Soedirman Accounting Review (SAR): Journal of Accounting and Business
EISSN: 2598-0718
Vol. 10 No.01 Year 2025, Pg 34 - 47

Determinants of Stock Price Volatility in Energy Sector Companies on the IDX

Sari Puspita Dewi[1]*, Nikmah[2]

Faculty of Economics and Business, Bengkulu University, Indonesia
*Corresponding Email: spuspitadewi465@gmail.com

Abstract

This study aims to analyze the effect of exchange rates, interest rates and dividend policies on stock price volatility in energy sector companies listed on the IDX during the 2021-2023 period. The sample was selected using purposive sampling method, consisting of 32 companies. Data analysis was carried out using multiple linear regression. The results showed that exchange rates have a negative effect on stock price volatility, interest rates have a positive effect on stock price volatility, while dividend policy has no effect on stock price volatility. These findings emphasize the importance of considering external factors such as exchange rates and interest rates in making investment decisions in the energy sector.

Keywords: Stock Price Volatility, Exchange Rate, Interest Rate, Dividend Policy

Classification:
Empirical Paper

History:
Submitted:
May 26, 2025

Revised:
June 12, 2025
June 18, 2025

Accepted:
June 18, 2025

Dewi, S.P and Nikmah. (2025). Determinants of Stock Price Volatility in Energy Sector Companies on the IDX. *SAR (Soedirman Accounting Review): Journal of Accounting and Business* 10. 02 (2025):

INTRODUCTION

The capital market plays a very important role in maintaining the stability of a country's economy. Developed countries are usually characterized by large capital availability and significant technological advancements. Companies often use the strategy of issuing shares on the stock exchange to get an injection of funds from investors, which helps them acquire large amounts of capital. Shares are investment instruments in the form of securities or a form of capital ownership invested in a company or institution, which gives certain rights and obligations to the owner of the shares Putri & Paramita (2024). Investing in stocks is often considered to have a high risk, because it is sensitive to various changes, both from within and outside the company. The impact of these changes on stock prices in the capital market can be positive or negative. These stock price changes can then trigger stock price volatility.

Stock price volatility is a phenomenon when stock prices deviate from the average, either increasing or decreasing Chaudry et al., in Putri & Paramita (2024). Volatility is one of the main components that affect stock price movements, which describes the level of stock price fluctuations over a certain period. The level of volatility is a risk indicator that needs to be considered in making investment decisions, because it shows the possibility of price fluctuations, which reflects how much and how often stock prices change. High volatility indicates large price fluctuations within a certain period of time, which can be influenced by various factors. According to EmitenNews.com news delivered by Muchtar (2024) PT Mirae Asset Sekuritas Indonesia provides recommendations to investors to prioritize short-term trading due to high volatility in the stock market. This shows how high volatility affects investor behavior, with recommendations to take advantage of short-term transaction opportunities. This volatile stock price movement is closely related to how investors respond to various information in the capital market, so this research is based on signal theory. Signal theory was first introduced by Spence (1973) and developed by Ross (1977) to explain how company management conveys information that represents the company's condition to investors Purba (2023). In the context of the capital market, information related to factors that affect stock price volatility serves as a signal for investors in assessing investment prospects. Positive information tends to make investors more interested in buying stocks, which can increase stock prices. Conversely, negative information can encourage investors to sell shares which can cause a decrease in price, so that when stock prices rise and fall significantly, it will increase volatility Octavia et al. (2022).

Since 2021, the energy sector in Indonesia has experienced various challenges. According to a report published in Sindonews.com, stock prices in the energy sector experienced significant fluctuations Puspita (2021). In 2022, energy commodity prices surged amid concerns over the global economic downturn, which affected world stock markets. However, in 2023, the energy sector actually showed sluggish performance Nurmutia (2023). The following is data on fluctuations in the share price of the energy sector index for the 2021-2022 period listed on the IDX.

Graph 1. Fluctuations in the Energy Sector stock price index January 2021-December 2023

Source: Investing.com, 2025

Graph 1. shows that the energy sector stock price index has increased and decreased every month from 2021-2023. January to August 2021, the energy sector stock price index experienced a

significant decline, while December 2022 experienced the highest increase.

According to a statement by the President Director of the Indonesia Stock Exchange, Iman Rachman, the Indonesian capital market is still experiencing high volatility, which is caused by several sentiments, such as the weakening of the rupiah against the US dollar and the trend of increasing benchmark interest rates Burhan (2024). These changes have an impact on the financial condition of companies, especially those in the energy sector that depend on importing equipment and funding in foreign currencies. Therefore, dividend policy is important as it reflects a company's response to external pressures. Dividend cuts or suspensions often create negative perceptions in the market, which can increase stock price volatility. In contrast, a stable or increasing dividend policy can strengthen investor confidence and ease market volatility. Thus, in a volatile market, dividend policy becomes an important factor because it has a direct impact on investment decisions and stock price fluctuations, which illustrates that stock price movements are influenced by global conditions and domestic policies, as well as the company's own policies, such as exchange rates, interest rates and dividend policy.

Based on research conducted by Putri & Paramita (2024) and Ishfaq & Rizwan (2023) the results show the exchange rate has a negative effect on stock price volatility. While the results of research by Awan et al. (2023) and Faustine & Ananda (2022) prove the positive effect of exchange rates on stock price volatility. This result is different from research by W. Fitriani & Desmiza (2024) and Safrani & Kusumawati (2022) which shows the exchange rate has no effect on stock price volatility. Research Awan et al. (2023), Nurhasanah et al. (2021) and Putri & Paramita (2024) resulted in the finding that interest rates have a positive effect on stock price volatility. The results of research Dutta (2024) repo interest rates affect volatility stock prices in a negative direction. Research by Nwoye & Egbunike (2023) and Alajekwu & Ezeabasili (2022) shows dividend policy has a positive effect on stock price volatility. While research Octavia et al. (2022) dividend policy has a negative effect on stock price volatility. Another case with research by Putri & Paramita (2024) which shows dividend policy has no effect on stock price volatility.

