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The Effect Of Dividend Yield, Firm Size, Exchange Rate, And Asset Growth On Stock Price Volatility In Mining Companies Listed On The Indonesia Stock Exchange For The 2020–2024 Period

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Abstract

This study aims to examine the effect of Dividend Yield, Firm Size, Exchange Rate, and Asset Growth on Stock Price Volatility in mining companies listed on the Indonesia Stock Exchange during the 2020–2024 period. This research applies a quantitative approach using an associative causal method. The research population consists of 63 mining companies listed on the IDX during that period. The sample was selected using purposive sampling technique, resulting in 15 mining companies with a total of 75 observation data. The results of the study indicate that Dividend Yield and Firm Size have no significant impact on Stock Price Volatility, whereas Exchange Rate and Asset Growth have a significant impact on Stock Price Volatility. Simultaneously, Dividend Yield, Firm Size, Exchange Rate, and Asset Growth collectively have a significant impact on Stock Price Volatility.

Keywords: Dividend Yield, Firm Size, Exchange Rate, Asset Growth, Stock Price Volatility.

INTRODUCTION

Stock exchanges and capital markets play a crucial role in driving a country's economic growth, though developing nations still lag behind wealthy countries in capital market development and are encouraged to accelerate it to attract more investors. Amidst this, the mining industry has emerged as an attractive investment sector due to ongoing global reliance on fossil fuels and minerals like gold, serving as a strategic source of exports and state revenue. However, events such as the COVID-19 pandemic, global geopolitics, and the energy transition triggered severe price fluctuations between 2020

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and 2024, making this export-oriented sector highly vulnerable to currency exchange rates and business fundamentals like asset growth and dividend policies.

Stock price volatility is a term used to describe changes in stock values. Ullah et al. (2015) state that stock price volatility is a metric used to evaluate the level of stock risk. According to Priana and Muliartha (2017), high stock price volatility indicates that upward and downward movements can occur rapidly. Two categories of factors that can impact stock price volatility or price spikes are macro and micro variables. According to this analysis, currency exchange rates, firm size, asset growth, dividends, and earnings volatility are some of the factors that influence stock price volatility.

Dividend Yield is a ratio that compares the amount of dividend per share to the market price of the stock (Putri, 2020). A high dividend yield is often used as a signal by investors that a company has a healthy cash flow and is capable of distributing finances periodically. For some investors, this ratio becomes a distinct attraction in assessing the level of investment return, although on the other hand, a high dividend policy also needs to be weighed against the company's potential future asset growth.

One of the measures used to describe the scale of a company is firm size. Large companies will engage in a broader range of activities, which will enhance the public's ability to obtain information about the company. Increased information accessibility can reduce stock price volatility (Selpiana and Badjra, 2018). t several mining companies experienced changes in their stock price volatility from 2020 to 2024. PT Aneka Tambang Tbk (ANTM) experienced high volatility of 0.15% in 2020, which then decreased in the following year. In 2020, PT Bayan Resources Tbk (BYAN) experienced volatility of 0.06%, which subsequently increased to 0.14% and 0.36% in 2021 and 2022, respectively, before declining in the following year. According to the statistics above, several companies continuously maintained high levels of volatility in certain years, indicating that there is a high probability of stock price increases and decreases during periods of high volatility (Nasution, 2021).

Based on the title and background described above, this study aims to examine and analyze the effect of Dividend Yield, Firm Size, Exchange Rate, and Asset Growth on stock price volatility in mining companies listed on the Indonesia Stock Exchange for the 2020–2024 period, both partially and simultaneously.

LITERATURE REVIEW

The Effect of Dividend Yield on Stock Price Volatility

Current stock prices, which indicate how much a company can pay in dividends to investors, can be used to determine the dividend yield (Syarifah et al., 2018). The fact concerning dividend policy relates to signaling theory; according to Jannah and Haridhi (2016), it informs investors about the company's long-term performance and attracts

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them to invest in its shares, which increases the demand for the stock and, ultimately, its value. As a consequence, both investment risk and stock price volatility decrease. A company's profitability is more strongly indicated by the size of its dividend payments. Research regarding the effect of dividend yield on stock price volatility conducted by Al-Qudah and Yusuf (2015) found that dividend yield has a significant effect on stock price volatility. Similar results were also obtained in a study conducted by Chaudhry et al. (2015).

