Efficient Vol 8 (1) (2025): 28-37 DOI: https://doi.org/10.15294/efficient.v8i1.19353

EFFICIENT

Indonesian Journal of Development Economics

https://journal.unnes.ac.id/sju/index.php/efficient

Determinant of Stock Prices for Nickel Companies in Indonesia

Eka Puspitawati✉, Fakhrur Rozi, Muhammad Royhan Alamsyah

Faculty of Economics and Business, Universitas Pertamina

Permalink/DOI: https://doi.org/10.15294/efficient.v8i1.19353

Submitted: July 2024; Revised: October 2024; Accepted: January 2025

Abstract

Nickel plays a vital role as a key component in battery production, making it one of the most lucrative subsectors today. The growing public interest in electric vehicles and renewable energy has driven the high demand for nickel, while also increasing attention on publicly listed nickel processing companies. This research aims to explore the factors influencing the stock prices of nickel companies listed on the Indonesia Stock Exchange (IDX). The factors examined include Total Asset Turnover Ratio (TATO), Return on Equity (ROE), Net Profit Margin (NPM), Debt to Equity Ratio (DER), Price to Earnings Ratio (PER), Price to Book Value (PBV), and Earnings Per Share (EPS). Using data from three Indonesian nickel companies spanning Q1 2014 to Q3 2022, this study employs panel data analysis. The findings indicate that ROE, DER, PBV, and EPS significantly affect the stock prices of Indonesian nickel companies. It is recommended that these companies invest in smelters to enhance the added value of nickel commodities and align with downstream industry policies.

Keywords: Stock Price; Nickel; Companies; Data Panel

How to Cite: Determinant of Stock Prices for Nickel Companies in Indonesia. (2025). Efficient: Indonesian Journal of Development Economics, 8(1), 28-37. https://doi.org/10.15294/efficient.v8i1.19353

✉ Correspondence Address :
Address: Universitas Pertamina, Kebayoran Lama, Jakarta Selatan, 122201, Indonesia
E-mail : eka.p@universitaspertamina.ac.id

INTRODUCTION

In 2020 there was an economic recession in Indonesia with negative growth of 3.49% in the third quarter (Statistics Indonesia, 2020). However, there was an increase in economic growth in 2021 of 3.69%, and in this case, the mining sector played an important role in the increase in commodity prices during 2021, contributing 8.98% of the total Gross Domestic Product (GDP), with a growth of 4% compared to the previous year (Kusnandar, 2022a). Currently, Nickel, which is an important

component in making batteries, is a very profitable subsector. The increasing public interest in electric vehicles is one of the causes of the high demand for nickel for electric vehicles. So that there is an upward trend in nickel commodity prices to touch 32,171.8 USD / ton in 2022 which can be seen in figure 1.

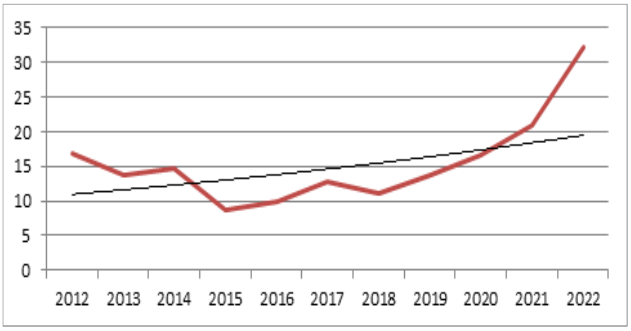

Figure 1. World Nickel Commodity Prices (Thousand USD/ton) 2012-2022
Source: Tradingeconomics (2022)

Indonesia is the world's largest nickel producer, benefiting from rising nickel commodity prices. Indonesia has nickel reserves of around 32.7% in the world (Setiawan, 2022). This has great potential for Indonesia's nickel availability. Data from Kementerian ESDM (2021), Indonesia's nickel resources are about 11,887 million tons. In 2020, nickel commodity exports were valued at USD 794.5 million, in 2021 it increased to 63.62% with a value of USD 1.3 billion, and in 2022 there was a significant increase of 230.76% to USD 4.1 billion (Kusnandar, 2022b).

