficient determination (R^2) on REM is 0.471 (adjusted R^2 = 0.433). It means share price volatility can be predicted by trading volume activity, economic growth and inflation rate.

Hypothesis Analysis
Based on REM can be summarized hypothesis and result as below table 8.

Table 8 – Hypothesis

Hypothesis statistic	Result	Probability	Conclusion
H_1: $\beta_1 > 0$	-0.0078	0.8459	Rejected
H_2: $\beta_2 > 0$	-0.0194	0.6681	Rejected
H_3: $\beta_3 < 0$	-0.0009	0.9269	Rejected
H_4: $\beta_4 > 0$	0.0438	0.0000	Accepted
H_5: $\beta_5 < 0$	-2.5161	0.0000	Accepted
H_6: $\beta_6 > 0$	-0.2019	0.0000	Rejected

Source: Data Process, 2021

Table 8 can be summarized the impact of each independent variable on share price volatility.

- Dividend policy has no impact on share price volatility
- Leverage has no impact on share price volatility
- Firm size has no impact on share price volatility
- Trading volume has positive impact on share price volatility
- Economic growth has negative impact on share price volatility
- Inflation rate has negative impact on share price volatility

Based on the results of the random effect model in the table 8 and eliminate the independent variables which there is no impact on share price volatility (SPV). The independent variable which have impact are trading volume (TVO), Economic Growth (EGR) and inflation rate (IFL) as shown in table 9.

Table 9 – Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	70.8172	12.3701	5.7249	0.0000
TVO	0.0443	0.0073	6.0668	0.0000
EGR	-2.5383	0.4449	-5.7052	0.0000
IFL	-0.2023	0.0413	-4.9016	0.0000

Source: Data Process, 2021

Table 9 shows linear regression by using random effect model to predict share price volatility by using independent factors which have significant impact namely trading volume, economic growth and inflation rate in this study. Linear regression equation can be built as follows:

$$SPV_{i,t} = 70.817 + 0.044*TVO_{i,t} - 2.538*EGR_t - 0.202IFL_t + \varepsilon_{i,t}$$

Hypothesis test

H_1: Impact dividend policy on share price volatility

Dividend policy has no impact to price share volatility. Investor tend to see macroeconomic conditions to invest in mining sector. This result support Modigliani and Miller theory (1961) that dividend policy has no effect on stock price and cost of capital. Therefore, dividend policy is irrelevant. Modigliani and Miller argued that business risk and basic income are the main source of determination of value of the firm.

H_2: Impact leverage on share price volatility

Leverage has no impact to price share volatility. Investor tend to see macroeconomic conditions to invest in mining sector. This result support Modigliani and Miller theory (1961) that leverage has no effect on stock price and cost of capital. Therefore, leverage is irrelevant. Modigliani and Miller argued that business risk and basic income are the main source of determination of value of the firm.

H_3: Impact firm size on share price volatility

Firm size has no impact to price share volatility. Investor tend to see macroeconomic conditions to invest in mining sector. This result support Modigliani and Miller theory (1961) that firm size has no effect on stock price and cost of capital. Therefore, firm size is irrelevant. Modigliani and Miller argued that business risk and basic income are the main source of determination of value of the firm.

H_4: Impact trading volume on share price volatility

Trading volume has a positive impact on share price volatility. This result support signaling theory developed by Akerlof (1970) and Spence (1973). Information is the main factor for capital market participants, especially investors because information containing records and descriptions of a company that has been carried out and future plans. Accurate, complete and appropriate information is used for perform analysis in making investment decisions. Information that has positive values will be responded well by market participants and vice versa. The reaction in the capital market can be seen by the changes in stock prices in the time the information is announced which is already known evenly. Market players interpret and analyze information as good news signals that can result in an increase in stock prices which means increase volatility.

H_5: Impact economic growth on share price volatility

Economic growth has a negative impact on share price volatility. During economic growth, the occurrence of bankruptcy is decreasing. Taxable income is also increasing in line with improving economic conditions. Taxable income depends on the amount of debt in the company's capital structure. The company is using debt financing to reduce taxable income. Therefore, increase economic growth decrease share price volatility. This result support trade-off theory where companies prefer to use debt financing.

H_6: Impact inflation rate on share price volatility

Increase inflation rate impact on reducing share price volatility. Increase in inflation rate can lead to an uncertain economic situation. Uncertainty economic situation can lead to the company's inability to pay his debts. Creditors want high returns for reduce their risk. High interest rates can increase the company's cost of capital. If the company uses funding internally to make adjust their capital structure. Therefore, the increase in the inflation rate have an impact on decreasing share price volatility.

CONCLUSION

We conclude this study the impact of dividend policy and firm specific factor on share price volatility in mining industries listed in Indonesia Stock Exchange period 2016 till 2020.

1. Dividend policy has no impact on share price volatility.
2. Increased leverage has no impact on increased share price volatility
3. Increased firm size has no impact on increased share price volatility
4. Increased trading volume has impact on increased share price volatility
5. Increased economic growth has impact on decreased share price volatility
6. Increased inflation rate has impact on decreased share price volatility

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