Therefore, this study has several novelties that distinguish it from previous studies. First, this study was conducted to address the inconsistency of previous research results regarding the influence of exchange rates, interest rates, and dividend policies on stock price volatility. These inconsistent results indicate a gap in the literature that needs to be reviewed more comprehensively. Second, this study specifically highlights the energy sector, which has not been a major focus in stock price volatility research, despite the fact that this sector exhibits significant price fluctuations and plays a strategic role in the Indonesian economy. Third, this study uses the latest data up to 2023, whereas most previous studies only cover the period up to 2022. The purpose of this study is to analyze the effect of exchange rates, interest rates and dividend policies on stock price volatility in energy companies listed on the IDX for the 2021-2023 period. It is hoped that this research will provide new theoretical insights in the realm of finance and expand academic understanding of capital market dynamics. Practically, the findings in this study can provide benefits for investors in optimizing investment strategies and decision making, as well as assisting company management in determining strategic policies related to exchange rates, interest rates, and dividend policies to reduce stock price volatility.

LITERATUR REVIEW AND HYPOTHESES DEVELOPMENT

Portfolio Theory

Portfolio Theory was first introduced by Harry M. Markowitz in 1952. This theory states that investors can maximize their portfolio returns by considering the relationship between risk and return from various investment assets they own (Ardiansyah, 2025). The core of this theory is the concept of diversification, which is spreading funds across various types of investment instruments to reduce the total risk of the portfolio. (Fordian et al., 2024) explain that smart investors do not only invest in one type of asset but spread their investments across several similar or different assets to minimize the risk of loss. Thus, the primary objective of portfolio formation is to reduce

exposure to the individual risk of an asset and maintain the overall stability of investment value (Widyantoro et al., 2023).

In this context, exchange rate fluctuations and changes in interest rates are two important macroeconomic factors that influence systematic risk in financial markets. When the rupiah weakens (depreciates), especially against the US dollar, companies that rely on imports will experience an increase in production costs. This can squeeze profit margins and reduce the performance of the company's shares. Additionally, exchange rate depreciation has the potential to drive inflation, which ultimately reduces consumer purchasing power and negatively impacts the profitability of domestic issuers. On the other hand, rising interest rates make borrowing costs more expensive for companies and investors. For companies, high interest rates can limit business expansion due to increased debt interest burdens. For investors, rising interest rates make fixed-income investment instruments such as deposits or bonds more attractive than stocks, causing capital flows to shift out of the stock market. This situation leads to more volatile stock prices due to portfolio reallocation by investors.

Therefore, portfolio theory can be used to explain how investors respond to changes in exchange rates and interest rates in their efforts to manage investment risk. When exchange rate instability or interest rate hikes occur, investors tend to rebalance their portfolios by shifting funds to assets considered safer or more stable. This behavior then triggers stock price volatility.

Signal Theory

Spance introduced signal theory for the first time in 1973, which explains how parties who have information (company management) can convey signals to other parties (investors) through information that represents the company's condition. Ross, in 1977, developed this theory by emphasizing the existence of information imbalance (information asymmetry) between management who better understands the company's situation and shareholders who have limited information Purba (2023). Management, with a better understanding, tends to disclose strategic information to potential investors to optimize the value of the company's shares. Octavia et al. (2022) added that management's actions in conveying information about the company's growth and development can serve as an important signal to investors. Investors use this information to assess the company's prospects. Positive information is considered a good signal, encouraging investors to buy shares. The more positive signals, the more likely the stock price will rise. Conversely, negative information encourages investors to sell stocks, which can lead to a decline in stock prices.

Economic factors such as exchange rates, interest rates, and dividend policies can provide signals to investors. A strengthening exchange rate can indicate economic stability which gives a positive signal to investors and will certainly attract foreign and domestic investors. A decline in the exchange rate, on the other hand, may indicate potential economic problems, which will send a negative signal to investors and may prompt them to withdraw capital. Rising interest rates signal that borrowing costs will increase and reduce the profitability of the company, thus attracting investors to safer investment instruments. A decrease in interest rates, on the other hand, may signal that borrowing costs are lower, supporting economic growth and thus increasing the attractiveness of investing in the stock market. An increase in dividend payments is considered a positive signal that the company can indicate strong financial performance, while a decrease in dividends or no dividend distribution can provide a negative signal that the company is experiencing financial difficulties. Overall, signal theory explains how changes in economic factors serve as information for investors, where investors' response to these signals will be reflected in volatile stock price movements, thus affecting the level of stock price volatility.

Stock Price Volatility

Stock price volatility refers to significant fluctuations in stock prices, both up and down, compared to the general trend Safrani & Kusumawati (2022). In other words, volatility describes the degree of price instability. In stock investment, volatility is often used as a measure of risk. The

higher the volatility, the greater the potential price fluctuations that investors have to face. Significant changes in stock prices are often triggered by new information coming into the market. Demand and supply play an important role in stock price movements. High demand will push the price up, while more supply will push the price down. If many investors expect a company's profits to decrease, they tend to sell their shares, resulting in a lower stock price. Conversely, if profit expectations increase, stock prices will rise Octavia et al. (2022).

Stocks with high volatility tend to experience drastic and unpredictable price changes, indicating greater uncertainty regarding future stock price movements. Low-volatility stocks, on the other hand, tend to be stable and attract investors as they provide a higher degree of certainty Koleosho et al. (2022). Ideally, a good stock is one that is able to maintain price stability, thereby minimizing the risk of price declines due to volatility.