Nickel resources in Indonesia are currently managed by various parties, both private companies and state-owned companies. The current high demand for nickel commodities is the right time for the Company to optimize its corporate performance. It can be seen in Figure 2. the stock price history of 5 nickel companies in Indonesia (two more companies have no data available from 2018), that the increase in nickel commodity prices was followed by a stock prices increase owned by Indonesian nickel companies. People who are interested in investing in the stock market get a significant profit opportunity through the positive performance of nickel firms registered by the Indonesia Stock Exchange (IDX).

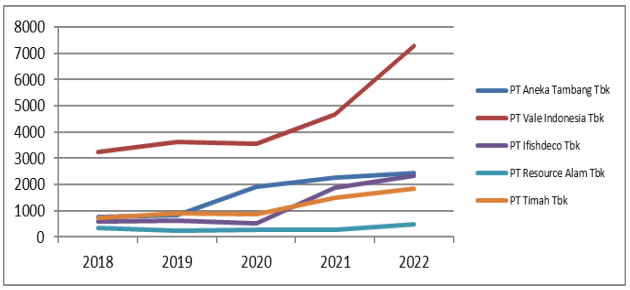

Figure 2. Share Prices of Nickel Companies in 2018-2022
Source: Google Finance (2022)

The capital market is a crucial indicator of a country's economic development. It undertakings as a source of additional funding, making it one of the key elements of economic progress (Satyatama & Sumantyo, 2017). Firms that gain funds from the public can sell some of their shares to develop their business. There is a great opportunity for the benefits that can be obtained from the capital market, which can attract the interest of the Indonesian people to invest, especially in stocks.

In the past four years, number of stockholders in Indonesia has significantly went up. In 2021 there was an increase of 103.6%, where the number of investors rose from 1.69 million to 3.45 million people (Statistics Indonesia, 2020). Covid-19 pandemic was one of the reasons why many people were interested in stocks for additional income. Stock prices are

divided into three categories, namely nominal prices, initial prices, or prices when the company conducts an Initial Public Offering (IPO), and market prices which are the selling prices of shares between investors in the secondary market (Sivilianto & Endri, 2019).

Prices of stocks are essential for stockholders because they can reflect information on fluctuations in supply and demand for company shares. If investors buy a lot of shares of a company, the price of the shares will rise, while if investors sell more shares, the stock price will fall (Melati & Suselo, 2022).

Martina (2019) found that stock prices are affected by demand and supply in stock markets, where if the demand for shares exceeds its supply, the stock price will rise, and if the supply exceeds the demand, the stock price will fall. This is in line with economic theory regarding supply and demand. The prices of shares traded in the stock markets are based on the agreement between demand and supply in the stock markets.

Several companies in the nickel sub-sector are listed on the Indonesia Stock Exchange (IDX), including PT Vale Indonesia Tbk (INCO), PT Aneka Tambang Tbk (ANTM), PT Ifishdeco Tbk (IFSH), PT Central Omega Resources Tbk (DKFT), PT Timah Tbk (TINS), PT Resource Alam Indonesia Tbk (KKGI), and PT PAM Mineral Tbk (NICL) (Stockbit, 2022). Moreover, investors must acknowledge the potential risks of incurring losses. An investor's capability to evaluate stock prices plays a critical role in determining the success or failure of their future investments.

Profitability ratios are tools used to assess a company's ability to generate profits, enabling investors to evaluate the potential gains and losses from the stocks they select. These ratios include Net Profit Margin (NPM), Return on Equity (ROE), and Total Asset Turnover Ratio (TATO). ROE shows a significant negative relationship with stock prices, while NPM demonstrates a positive and significant correlation with stock prices. Similarly, TATO also exhibits a positive and significant relationship with stock prices, aligning with the findings for NPM (Saiman & Raymond, 2020).