The Effect of Firm Size on Stock Price Volatility

According to Patriadjati (2017), firm size can be classified using a scale that considers total assets or sales value. Compared to small businesses, large companies usually enjoy easier market access and greater financial flexibility, which helps lower stock price volatility. This statement is consistent with the critical resource hypothesis, which argues that a company's profitability increases along with its size. This reduces corporate risk and helps mitigate the volatility of its stock price. Patriadjati (2017) found in their research that firm size has a significant effect on stock price volatility, a finding also supported by studies conducted by Qudah and Yusuf (2015), as well as Andiani and Gayatri (2018).

The Effect of Exchange Rate on Stock Price Volatility

Safrani and Kusumawati (2022) state that the exchange rate is a crucial price from an international perspective. This is driven by the fact that continuous contracts and other macroeconomic factors are heavily influenced by exchange rates. Given that the exchange rate is a component of asset pricing, the rules governing it are identical to those of asset prices. Stock price volatility arises from exchange rate fluctuations, which affect the stability required to fulfill a company's operational needs or to substitute investors' investment objectives. Research on the effect of exchange rates on stock price volatility conducted by Maslan (2015) and Yulianto (2015) concluded that exchange rates affect stock price volatility.

The Effect of Asset Growth on Stock Price Volatility

Gayatri and Artikanaya (2020) state that a company's prospective level can be linked to asset growth. Businesses with rapid asset expansion will invariably manage their production activities more effectively. The projected operational results of a company increase in tandem with its asset size. Investor confidence in the company's future prospects will be further reinforced by the growth of operating income that accompanies asset growth. Investors will hold onto their stocks longer without selling them if they have greater confidence in the company. More stable stock prices can be a

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reflection of this investor reaction, thereby reducing the company's stock price volatility. Artikanaya and Gayatri (2020) found that asset growth influences stock price volatility, which is consistent with research conducted by Mustika (2018).

RESEARCH METHODOLOGY

Through the website www.idx.co.id, the mining sector of the Indonesia Stock Exchange (IDX) serves as the research location for this study during the 2020–2024 research period. Juliansyah (2016) explains that quantitative research is a way to prove specific theories by checking the connection between variables or describing a situation objectively using numbers, starting with data collection, interpretation, presentation, and results. This study uses quantitative techniques and is classified as associative research. This study uses a sampling strategy called purposive sampling. The following population and sample were applied in this study:

Table 2: Sample Selection Criteria

No.	Descriptions	Total
1.	Mining sector companies listed on the Indonesia Stock Exchange during the 2020–2024 period.	63
2.	Mining sector companies that did not regularly issue financial reports during the 2020–2024 research period.	(13)
3.	Mining sector companies that did not distribute dividends between 2020 and 2024.	(35)
Number of Research Samples		**15**
Total Research Samples (15 companies X 5 years)		**75**

The source of the financial reports can be found by visiting www.idx.co.id, the official website of the Indonesia Stock Exchange. The data analysis technique uses multiple linear regression analysis.

RESULTS AND DISCUSSION

Classical Assumption Test

Normality Test

Normality testing is carried out through two approaches, namely the graphical approach

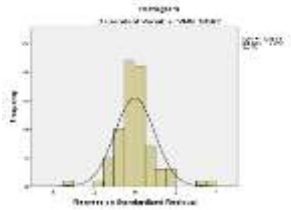


Figure 2: Histogram

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Based on Figure 2, it is found that the data being tested forms a pattern close to a bell-shaped distribution, indicating that the data is normally distributed.

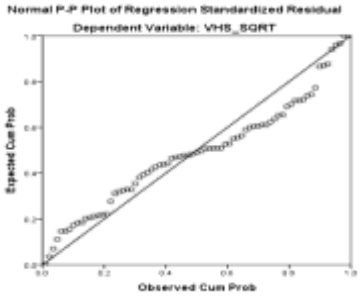


Figure 3: P-P Plot

Based on Figure 3, it is found that the data being tested moves along and close to the diagonal line, so it can be stated that the data is normally distributed.

Table 3. Uji One Sample Kolmogorov-Smirnov

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			75
Normal Parameters[a,b]		Mean	0E-7
		Std. Deviation	.10804852
Most Differences	Extreme	Absolute	.130
		Positive	.130
		Negative	-.086
Kolmogorov-Smirnov Z			1.128
Asymp. Sig. (2-tailed)			.157

a. Test distribution is Normal.
b. Calculated from data.

Based on Table 3., it is found that the one-sample Kolmogorov-Smirnov test shows a sig value >0.05, which is 0.157, indicating that the data is normally distributed.