Exchange Rate

An exchange rate is the relative price between one currency and another. Simply put, the exchange rate shows how much currency of a country is needed to exchange one unit of currency of another country Fikiruddin et al. (2024). In the opinion of economists, exchange rates are divided into two categories, the first is the nominal exchange rate which is the rate of exchange between currencies of different countries, while the second category is the real exchange rate which reflects the exchange ratio of products and services between countries Safrani & Kusumawati (2022).

Exchange rates are an important factor in international trade and have a significant impact on a country's economy. Fluctuations in exchange rates greatly affect a country's economic conditions, including its international competitiveness. Changes in exchange rates can trigger uncertainty for entrepreneurs and investors, especially in relation to commodities traded in foreign currencies. Unstable economic, social and political conditions in a country can lead to currency depreciation, which in turn can affect stock prices and increase market volatility T Lakshmanasamy (2021). Conversely, good news about a country's economic conditions tends to stabilize stock prices.

Interest Rate

Interest is the fee charged for borrowing or using a certain amount of money over a certain period Boediono in Saputra (2019). If interest is expressed as a percentage of capital, it is called an interest rate. The interest rate is an important factor that influences people's decisions in choosing forms of wealth, such as cash, financial assets, or physical assets Saputra (2019). Interest rates are influenced by the dynamics of the money market, where fluctuations in interest rates have the potential to influence the investment decisions of economic actors.

According to Keynes' view in Sukirno in Saputra (2019), interest rates depend on two factors, namely the amount of money supply, which is the amount of money available in the economy for people to use in purchasing goods and services, and the amount of money demand, which is the public's desire to have money, both for transactions, storage, and for speculation needs. Bank Indonesia adjusts the SBI interest rate based on inflation projections, raising it when inflation is expected to exceed the target and lowering it when inflation is expected to be below the target Jefry & Djazuli (2020). Interest rates are an attractive factor for investors to invest in, as they expect a higher return on their investment. When interest rates change, this can affect investment interest, as investment opportunities may no longer be attractive. An increase in interest rates can cause the return expected by investors to increase, so investors tend to switch for risk or potential losses. Companies that are less efficient in their management will be affected by higher interest rates, while low interest rates make it easier for companies to borrow capital. If borrowed capital is able to increase sales and profits, the company's share price will rise Tandelilin in Fikiruddin et al. (2024).

Dividend Policy

Dividend policy is a company's strategic decision regarding the use of profits, namely choosing between distributing profits to shareholders or retaining profits to fund future

investments Nurhasanah et al. (2021). Dividends are cash payments made to shareholders as part of the company's profits that have been reduced by taxes and operating costs. Dividend distribution policy is influenced by various factors, such as financing conditions, investment opportunities, company scale, shareholder pressure, and regulations. Determining the amount of dividends is a crucial decision because it has a direct impact on firm value and returns for shareholders Nwoye & Egbunike (2023). Dividend distribution provides additional benefits to shareholders in addition to capital gains. The ideal dividend policy is a policy that can achieve a balance between the distribution of current profits and investment for future growth, with the aim of increasing the value of the company's shares Brigham and Houston in Octavia et al. (2022).

The Effect of Exchange Rate on stock price volatility

The exchange rate is the price of a currency when exchanged for another currency in a transaction Fuadi (2020). Changes in exchange rates can affect the competitiveness of companies, especially for companies that have exposure to international transactions. Signaling theory explains that information received by the market from various external factors can affect investors' perceptions of the stability and prospects of the company. In this case, exchange rates can provide important signals about a country's economic conditions which are then translated by investors in their investment decisions. When the exchange rate depreciates, investors tend to shift their investments to the money market due to the potential for higher returns. In this situation, they avoid the stock market because a weakening exchange rate reduces the value of investments in the local currency, large sell-offs cause stock prices to fall sharply and become volatile, resulting in increased volatility. On the other hand, when the currency appreciates, investors tend to invest more in the stock exchange through stock instruments because a stronger exchange rate reflects better economic stability, so volatility can decrease Fitriani et al. (2022). Research by Ahmad & Ramzan (2016) shows a negative relationship of exchange rates on stock price volatility. This research is supported by research Ishfaq & Rizwan (2023), Nugroho & Robiyanto (2021) and Putri & Paramita (2024) which shows the results of the exchange rate has a negative effect on stock price volatility. Thus, stock price volatility tends to increase when the exchange rate depreciates/weakens and tends to decrease when the exchange rate appreciates/strengthens.

H1: The exchange rate has a negative effect on the stock price volatility of energy sector companies listed on the IDX in 2021-2023.

The effect of interest rates on stock price volatility

Interest rates are monetary policy instruments used by central banks to control inflation and support economic growth by regulating the amount of money in circulation Mujiadi et al. (2025). Changes in interest rates affect the cost structure of borrowing, consumption and investment levels, which in turn affect the stock market. An increase in interest rates is often associated with efforts to curb inflation, but on the other hand, it also increases borrowing costs for companies. Moreover, uncertainty regarding interest rate policy may signal investors to be more cautious in making investment decisions. High interest rates increase a company's borrowing costs, lowering future profitability and thus signaling investors to choose safe instruments such as deposits or bonds. As a result, demand for stocks decreases and stock price volatility increases. Research Kohar & Suratno (2018), Nurhasanah et al. (2021), Anggraini et al. (2023), Awan et al. (2023) and Putri & Paramita (2024) show the results that interest rates have a positive influence on stock price volatility.

H2: Interest rates have a positive effect on stock price volatility of energy sector companies listed on the IDX in 2021-2023.