The solvency ratio, Debt to Equity Ratio (DER), measures a company's capacity to fulfill its debt obligations. A significant negative relationship exists between DER and stock prices, indicating that an increase in DER leads to a decline in the company's stock prices (Ratih et al., 2013). Moreover, market value ratios such as Price to Earnings Ratio (PER), Earnings per Share (EPS), and Price to Book Value (PBV) are employed to evaluate stock prices. Research by Alam et al. (2016) and Melati & Suselo (2022) found that PER and EPS have a significant positive impact on stock prices, while PBV also demonstrates a positive and significant correlation with stock prices.

Investors are encouraged to conduct thorough analyses of the factors that influence fluctuations in the stock prices of Indonesian nickel companies. This is essential for maximizing profits and minimizing losses in the stock market. The topic remains highly relevant due to the ongoing phenomena and the limited number of studies examining the determinants of stock prices in Indonesian nickel companies.

RESEARCH METHODS

This study utilizes data samples from nickel companies listed on the Indonesia Stock Exchange (IDX), providing comprehensive data from Q1 2014 to Q3 2022 for panel data analysis.

Number of observation is 105. The selected period aims to ensure a normal distribution of data.

The purposive sampling method was employed to determine the company data samples. Out of seven listed nickel companies, three were selected for this study: PT Vale Indonesia Tbk (INCO), PT Aneka Tambang Tbk (ANTM), and PT Mitra Energi Persada Tbk (KKGI). The selection was based on several indicators, primarily the availability of company data.

Table 1. Market Capitalization of Nickel Companies listed on the IDX

No	Companies	Market Capitalization (Trillion IDR)	Presentation
1	PT Aneka Tambang Tbk (ANTM)	49,98	37,16 %
2	PT Vale Indonesia Tbk (INCO)	67,32	50,05 %
3	PT Central Omega Resources Tbk (DKFT)	0,67	0,5 %
4	PT Ifishdeco Tbk (IFSH)	2,75	2,04 %
5	PT Resource Alam Indonesia Tbk (KKGI)	1,99	1,47 %
6	PT Timah Tbk (TINS)	8,86	6,58 %
7	PT PAM Mineral Tbk (NICL)	2,92	2,17 %
	Total	134,49	100 %

Source: Google Finance (2023)

These three companies were chosen because they represent nickel firms listed on the IDX, with a combined market capitalization accounting for 88.69% of the total market capitalization of all nickel companies. ROE reflects the efficiency of a company's capital utilization, where a higher ROE ratio indicates greater efficiency in generating substantial profits. Conversely, a low ROE ratio signals inefficiencies in capital use within the company, as described by Nuryadin & Putri (2021). The formula for ROE is provided by Ajaib (2022):

$$\text{Return in Equity (ROE)} = \frac{\text{Net profit}}{\text{Total equity}}$$

Net profit margin is a ratio revealing how much the firm's net income after tax which hits the firm's total sales. The higher NPM values, the better firm's performances (Nikmah et al., 2021). A high NPM value implies that a company generates a large net profit, which in turn can result in a raise of company's stock price (Wahyu & Mahfud, 2018). NPM formula follows Ajaib (2022):

$$\text{Net Profit Margin (NPM)} = \frac{\text{Net profit}}{\text{Total sales}}$$

Total Asset Turnover Ratio (TATO), according to Dini et al. (2021), is a ratio showing how effective assets owned by a company in generating income. The higher value of total asset turnover ratio indicates the company operating efficiently.

$$\text{Total Asset Turnover Ratio (TATO)} = \frac{\text{Total sales}}{\text{Total asset}}$$

Debt to Equity Ratio (DER) is a ratio measuring a proportion of company's debt to equity or capital owned by a firm (Melati &

Suselo, 2022). Kayobi & Anggareani (2015) explain that DER is a ratio between amount of company debt and the company's own capital. The higher DER value, the smaller proportion of capital owned by the company compared to its debt.