Multicollinearity Test

Based on Table 4, it shows that the tolerance values for X1 (0.877), X2 (0.930), X3 (0.920), and X4 (0.952) are > 0.100, and the VIF values for X1 (1.140), X2 (1.075), X3 (1.087), and X4 (1.050) are < 10.00, indicating that the data does not experience multicollinearity.

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Table 4. Multicollinearity Test

Coefficients[a]

Model	Collinearity Statistics	
	Tolerance	VIF
DY_SQRT	.877	1.140
FS_SQRT	.930	1.075
NT_SQRT	.920	1.087
AG_SQRT	.952	1.050

a. Dependent Variable: VHS_SQRT

Heteroscedasticity Test



Figure 4: Scatterplot

Based on Figure 3.3, it is found that the data points do not form a specific pattern and are spread out, so it can be stated that there is no indication of heteroscedasticity.

Autocorrelation Test

Based on Table 4, the Durbin-Watson autocorrelation result reaches 2.254 with a sample size of 75 and 4 independent variables. It is understood that dL is 1.5151 and dU is 1.7390, and 4 - dU (4 - 1.7390) yields 2.261. Thus, we obtain 1.5151 < 2.254 < 2.261, from which it can be concluded that there is no autocorrelation in the data.

Table 5. Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.697[a]	.486	.456	.11109	2.254

a. Predictors: (Constant), AG_SQRT, NT_SQRT, FS_SQRT, DY_SQRT
b. Dependent Variable: VHS_SQRT

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Multiple Linear Analysis

Table 6. Multiple Linear Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.279	.611		7.005	.000
DY_SQRT	.061	.052	.106	1.155	.252
FS_SQRT	-.040	.090	-.040	-.450	.654
NT_SQRT	-.032	.004	-.703	-7.867	.000
AG_SQRT	.088	.044	.177	2.011	.048

Based on Table 6, the following formula is obtained:

$Y = 4.279 + 0.061\ X_1 - 0.040\ X_2 - 0.032\ X_3 + 0.088\ X_4 + e$

1. The constant is 4.279, which indicates that if Dividend Yield (X_1), Firm Size (X_2), Exchange Rate (X_3), and Asset Growth (X_4) are equal to 0, then the Stock Price Volatility (Y) value is 4.279.
2. The Dividend Yield coefficient (X_1) is 0.061, which indicates that every unit increase in the dividend yield variable will increase the value by 0.061.
3. The Firm Size coefficient (X_2) is -0.040, which indicates that every unit increase in the firm size variable will decrease the value by 0.040
4. The Exchange Rate coefficient (X_3) is -0.032, which indicates that every unit increase in the exchange rate variable will decrease the value by 0.032.
5. The Asset Growth coefficient (X_4) is 0.088, which indicates that every unit increase in the asset growth variable will increase the value by 0.088.

Hypothesis Testing

Partial Hypothesis Testing (t-test)

Based on Table 6, the coefficient value for each variable as follows:

1. The t-count value for the Dividend Yield variable (X_1) is (1.155) < t-table (1.99444) and Sig (0.252) > 0.05, so it is concluded that Dividend Yield has no effect and is not significant on Stock Price Volatility (Y).
2. The t-count value for the Firm Size variable (X_2) is (-0.450) < t-table (1.99444) and Sig (0.654) > 0.05, so it is concluded that Firm Size has no effect and is not significant on Stock Price Volatility (Y).

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3. The t-count value for the Exchange Rate variable (X_3) is (-7.867) > t-table (1.99444) and Sig (0.000) < 0.05, so it is concluded that the Exchange Rate has a significant negative effect on Stock Price Volatility (Y).
4. The t-count value for the Asset Growth variable (X_4) is (2.011) > t-table (1.99444) and Sig (0.048) < 0.05, so it is concluded that Asset Growth has a significant effect on Stock Price Volatility (Y).

Simultaneous Hypothesis Testing (F-test)

Table 7. F Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.815	4	.204	16.517	.000[b]
	Residual	.864	70	.012		
	Total	1.679	74			

a. Dependent Variable: VHS_SQRT
b. Predictors: (Constant), AG_SQRT, NT_SQRT, FS_SQRT, DY_SQRT

Based on Table 7, the calculated F-value (16.517) > F-table (2.503) and Sig (0.000) < 0.05. Therefore, it is concluded that Dividend Yield (X_1), Firm Size (X_2), Exchange Rate (X_3), and Asset Growth (X_4) simultaneously have a significant effect on Stock Price Volatility (Y).