The Effect of Dividend Policy on Stock Price Volatility

Dividend policy is a crucial element in corporate financial decisions that reflect the profit allocation strategy between dividend distribution or reinvestment for business growth Widati et al. (2024). In signal theory, a dividend policy that is able to allocate profits optimally will contribute to an increase

in stock value and provide an overview of the company's financial stability. Higher cash dividends provide a stronger signal of profitability, thereby increasing investor confidence and can reduce stock price volatility Septyadi & Bwarleling (2020). This means that when companies consistently pay out large amounts of dividends, it is seen as a reflection of healthy financial conditions, which in turn makes investors feel more confident and stock price movements become more stable. Conversely, an inconsistent or low dividend policy can lead to uncertainty, so investors doubt the stability and prospects of the company. As a result, investors tend to be more cautious or even withdraw their investments, which in turn increases stock price fluctuations. Research Jannah & Haridhi (2016) and Khairunisa & Nazir (2022) indicates that dividend policy has a negative impact on stock price volatility, these findings are in accordance with the results of research that has been done Alvaro & Laila Rosyda (2023), Fadila & Rahmawati (2024), Octavia et al. (2022), W et al. (2023) which indicates that dividend policy has a negative effect on stock price volatility. This means that higher dividend payments will be inversely related to the level of stock price fluctuations.

H3: Dividend policy has a negative effect on stock price volatility of energy sector companies listed on the IDX in 2021-2023.

Based on the proposed hypothesis, the research framework is as follows:

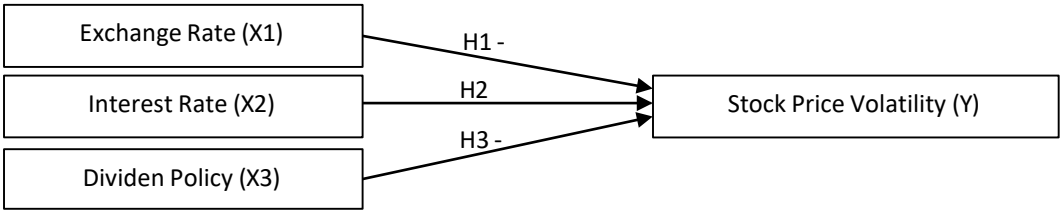

Figure 1. Conceptual framework

RESEARCH METHOD

This research is based on secondary data from the official website. Data on stock prices and dividend policies are obtained from the company's financial statements (https://www.idx.co.id/id), data on exchange rates and interest rates are sourced from Bank Indonesia (https://www.bi.go.id/). The population in this study includes 70 energy sector companies listed on the IDX during 2021-2023. The sample was determined based on the purposive sampling method, with the following criteria: (1) The company publishes annual financial reports that have gone through the audit process throughout the study period; (2) The company did not experience delisting or suspension during the study period; (3) The company has paid dividends at least once during the study period. With these criteria, 34 companies were selected as research samples

To measure stock price volatility, the Stock Price Volatility (SPV) method is used by calculating the root of the average number of squared natural logarithms of the ratio of the highest price to the lowest price of the stock in a period. The calculation of stock price volatility is in accordance with the formula proposed by Parkinson Safrani & Kusumawati (2022) as follows:

$$SPV = \sqrt{\frac{1}{n}\ln\left(\frac{Hit}{Lit}\right)^2}$$

Description:
SPV : Stock Price Volatility
n : Number of periods
ln : Natural logarithm
Σ : Summation
Hit : Highest stock price in period t
Lit : Lowest stock price in period t

The exchange rate in this study is measured as the change in the middle exchange rate of the rupiah against the United States dollar (USD) each year. The exchange rate is calculated by the middle rate formula, which is the average of the selling and buying exchange rates of currencies in a certain period. The middle rate can provide a more objective and stable picture than the selling or buying rate alone, so it is more appropriate in reflecting exchange rate fluctuations that can affect stock price volatility, especially in energy sector companies that have high exposure to international transactions. The selection of the middle rate as the basis for measuring the exchange rate is in line with the method used by Fitriani & Desmiza (2024) as follows:

$$Middle\ Rate = \frac{Buying\ Rate + Selling\ Rate}{2}$$

Description:
Central Rate : The average exchange rate between the selling rate and the buying rate
Selling Rate : The price at which the bank is willing to sell foreign currency
Buy Rate : The price at which the bank is willing to buy foreign currency

Bank Indonesia implements interest rates in its monetary operations by managing liquidity in the money market in an effort to achieve the operational targets of monetary policy. The benchmark interest rate instrument applied is the BI7DRR (BI 7-Day Reverse Repo Rate), which is the interest rate set by Bank Indonesia for 7-day open market transactions. The selection of BI7DRR as a measurement of interest rate variables in this study is in accordance with the measurements used by Fikiruddin et al. (2024) as follows:

Average BI 7 Days Repo Rate

Dividend policy is a strategic decision of company management in determining the allocation of profits, either to be distributed to investors as dividends or used for funding future investments Mubarokah & Indah (2021). Dividend policy to investors by the company can be measured using the Dividend Payout Ratio, which compares dividends per share with earnings per share to determine how much portion of profit is allocated to shareholders, where dividends per share are the result of division between total dividends and the number of shares outstanding. The DPR calculation is in line with the measurement method used by Nwoye & Egbunike (2023) as follows:

$$DPR = \frac{DPS}{EPS}$$

Description:
DPR : Dividen Payout Ratio
DPS : Dividen Per Share
EPS : Earning Per Share

The data in the study were analyzed through multiple linear regression with SPSS software version 29. The analysis stages include descriptive statistical tests, classical assumption tests, multiple linear regression, and coefficient of determination analysis. The linear regression equation used is:

$$SPV = \alpha + \beta_1 ER + \beta_2 IR + \beta_3 DP + e$$

Description:
SPV : Stock Price Volatility
α : Constant
ER : Exchange Rate
IR : Interest Rate
DP : Dividend Policy
$\beta_1, \beta_2, \beta_3$: Regression coefficient for each variable
e : Standard error