$$\textit{Debt to Equity Ratio}\ (\text{DER}) = \frac{\text{Total debt}}{\text{Total equity}}$$

Price to earnings ratio or PER is a ratio comparing a company's stock price in a certain period with earnings per share. From the investors opinion, the higher PER value, the higher company's value, because it indicates a healthy company performance (Nopiyanti & Darmayanti, 2016). PER is attained from comparing the company's stock price with earnings per share (EPS).

$$\textit{Price to Earnings Ratio}\ (\text{DER}) = \frac{\text{Share price}}{\text{Earnings per share}}$$

Price to book value (PBV) is one of the market ratios used to evaluate the performance of stock prices against the company's book value. This ratio measures the ratio between the stock market value and the book value per share. According to Adista (2020), PBV can show how effective the company is in generating added value for investors compared to the capital that has been invested.

$$\textit{Price to Book Value}\ (\text{PBV}) = \frac{\text{Share price}}{\text{Book value}}$$

Earnings per share (EPS) is a ratio applied for evaluating total profit earned by a company for each share of common stock issued (Wahyu & Mahfud, 2018). The greater the EPS value, the greater the income earned from each share invested. According to Hutami (2020), the company's capability to deliver a high EPS which shows the company can create profits and provide benefits for investors.

$$\textit{Earning per Share}\ (\text{EPS}) = \frac{\text{Net profit}}{\text{Number of shares outstanding}}$$

This study utilizes a panel data analysis model. It is a combination of cross section and time series data, and consisting of several individuals observed in a certain period. There are n number of individuals (i=1, 2...., N), and t time periods (t=1, 2, ..., t), the total observations in the study are n x t (Srihardianti et al., 2016). The panel data provides the advantage of considering the diversity that occurs in cross section units.

$$HS_{it} = \alpha + \beta_1 ROEit + \beta_2 NPM_{it} + \beta_3 TATO_{it} + \beta_4 DER_{it} + \beta_5 PER_{it} + \beta_6 PBV_{it} + \beta_7 EPS_{it} + \varepsilon_{it}$$

Which HS is Share price of nickel companies; ROE is *Return on Equtiy*; NPM is *Net Profit Margin*; TATO is *Total Asset Turnover Ratio*; DER is *Debt to Equity Ratio*; PER is *Price to Earning Ratio*; PBV is *Proce to Book Value*; *EPS is* Earning per Share; β is *Slope*; ε is *Component error*; *i is* Companies; t is Quarterly and α is *Intercept*.

Wooldridge (2019) divides the model structure in panel data analysis into three, namely fixed effect (fe), random effect (re), and pooled regression, based on the forming factors. The three selection methods, Chow, Lagrange Multiplier, and Hausman test, are undertaken in order to choose the best model.

The Chow test is used to determine the most suitable model between the Common Effect Model (CEM) and the Fixed Effect Model (FEM). If the F-probability value is less than the alpha threshold of 0.05, Ho is rejected,

indicating that the Fixed Effect Model is the best choice. The Lagrange Multiplier test is applied to choose the optimal model between the Random Effect Model (REM) and the Common Effect Model (CEM). If the F-probability value is less than 0.05, Ho is rejected, suggesting that the Random Effect Model is the most appropriate.

The Hausman test is employed to decide the better model between the Fixed Effect Model (FEM) and the Random Effect Model (REM). If the F-probability value is below 0.05, Ho is rejected, indicating that the Fixed Effect Model is the selected model.

RESULTS AND DISCUSSION

The final model identified in this study is the Random Effect Model. This model was selected based on the results of the Chow test, where the F-probability value (0.0000) was less than the alpha threshold (0.05), leading to the selection of the Fixed Effect Model over the Common Effect Model.