Coefficient of Determination

Based on Table 5, the percentage of variation in the Stock Price Volatility variable (Y) that can be explained by the variables Dividend Yield (X_1), Firm Size (X_2), Exchange Rate (X_3), and Asset Growth (X_4) is 45.6% or 0.456, with other variables outside the regression model explaining the remaining 54.4%.

DISCUSSION

The Effect of Dividend Yield on Stock Price Volatility

With a calculated t-value (1.155) < t-table (1.99444) and Sig (0.252) > 0.05, the t-test results show that dividend yield has no effect on stock price volatility. The magnitude of the dividend yield does not affect stock price volatility because stock prices are primarily driven by external factors such as macroeconomic conditions and changes in government policy. Furthermore, investors tend to focus more on profit growth potential, market expansion, and the overall rate of return on their invested capital rather than merely the comparison between the dividend and their initial investment.This is in

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accordance with studies conducted by Christy and Azhari (2019), Jasselyn and Edi (2021), which provide empirical evidence that dividend yield has no effect on stock price volatility.

The Effect of Firm Size on Stock Price Volatility

Viewed from the t-statistic test results, it shows that firm size has no effect on stock price volatility with a calculated t-value (-0.450) < t-table (1.99444) and Sig (0.654) > 0.05, meaning that the size of a company (firm size) has no effect on stock price volatility if the market operates efficiently and information is evenly available to all market participants. This view is based on the idea that stock price volatility is merely a reflection of future cash flow uncertainty or the systematic risk inherent in an asset. In a modern financial perspective, investors tend to make assessments based on fundamental quality and a company's growth prospects, meaning both large and small companies can experience similar price fluctuations when facing the same information shock or macroeconomic changes.This explanation is consistent with research studies conducted by Ivan and Yuyun (2017), and Mayowa and Fredrick (2022), which obtained empirical evidence that firm size has no effect on stock price volatility.

The Effect of Exchange Rate on Stock Price Volatility

Based on the t-statistic test results, it shows that the exchange rate has a significant negative effect on stock price volatility with a calculated t-value (-7.867) > t-table (1.99444) and Sig (0.000) < 0.05, meaning that the more stable or stronger the exchange rate, the lower the level of stock price volatility will be. This is because the strengthening of the exchange rate provides a positive sentiment for issuers that rely on imported components and foreign currency debt, thereby reducing market risk and making stock prices more stable. This explanation is in line with research conducted by Nova and Hadi (2025), which provides empirical evidence that the exchange rate has a negative effect on stock price volatility.

The Effect of Asset Growth on Stock Price Volatility

In accordance with the t-statistic test results, it shows that asset growth has an effect on stock price volatility with a calculated t-value (2.011) > t-table (1.99444) and Sig (0.048) < 0.05, meaning that the faster a company expands its assets, the higher the stock price volatility in the market becomes. Aggressive asset growth often increases investor uncertainty regarding future earnings. High asset growth triggers volatility due to funding risks and information asymmetry. Investors tend to react more sensitively to rapidly growing companies because of the uncertainty over whether the expansion will succeed or vice versa. This is consistent with a research study conducted by Sustari and

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Eni (2022), which provides empirical evidence that asset growth affects stock price volatility.

CONCLUSION

Based on the analysis and discussion conducted, it can be concluded that partially, Dividend Yield (X_1) and Firm Size (X_2) have no effect on stock price volatility in mining companies listed on the Indonesia Stock Exchange for the 2020–2024 period, whereas the exchange rate (X_3) and Asset Growth (X_4) do have an effect. Simultaneously, Dividend Yield (X_1), Firm Size (X_2), exchange rate (X_3), and Asset Growth (X_4) all together significantly affect stock price volatility in mining companies listed on the Indonesia Stock Exchange for the 2020–2024 period.

The research findings, companies are advised to focus more on risk management such as global commodity prices, government regulations, and market conditions while continuing to invest in innovation and operational efficiency to enhance investor appeal, given that the majority of stock price volatility is influenced by external factors. Meanwhile, future researchers are encouraged to expand the scope of the study by incorporating additional variables (such as commodity prices, interest rates, market sentiment, and stock liquidity), extending the study period beyond the 2020–2024 range to reduce pandemic-related bias, and conducting case studies on individual mining subsectors to better understand specific volatility factors.