RESULT AND DISCUSSION

Descriptive Statistics Test

Table 1. Descriptive Statistics Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
X1_ER	102	14311.96	15255.05	14812.5400	389.11040
X2_IR	102	3.50	6.00	5.0000	1.08546
X3_DP	102	.00	4.53	.3779	.61128
Y_SPV	102	.00	1.28	.6836	.26056

Source: Research Data, 2025

The exchange rate of the rupiah against the US dollar during the 2021-2023 period reached a maximum value of 15,255.05, which reflects the most significant weakening of the rupiah in that time span. Meanwhile, the minimum value of 14,311.96 shows the strongest position of the rupiah against the US dollar in the same period. The average exchange rate of 14,812.54 is not too far from its maximum value, indicating that in general, the rupiah exchange rate is more often in a weak condition against the US dollar. In addition, the standard deviation of 389.11 is relatively small compared to the average, indicating that despite the difference between the highest and lowest exchange rates, the fluctuation remained within a relatively stable range throughout the study period.

During the 2021-2023 period, the interest rate reached a maximum of 6.00, indicating that during this period, the interest rate never exceeded 6%. The minimum value of 3.50 shows that in the 2021-2023 period, interest rates never fell below 3.50%. The average of 5.00 and the standard deviation of 1.085, can show that the interest rates of the companies in the sample tend to be relatively high. The small standard deviation indicates that even though interest rates change, the variation remains low.

The minimum dividend policy ratio of 0.00 indicates that there are companies that do not pay dividends in a particular year in the 2021-2023 period. In addition, the maximum ratio value of 4.53 indicates that the company paid the highest dividend of 4.53 during the 2021-2023 period. The average dividend policy ratio of 0.3779, close to the minimum value, indicates that most companies distribute dividends in small amounts, while the standard deviation of 0.61128 is higher than the average, indicating that dividend policies between companies vary greatly.

During the 2021-2023 period, the minimum ratio of stock price volatility is 0.00, which means that the stock price is relatively stable without significant fluctuations. In contrast, the maximum ratio of 1.28 indicates that the company with the highest volatility experienced considerable changes in its stock price during the study period. The average stock price volatility of 0.6836 is close to the maximum value indicating that overall, stock price volatility in the sample companies was high throughout the study period and the standard deviation of 0.26056 is smaller than the average indicating that the variation in stock price volatility between companies is not too large.

Classical Assumption Test

Table 2. Classical Assumption Test Results

	Uji Normalitas	Uji Multikolinearitas		Uji Heteroskedastisitas	Uji Autokoreleasi
	Kolmogorov Smirnov	VIF	Tolerance	Uji Glejser	Durbin Watson
Asymp.Sig. (2-tailled)	0,200				

X1_ER	7,779	0,129	0,859	
X2_IR	7,532	0,133	0,659	
X3_DP	1,138	0,879	0,199	
Durbin watson				2,177

Source: Research Data, 2025

The normality test results show that Asymp. Sig. (2-tailed) of 0.2 > 0.05, which indicates that the data is normally distributed. The multicollinearity test shows that all independent variables have a VIF value < 10 and tolerance > 0.10, indicating that there is no multicollinearity problem. Furthermore, the heteroscedasticity test shows that all independent variables have a significance value> 0.05, which means that no heteroscedasticity symptoms are found and the autocorrelation test with the Durbin-Watson value is in the DU < D < 4 - DU range (1.7079 < 2.177 < 2.2921) indicates that there is no autocorrelation problem. Thus, the regression model has met all the assumptions required for further analysis.

Multiple Linear Regression Test

Table 3. Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	170.542	36.29		4.699	<.001
	X1_ER	-17.998	3.851	-1.331	-4.674	<.001
	X2_IR	1.88	0.466	1.13	4.032	<.001
	X3_DP	-0.047	0.072	-0.071	-0.654	0.515
R Square		0.270				
Adjusted R Square		0.239				

Source: Research Data, 2025

The Adjusted R Square value is 0.239, indicating that the exchange rate, interest rate, and dividend policy variables can explain the variation in changes in the stock price volatility variable by 23.9%. In other words, the exchange rate, interest rate and dividend policy affect stock price volatility by 23.9%, while 76.1% is influenced by other aspects outside the research model.

Based on the partial test results, the significance value of the exchange rate variable (ER) is 0.001 <0.05 and the t value is -4.674> t table 1.99444. This shows that the exchange rate has a negative effect on stock price volatility. Therefore, the first hypothesis is accepted. The interest rate variable (IR) has a significance value of 0.001 <0.05, and the t value is 4.032> t table 1.99444, which means that the interest rate has a positive effect on stock price volatility. Thus the second hypothesis is accepted. The dividend policy variable (DP) has a significance value of 0.515>0.05, and the t value is -0.654 < t table 1.99444, so the third hypothesis is rejected.

First Hypothesis Testing Results

The exchange rate has a negative effect on the stock price volatility of energy sector companies listed on the IDX in 2021-2023. These results indicate that when the rupiah depreciates (weakens) against the USD, the volatility of energy sector stock prices will increase. Conversely, when the rupiah appreciates (strengthens) steadily, stock price volatility will decrease. These results are in line with research (Ahmad & Ramzan, 2016), (Ishfaq & Rizwan, 2023), (Nugroho & Robiyanto, 2021) and (Putri & Paramita, 2024) which emphasizes the importance of exchange rates as a determinant of stock volatility in sectors that depend on cross-border trade, such as the energy sector.