Table 2. Random Effect Model Regression Results

Share Price	***Coef.***	***Std. Error***	**Z**	**P>|z|**	**95% *Coef. Interval***	
ROE	-17092,24	3568,49	-4,79	0,000*	-24086,36	-10098,11
NPM	974,11	1980,57	0,49	0,623	-2907,73	4855,97
TATO	-2295,35	2729,41	0,84	0,400	-7644,90	3054,19
DER	-1659,07	484,08	-3,43	0,001*	-2607,87	-710,27
PER	-2,9	2,94	-0,99	0,324	-8,67	2,86
PBV	902,24	2,28	8,41	0,000*	514,27	23,72
EPS	19,24	2,28	8,41	0,000*	14,75	23,72
_cons	1161,5	296,56	3,92	0,000	580,24	1742,76

* = Significant at 5% alpha

Source: Data processed, 2024

HS = 1161,05 – 17092,24 ROE + 974,11 NPM – 2295,35 TATO – 1659,07 DER – 2,9 PER + 902,24 PBV + 19,24 EPS + ε

Additionally, the Hausman test was conducted, revealing that the F-probability value (0.9938) exceeded the alpha threshold (0.05). Consequently, the Random Effect Model was deemed more suitable than the Fixed Effect Model for application. As stated by Endri et al. (2021), the coefficient of determination (R^2) can be used to measure the extent to which independent variables influence the dependent variable. The estimation results of the Random Effect Model indicate that ROE, NPM, DER, PER, PBV, TATO, and EPS collectively account for 65.46% (R^2 overall = 0.6546) of the variance in the stock prices of Indonesian nickel companies listed on the IDX.

The model has also been tested to meet the Best Linear Unbiased Estimator (BLUE) criteria which including multicollinearity, heteroscedasticity, and autocorrelation tests. Normality tests were not necessary for data panel if the number of observations was more than 30, because the sampling distribution of the error term has approached normal (Gujarati & Porter, 2009).

Because the Variance Inflation Factor (VIF) value for each independent variable was less

than 10, with an average VIF of 2.62, the model was free from multicollinearity problems. By using the Wald test, a probability value (Prob>Chi2) of 0.070 was produced, which was greater than alpha 5%, so it was concluded that the model did not have a heteroscedasticity problem.

Meanwhile, the autocorrelation test using the Wooldridge test found that the prob>f value was 0.3851 which was greater than the 10% significance level, so the result was not to reject Ho, or it was concluded that the selected model did not indicate autocorrelation problems. A t-test is performed on each regression coefficient in the random effect model in order to evaluate impacts of each independent variable on dependent variable partially.

In the t-test, p-value of each independent variable is compared with the significance level or alpha 0.05 (Sivilianto & Endri, 2019). From the model estimation results, it can be concluded that the ROE, DER, PBV, and EPS variables have a partially significant correlation with stock prices. Meanwhile, the variables NPM, TATO, and PER do not have partially significant effects on the stock prices.

Impact of Return on Equity (ROE) on Stock Price. The regression results indicate that ROE has a coefficient value of -17,092.24 and a p-value of 0.000, which is less than the alpha threshold of 0.05. This signifies that ROE has a significant negative effect on stock prices. For every one-unit increase in ROE, the stock price decreases by 17,092.24 units.

This outcome contradicts the initial research hypothesis, which proposed a positive and significant relationship between ROE and stock prices. The negative correlation may be attributed to the inefficient utilization of capital by nickel companies listed on the IDX in generating net income. The nickel industry in Indonesia typically requires substantial initial capital and an extended period to achieve profitability. This result aligns with previous studies conducted by Romadhan & Satrio (2019), Dewi & Suwarno (2022), and Permatasari et al. (2019), which also found a significant negative relationship between ROE and stock prices.

Impact of Debt-to-Equity Ratio (DER) on Stock Price. Based on the regression results in this study, DER has a coefficient value of -2.904 and a p-value of 0.001, which is smaller than the alpha level of 0.05. This demonstrates that the DER variable has a significant and negative impact on stock prices.