REFERENCES

Alqudah, A., & Yusuf, A. (2016). Stock Price Volatility and Dividend Policy in Jordanian Firms. *Research Journal of Finance and Accounting*, 6(22): 149-159.

Artikanaya, Rama, I. K., & Gayatri. (2020). Pengaruh Asset Growth, Leverage, dan Dividend Payout Ratio pada Volatilitas Harga Saham. *E-journal Akuntansi* , 30(5): 1270-1282.

Chaudry, S. N., Iqbal, S., & Butt, M. (2016). Dividend Policy, Stock Price Volatility & Firm Size Moderation: Investigation of Bird in Hand Theory in Pakistan. *Research Journal of Finance and Accounting*, 6(23):16-19.

Christy, D., & Azhari, M. (2019). Pengaruh Kebijakan Dividen Terhadap Volatilitas Harga Saham (Studi Kasus Pada Perusahaan Manufaktur Yang Terdaftar di Bursa Efek Indonesia Periode 2014-2018). *eProceedings of Management*, 6(2).

Jannah, Raudhatul, & 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 (JIMEKA)*, 1(1):133-148,.

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Jasselyn, J., & Edi, E. (2021). Analisis Pengaruh Dividend Yield, Dividend Payout, Ukuran Perusahaan, Volatilitas Laba dan Leverage terhadap Volatilitas Harga Saham. *In CoMBInES-Conference on Management, Business, Innovation, Education and Social Sciences*, 1220-1233.

Juliansyah Noor, S. (2016). *Metodologi Penelitian: Skripsi, Tesis, Disertasi & Karya Ilmiah.* Prenada Media.

Maslan. (2015). Pengaruh Inflasi, Nilai Tukar, dan Suku Bunga SBI Terhadap Volatilitas Harga Saham (Studi pada Perusahaan yang terdaftar dalam Indeks LQ45 Periode 2008-2012). *Jurnal Manajemen Keuangan* , 9(3).

Mustika, J. (2018). *Faktor-Faktor Yang Mempengaruhi Volatilitas Harga Saham.* Skripsi: Fakultas Ilmu Ekonomi dan Bisnis, Institut Informatika dan Bisnis Darmajaya.

Patriadjati, R. (2017). Analisis Dampak Penentuan Dividend Yield, Firm Size, Growth In Assets dan Earninig Volatility Pada Stock Price Volatillity: Perusahaan-Perusahaan yang Menerbitkan Sekuritas Dalam Bursa Efek Indonesia. *Skripsi: Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Yogyakarya*.

Priana, I., & Ketut, M. (2017). Pengaruh Volume Perdagangan Saham, Leverage, Dan Dividend Payout Ratio pada Volatilitas Harga Saham. *E-Jurnal Akuntansi*, 2017(1),1-29.

Putri, A. F. (2020). Faktor- Faktor Penentu Volatilitas Harga Saham Sektor Perusahaan Properti, Real Estate dan Building Construction. *Jurnal Akuntansi dan Keuangan*, 109-118.

Safrani, D., & Kusumawati, E. (2022). Pengaruh Volume Perdagangan Saham, Dividend Yield, Earning Volatility, Firm Size, dan Nilai Tukar Terhadap Volatilitas Harga Saham (Studi Empiris Perusahaan yang Terdaftar Indeks LQ45 Periode 2016-2020). *Eqien-Jurnal Ekonomi dan Bisnis*, 9(2), 123-134.

Syarifah, N., Sofia, M., Nurhasanah, N., & Kusasi, F. (2018). Pengaruh Dividend Payout Ratio, Dividend Yield, Ukuran Perusahaan, Volume Perdagangan, Nilai Tukar, Inflasi, dan Tingkat Suku Bunga Terhadap Volatilitas Harga Saham pada Perusahaan Manufaktur Yang Tercatat di Bursa Efek Indonesia Tahun 2012-2016. *Bahtera Inovasi*, 2(1), 73-82.

Ullah, H., Saqib, S. e., & Usman, H. (2015). The Impact of Dividend Policy on Stock Price Volatility: A Case Study of Selected Firms from Textile Industry in Pakistan. *International Journal of Academic Research in Economics and Management Sciences*, 4(3): 40-51.

Yulianto, D. (2015). Pengaruh Kinerja Perusahaan dan Variabel Makroekonomi Terhadap Harga Saham Sektor Perbankan. *Jurnal Ilmiah Universitas Brawijaya*.

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