Based on signaling theory, exchange rate movements provide signals or information to companies and investors about economic conditions. When the rupiah depreciates, energy

companies that rely on imports to purchase production equipment or exploration technology will experience an increase in operating costs. This happens because most of these transactions are conducted in US dollars, resulting in higher costs in rupiah. This increase can reduce profit margins which, if the selling price of the product remains fixed, will result in a decrease in the company's profit. In addition, for companies with debt obligations in USD, rupiah depreciation also causes swelling debt burden. This increased financial burden can reduce the company's profitability and give a negative signal to investors regarding the company's financial performance. If investors see that this cost pressure has the potential to reduce the company's future profits, they are likely to sell their shares to avoid risk and look for other more profitable investment instruments. When many investors offload their shareholdings, the selling pressure in the market increases, which then pushes the share price down sharply. High price fluctuations due to this massive sell-off lead to an increase in stock price volatility.

Conversely, an appreciating rupiah is beneficial for energy companies, especially those that rely on imports or have financial obligations in US dollars. A stronger exchange rate lowers import costs and eases debt repayments in foreign currency, which in turn contributes to increased profits. This improved performance outlook attracts investors to invest in energy sector stocks. If these conditions persist on a stable and consistent basis, price movements become more manageable, resulting in lower stock volatility.

Second Hypothesis Testing Results

The interest rate has a positive effect on the stock price volatility of energy sector companies listed on the IDX in 2021-2023. These results indicate that an increase in interest rates tends to be accompanied by an increase in stock price volatility in energy sector companies. From a portfolio theory perspective, changes in interest rates are an important factor influencing investment decisions, as they are directly related to the risk and return faced by investors. The results of this study are consistent with the results of research (Kohar & Suratno, 2018), (Nurhasanah et al., 2021), (Anggraini et al., 2023), (Awan et al., 2023) and (Putri & Paramita, 2024) which shows that fluctuations in interest rates are one of the main triggers of stock price volatility, especially in sectors that are sensitive to monetary policy.

Investors respond to interest rate change signals by adjusting their investment portfolio. Risk-free investment instruments such as deposits and bonds become more attractive as they offer higher returns with minimal risk. As a result, there is a shift in investment preference from the stock market to these instruments. This condition triggered an increase in stock trading activities that led to higher price volatility, especially in the energy sector which is vulnerable to interest rate fluctuations due to its capital-intensive business characteristics and sensitivity to economic cycles. This phenomenon confirms that interest rates are a fundamental factor affecting investment decisions and stock price movements in the energy sector.

Third Hypothesis Testing Results

Dividend policy has no effect on the volatility of the share prices of energy sector companies listed on the IDX in 2021-2023. This means that changes in dividend policy do not directly cause significant fluctuations in stock prices. Based on signaling theory, dividend policy, especially if it is stable and increasing, should provide a positive signal regarding the company's financial prospects and reduce stock price volatility. However, the results of this study show that the signals sent through dividend policy are not strong enough to influence investors' perceptions of stock price risk, so they have no effect on stock volatility, especially in the energy sector.

These conditions indicate that in the context of the energy industry, investors do not make dividend policy a major factor in assessing company prospects or making investment decisions. This is understandable given the characteristics of the energy sector which relies heavily on long-term investments for infrastructure development, technology and resource exploration. Therefore, companies in this sector tend to retain profits for business expansion or only distribute small amounts of dividends. This strategy is viewed by investors not as a negative signal, but rather as a

rational and long-term sustainability-oriented financial approach. The results of this study are in line with research (Putri & Paramita, 2024), (Zacky et al., 2024), (Sirait et al., 2021) and (Sutandijo, 2019) which found that dividend policy does not always affect stock price volatility in capital-intensive industries.

In the energy sector, stock price volatility tends to be more influenced by external factors, such as exchange rates and interest rates. Therefore, investors focus more on these factors as they have a greater impact on the profitability and growth of the company in the long run. Therefore, investors no longer rely on dividend policy as a key indicator in assessing company performance and prospects. Investor preferences in the energy sector also tend to be more inclined towards capital gains than cash dividends Putri & Paramita (2024). Therefore, investors are more interested in the potential appreciation of share prices caused by business growth and strategic investments of the company, rather than short-term profits obtained from dividend distribution.

CONCLUSION

Indonesia during 2021-2023 is more influenced by external factors. The rupiah exchange rate proved to have a negative effect, meaning that a weakening rupiah increases stock price volatility, while a strengthening rupiah helps stabilize it. Meanwhile, interest rates have a positive effect, where an increase in interest rates encourages an increase in stock price volatility. In contrast, dividend policy has no effect, as energy sector investors tend to focus more on growth prospects and capital gains than cash dividends. These findings confirm that macroeconomic dynamics play an important role in energy sector stock price movements.

This study is limited to the use of annual data exchange rates and interest rates sourced from the middle rate and BI7DRR of Bank Indonesia, so it has not fully captured the dynamics of changes in a shorter period. Thus, future studies can consider using higher frequency data, such as monthly or daily data, so that the effect of exchange rates and interest rates on stock price volatility can be analyzed in more detail. In managing investment risk in the energy sector, investors need to consider external factors, such as exchange rates and interest rates in their investment strategy. Meanwhile, companies can optimize financial strategies by managing debt more effectively to minimize the impact of fluctuations in exchange rates and interest rates on stock price volatility. Although dividend policy has no effect on stock price volatility, maintaining good communication with investors is still important so that they understand the benefits of reinvestment for the long-term growth of the company.

REFERENCE

Ahmad, N., & Ramzan, M. (2016). Stock Market Volatility and Macroeconomic Factor Volatility. *International Journal of Research in Business Studies and Management*, *3*(7), 37–44.