Specifically, a one-unit increase in the debt-to-equity ratio of nickel companies results in a decrease in stock prices by 2.904 units. This outcome suggests that a higher DER indicates a greater proportion of debt compared to equity, leading to increased risk for investors. As such, a lower debt composition reflects a healthier financial condition for the company.

These findings align with the initial hypothesis, which proposed that DER negatively and significantly influences stock prices. This conclusion is supported by prior research conducted by Endri et al. (2021), who found that the debt-to-equity ratio has a negative and significant effect on the stock prices of mining companies in Indonesia. Additionally, Putri (2018) also reported a similar correlation between these two variables.

Impact of Price to Book Value (PBV) on Stock Price. According to the regression results of this research, the PBV coefficient is 902.2413, and the p-value of 0.000 is smaller than the alpha level of 0.05. This indicates that PBV positively and significantly impacts stock prices. A one-unit increase in PBV leads to a rise in

stock prices by 902.24 units. This finding supports the initial hypothesis, which suggests a positive and significant relationship between PBV and stock prices. PBV measures the ratio of a company's market value to its book value, reflecting investor confidence and growth prospects.

The higher the pbv value, the more favorable the company's growth outlook and market trust in its shares. This increased confidence ultimately drives higher demand for the company's stock, resulting in an increase in its price. These findings are consistent with the research by Saputra et al. (2021), which concluded that a higher PBV significantly boosts stock prices. Furthermore, this correlation is supported by earlier studies conducted by Dewi & Suaryana (2013) and Jumhana (2016).

Impact of Earning per Share on Stock Price. Based on Table 2, it is found that the EPS variable has a coefficient of 19.24154 and a p-value of (0.000), while it is lower than α (0.05). This implies that EPS affects stock prices positively and significantly. Every one unit raise in earnings per stock will surge stock price about 19.24 units.

This result is consistent with the initial hypothesis, EPS affects stock price positively and significantly. Investment in companies along with a high EPS is expected to afford great benefits for investors because the higher EPS value, the greater profit earned by investors from each share invested.

Previous research have supported the relationship between EPS and stock price. A study done by Indah & Parlia (2017) shows that earning per stock has a positive effect significantly on stock prices. This outcome is also in line with outcomes from other studies, such as Munggaran et al. (2017). There are 3 out of 7 variables that do not have significant effects, namely NPM, TATO, and PER. For NPM and TATO variables related to profitability. It is suspected that they are not significant influencing because nickel companies' ups and downs revenues do not represent their net profits. The revenues are cut by high operational costs by nickel companies. This is parallel with a study managed by Wulandari et al. (2020).

Moreover, the Price to Earnings Ratio (PER) variable exhibits non-significant results. This can be attributed to the substantial variability in PER values among Indonesian nickel companies, ranging from -96 to 85, which falls outside the typical range of reasonable PER values, usually between 1 and 15. This observation is consistent with findings from a prior study conducted by Astuti et al. (2018).

CONCLUSION

The study reveals that several internal factors, including the Debt to Equity Ratio (DER), Return on Equity (ROE), Earnings Per Share (EPS), and Price to Book Value (PBV), significantly influence the stock prices of Indonesian nickel companies.

Notably, ROE exhibits a negative correlation with stock prices, indicating that these companies have been inefficient in allocating their capital to generate net income. Similarly, DER negatively impacts stock prices, as higher debt levels increase the financial risk of nickel firms, deterring investors.

On the other hand, PBV demonstrates a positive relationship with stock prices, as companies with higher PBV ratios tend to have better growth prospects, making them more appealing to investors. EPS also shows a positive correlation, as higher earnings per share translate to greater potential returns for

shareholders. Meanwhile, other variables such as Net Profit Margin (NPM), Total Asset Turnover (TATO), and Price to Earnings Ratio (PER) do not significantly affect stock prices.

To attract more investors, Indonesian nickel companies should focus on increasing their net profit and allocating a portion of it to shareholders. Additionally, maintaining a balanced composition of debt and equity is essential to reduce financial risks. Companies are also encouraged to invest in smelters to enhance the added value of nickel commodities and align with the government's downstream policy.