Alajekwu, D. U. B., & Ezeabasili, V. N. (2022). Dividend Policy and Stock Market Price Volatility in the Nigerian Stock Market. *British Journal of Management and Marketing Studies*, *3*(4), 37–52.

Alvaro, D. P., & Laila Rosyda, N. A. (2023). Pengaruh Kebijakan Deviden terhadap Volatilitas Harga Saham. *ManBiz: Journal of Management and Business*, *3*(1), 233–248. https://doi.org/10.47467/manbiz.v3i1.5489

Anggraini, A., Sudarno, S., & Raihan, M. (2023). Pemodelan Autoregressive Conditional Heteroscedasticity Dalam Analisis Makroekonomi Terhadap Volatilitas Saham Pt Destinasi Tirta Nusantara Tbk. *Jurnal Cahaya Mandalika ISSN 2721-4796 (Online)*, *3*(2), 1667–1681.

Asma Awan, Furrukh Bashir, Nimra Shahbaz, I. N. (2023). *The Macroeconomic Determinants of Stock Price Volatility in Pakistan : An Empirical Investigation Introduction*. *5*(2), 205–221. https://doi.org/10.52461/ijoss.v5i2.2349

Burhan, F. (2024). *Komposisi, Bos BEI Ungkap Penyebab Volatilitas Pasar Modal: Bunga Tinggi hingga Komposisi Kabinet*. Bisnis.Com.

Dutta, D. (2024). *Significance of Non-Performing Assets (NPAs) on Volatility of Stock Price : A Study*

on Select Listed Private Banks in India. *2*(6), 621–642.

Fadila, D. F., & Rahmawati, S. (2024). Pengaruh Kebijakan Dividen terhadap Volatilitas Harga Saham pada Perusahaan Non-Keuangan yang Tercatat Di Bursa Efek Indonesia (BEI). *Jurnal Ilmiah Mahasiswa Ekonomi Manajemen*, *9*(1), 209–228.

Faustine, I. S., & Ananda, C. F. (2022). Pengaruh Inflasi, Nilai Tukar, Volume Perdagangan, Dan Order Imbalance Terhadap Volatilitas Harga Saham Pada Perusahaan Sektor Kesehatan Yang Terdaftar Dalam Bei Tahun 2021. *Contemporary Studies in Economic, Finance and Banking*, *1*(3), 408–422. https://doi.org/10.21776/csefb.2022.01.3.05

Fikiruddin, A., Dwiyani, S., & Hariri. (2024). *Analisis Pengaruh Nilai Tukar, Tingkat Suku Bunga, dan Inflasi Terhadap Indeks Harga Saham (Studi Kasus pada Perusahaan Properti yang Terdaftar di Bursa Efek Indonesia Tahun 2018-2021)*. *13*(0), 158–166.

Fitriani, T., Asnawi, S. K., & Hendrian, H. (2022). Pengaruh Kurs Tukar, Dana Asing, dan Volume Perdagangan Terhadap Indeks Harga Saham. *Owner*, *6*(2), 2145–2155. https://doi.org/10.33395/owner.v6i2.842

Fitriani, W., & Desmiza, D. (2024). Pengaruh Exchange Rate, Inflasi, Leverage, dan Firm Size Terhadap Volatilitas Harga Saham (Studi Kasus pada Perusahaan IDX30 di Bursa Efek Indonesia Periode 2018-2022). *J-MAS (Jurnal Manajemen Dan Sains)*, *9*(1), 427. https://doi.org/10.33087/jmas.v9i1.1662

Fuadi, A. (2020). Inflasi Dan Nilai Tukar Rupiah Terhadap Indeks Saham Syariah Indonesia. *Jurnal Akuntansi Bisnis Pelita Bangsa*, *5*(01), 1–12. https://doi.org/10.37366/akubis.v5i01.102

Ishfaq & Rizwan. (2023). The Influence of Industry Characteristics on Stock Price Volatility in Pakistan: Examining the Moderating role of Industry Concentration. *Journal of Business and Management Review*, *2*(2), 104–116.

Jannah, R., & Haridhi, M. (2016). Pengaruh Kebijakan Dividen, Earning Volatility, Dan Leverage Terhadap Volatilitas Harga Saham Pada Perusahaan Non-Financing Yang Terdaftar Di Bursa Efek Indonesia Tahun 2010-2014. *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi*, *1*(1), 133–148.

Jefry, J., & Djazuli, A. (2020). The Effect of Inflation, Interest Rates and Exchange Rates on Stock Prices of Manufacturing Companies in Basic and Chemical Industrial Sectors on the Indonesia Stock Exchange (IDX). *International Journal of Business, Management & Economics Research*, *1*(1), 34–49. https://doi.org/10.47747/ijbmer.v1i1.49

Josua Sirait, Unggul Purwohedi, & Diena Noviarini. (2021). Pengaruh Volatilitas Laba, Leverage Keuangan, Kebijakan Dividen, dan Price to Book Value Terhadap Volatilitas Harga Saham. *Jurnal Akuntansi, Perpajakan Dan Auditing*, *2*(2), 397–415. https://doi.org/10.21009/japa.0202.12

Kadek.W, T.Inayati, F. F. (2023). Pengaruh Leverage dan Profitabilitas terhadap Volatilitas Harga Saham dengan Kebijakan Dividen sebagai Variabel Intervening Sebelum dan Selama Covid-19. *Owner*, *7*(3), 2234–2245. https://doi.org/10.33395/owner.v7i3.1514

Khairunisa, N., & Nazir, N. (2022). Pengaruh Leverage , Kebijakan Dividend Dan Ukuran Perusahaan Terhadap Volatilitas Harga Saham. *Jurnal Ekonomi Trisakti*, *2*(2), 833–844. https://doi.org/http://dx.doi.org/10.25105/jet.v2i2.14419