REFERENCES

Adista, G. J. (2020). Pengaruh NPM, ROA, ROE, DER, PBV, dan PER terhadap Harga Saham Syariah Perusahaan yang Terdaftar di Jakarta Islamic Index. Universitas Islam Negeri Sultan Syarif Kasim Riau, V (1), 1-97.

Ajaib. (2022, Mei 25). Ajaib: rumus-roe. Retrieved Januari 12, 2023 from Ajaib Web Site: https://ajaib.co.id/rumus-roe/

Alam, S., Miah, M. R., & Karim, M. A. (2016). Analysis on Factors that Affect Stock Prices: A Study on Listed Cement Companies at Dhaka Stock Exchange. Research Journal of Finance and Accounting, VII (18), 93-113.

Astuti, P., Sari, Y. L., & Reny, A. (2018). Analisis Pengaruh Return on Equity, Earning Per Share, Price to BookValue, Book Value Per Share, Price Earnings Ratio dan Kepemilikan Institusional terhadap Harga Saham Perusahaan. Jurnal Ekonomi, XX (2), 170-183.

Dewi, N. S., & Suwarno, A. E. (2022). Pengaruh ROA, ROE, EPS, dan DER terhadap Harga Saham Perusahaan LQ45 yang terdaftar di BEI Tahun 2016-2020. Seminar Nasional Pariwisata dan Kewirausahaan (SNPK), I (1), 472-482.

Dewi, P. D., & Suaryana, I. (2013). Pengaruh EPS, DER, dan PBV terhadap Harga Saham. E-Jurnal Akuntansi Universitas Udayana, IV (1), 215-229.

Dini, S., Hulu, Y. A., Zebua, M., & Purba, E. (2021). Pengaruh TATO, PBV, DER, dan ROE terhadap Return Saham. Jambura Economics Education Journal, III (2), 116-127.

Endri, E., Rinaldi, M., Arifian, D., Saing, B., & Aminudin, A. (2021). Oil Price and Stock Return: Evidence of Mining Companies in Indonesia. International Journal of Energy Economics and, XI (2), 110-114.

Google Finance. (2023, Februari 2). Finance: Google. Retrieved Februari 2, 2023 from GoogleWebSite:https://www.google.com/finance/quote/ANTM:IDX?sa=X&ved=2ahUKEwjX7tPa_LT9AhWM9nMBHTDhBjMQ3ecFegQIGRAg

Hutami, A. I. (2020). Pengaruh TATO, NPM, dan EPS terhadap Harga Saham pada perusahaan Sub Sektor Makanan dan Minuman di BEI. Universitas Muhammadiyah Surakarta, I (1), 1-15.

Indah, D. R., & Parlia. (2017). Pengaruh Earning Per Share Terhadap Harga Saham Pada PT. Bank Mega Tbk. Jurnal Penelitian Ekonomi Akuntansi, I (1), 72-81.

Jumhana, R. C. (2016). Pengaruh PER dan PBV terhadap Harga Saham Perusahaan PT Lippo Karawacci TBK. Prosiding Seminar Ilmiah Nasional, I (1), 143-154.

Kayobi, I. G., & Anggraeni, D. (2015). Pengaruh DER, DTA, Deviden Tunai, dan Ukuran Perusahaan terhadap Nilai Perusahaan (Perusahaan Manufaktur Sektor Barang Konsumsi yang Terdaftar di BEI periode 2011-2014. Jurnal Akuntansi dan Keuangan, IV (1), 100-120.