Kohar, A., & Suratno, D. (2018). *SENSITIVITAS FAKTOR EKONOMI MAKRO DAN MIKRO DALAM MEMPREDIKSI VOLATILITAS HARGA SAHAM PERUSAHAAN SEKTOR INDUSTRI FOOD & BEVERAGES*. *4*(14), 63–65. https://doi.org/10.15900/j.cnki.zylf1995.2018.02.001

Koleosho, A. O., Akintoye, I. R., & Ajibade, A. T. (2022). The Effect of Dividend Policy on Share Price Volatility of Some Selected Companies on the Nigerian Exchange. *Journal of Accounting, Business and Finance Research*, *15*(1), 10–20. https://doi.org/10.55217/102.v15i1.525

Mubarokah, F., & Indah, N. P. (2021). Pengaruh Keputusan Investasi, Pendanaan, dan Dividen Terhadap Nilai Perusahaan Periode 2014-2018. *Coopetition: Jurnal Ilmiah Manajemen*, *12*(2), 163–180.

Muchtar Komarudin. (2024). Volatilitas Tinggi, Investor Disarankan Tansaksi Saham Jangka Pendek. *Emitennews.Com*.

Muhammad Zacky, Dana Bahari Sitepu, Z. Y. A. (2021). Pengaruh Dividend Payout Ratio Dan Debt

To Equity Ratio Terhadap Harga Saham. *Jurnal Investasi*, *7*(1), 68–76. https://doi.org/10.31943/investasi.v7i1.122

Mujiadi, I., Asyhari, A. A., & Ghondur, A. (2025). Peran Kebijakan Moneter dalam Mengendalikan Inflasi: Studi Kasus di Indonesia. *Program Studi Ekonomi Syariah*, *3*, 181–191. https://doi.org/https://doi.org/10.61132/moneter.v3i1.1120

Nugroho, A. D., & Robiyanto, R. (2021). Determinant of Indonesian Stock Market's Volatility During the Covid-19 Pandemic. *Jurnal Keuangan Dan Perbankan*, *25*(1), 1–20. https://doi.org/10.26905/jkdp.v25i1.4980

Nurhasanah, N., Husaini, H., Arliansyah, A., & Syahputra, J. (2021). Determine of Stock Price Volatility on Mining Companies on the Indonesia Stock Exchange. *Morfai Journal*, *1*(2), 213–224. https://doi.org/10.54443/morfai.v1i2.71

Nurmutia, E. (2023). *Saham Sektor Energi Lesu pada 2023, Ini Penyebabnya*. LIPUTAN 6.

Nwoye, C. M., & Egbunike, P. A. (2023). Dividend policy and capital investment on share price volatility in Nigeria. *Journal of Global Accounting*, *9*(4), 206–221.

Octavia, I., Sinaga, E. A., & Simangunsong, M. U. (2022). Analisis Pengaruh Deviden Policy, Kebijakan Hutang, Growth Asset, Dan Earning Volatility Terhadap Volatilitas Harga Saham Perusahaan Yang Terdaftar Di Lq45. *Jurnal Akuntansi Dan Perpajakan Jayakarta*, *4*(1), 44–62. https://doi.org/10.53825/japjayakarta.v4i1.149

Purba, R. (2023). Teori Akutansi: Sebuah Pemahaman untuk Mendukung Penelitian di Bidang Akuntansi Cetakan. In *Jurnal Ilmu Pendidikan* (Vol. 7, Issue 2).

Puspita, N. K. (2021). Intip Deretan Saham yang Paling Terdampak Akibat Krisis Energi. *SINDONEWS.COM*.

Putri, A. L., & Paramita, R. A. S. (2024). The Influence Of Microeconomic Factors And Macroeconomic Factors On Stock Price Volatility In KOMPAS 100 Index Companies Listed On The Indonesia Stock Exchange For The Period 2019-2022. *Journal of Business and Management Review*, *5*(6), 478–497. https://doi.org/10.47153/jbmr.v5i6.984

Safrani, D. R., & Kusumawati, E. (2022). Pengaruh Volume Perdagangan Saham, Dividend Yield, Earning Volatility, Firm Size, Dan Nilai Tukar Terhadap Volatilitas Harga Saham. *Jurnal Ekonomi Dan Bisnis*, *9*(2), 123–134.

Saputra, A. (2019). Pengaruh Inflasi, Suku Bunga, Dan Nilai Tukar Terhadap Indeks Harga Saham Gabungan Di Bursa Efek Indonesia. *Jurnal GeoEkonomi*, *2*(1), 67–78. https://doi.org/10.36277/geoekonomi.v12i1.146

Septyadi, M. A., & Bwarleling, T. H. (2020). Pengar uh Volume Per dagangan Volatilitas Har ga Saham. *Jurnal Riset Akuntansi Dan Keuangan*, *2*, 149–162.

Sutandijo, S. (2019). Kebijakan Dividen Dan Volatilitas Harga Saham Di Bursa Efek Indonesia. *Jurnal Ilmiah Akuntansi Universitas Pamulang*, *7*(1), 01. https://doi.org/10.32493/jiaup.v7i1.2279

T., Lakshmanasamy (2021). Relationship Between Exchange Rate and Stock Market Volatilities in India. *International Journal of Finance Research*, *2*(4), 244–259. https://doi.org/10.47747/ijfr.v2i4.443

Widati, S., Hidayat, T., Ummah, R., Permatasari, M. D., & Bangsa, U. P. (2024). *Profitabilitas dan pertumbuhan perusahaan dalam mempengaruhi kebijakan dividen dimoderasi oleh likuiditas*. *9*(2), 167–181.