Kementerian ESDM. (2021, Oktober 14). media-center: ESDM . Retrieved Januari 12, 2023 from ESDM web site: https://www.esdm.go.id/id/media-center/arsip-berita/hilirisasi-nikel-ciptakan-nilai-tambah-dan-daya-tahan-ekonomi

Kusnandar, V. B. (2022a, Oktober 10). Data publish: Katadata. Retrieved Februari 8, 2023 fromKatadataWebsite:https://databoks.katadata.co.id/datapublish/2022/02/10/industri-pengolahan-jadi-penyumbang-terbesar-ekonomi-ri-tahun-2021#:~:text=Adapun%20sektor%20yang%20mengalami%20peningkatan,naik%20menjadi%208%2C98%25.

Kusnandar, V. B. (2022b, Mei 15). Databooks. Retrieved Februari 20, 2023 from Databooks Web Site: https://databoks.katadata.co.id/datapublish/2022/12/05/kalah-gugatan-di-wto-ini-ekspor-nikel-indonesia-5-tahun-terakhir#:~:text=Demikian%20pula%20nilai%20ekspor%20nikel,nilai%20ekspor%20sepanjang%20tahun%20lalu.

Martina, J. (2019). Pengaruh Faktor Internal dan Eksternal terhadap Harga Saham (Studi Kasus pada

Perusahaan Farmasi yang Terdaftar di Bursa Efek Indonesia). Manajemen Keuangan, I (1), 1-94.

Melati, Y. P., & Suselo, D. (2022). Faktor-Faktor yang Mempengaruhi Harga Saham Pada Perusahaan Sub Sektor Infrastruktur, Utilitas dan Transportasi. Jurnal Dinamika ekonomi dan Bisnis, XIX (1), 27-39.

Munggaran, A., Mukaram, & Sarah, I. S. (2017). Pengaruh Earning Per Share (EPS) Terhadap Harga Saham. Jurnal Riset Bisnis & Investasi, III (2), 1-12.

Nikmah, L. C., Hermuningsih, S., & Cahya, A. D. (2021). Pengaruh DER, NPM, ROA, Dan TATO Terhadap ReturnSaham. Jurnal IBIK, IX (2), 221-232.

Nopiyanti, I. D., & Darmayanti, N. P. (2016). Pengaruh PER, Ukuran Perusahaan, dan Profitabilitas pada Nilai Perusahaan dengan Struktur Modal sebagai Variabel Moderasi. E-Jurnal Manajemen Unud, V (12), 7865-7889.

Nuryadin, & Putri, O. K. (2021). Pengaruh ROE, ROA, dan Kepemilikan Institusional terhadap Nilai Perusahaan Manufaktur Sekotr Industri Barang Konsumsi yang Terdaftar di BEI Periode 2015-2018. Lembaga Penelitian Dan Pengabdian pada Masyarakat Universitas Persada Indonesia, I (1), 4.

Permatasari, N. D., Nurlaela, S., & Titisari, K. H. (2019). ROA, ROE, EPS terhadap Harga Saham Perusahaan Sektor Jasa di Bursa Efek Indonesia. Edunomika (III), 90-96.

Putri, L. R. (2018). Pengaruh ROE, DER, PER, dan EPS terhadap Harga Saham (Studi pada Perusahaan IDX30di BEI Tahun 2012-2014). Jimfeb UB, III (2), 1-12.

Ratih, D., Apriatni, E., & Saryadi. (2013). Pengaruh EPS, PER, DER, ROE terhadap Harga Saham Perusahaan Sektor Pertambangan yang Terdaftar di Bursa Efek Indonesia Taun 2010-2012. Diponegoro Journal of Social and Politic, III (1), 1-12.

Romadhan, Y. P., & Satrio, B. (2019). Pengaruh ROA, ROE, NPM, dan EPS terhadap Harga SahamLQ45 di Bursa Efek Indonesi. Jurnal Ilmu dan Riset Manajemen, VIII (6), 1-19.

Saiman, & Raymond. (2020, Februari). Analisis Faktor-faktor yang Mempengaruhi Harga saham Perusahaan Sektor Agriculture yang Terdaftar di Bursa Efek Indonesia. Jurnal EMBA, VIII (1), 945-955.

Saputra, P. D., Pawenang, S., & Damayanti, R. (2021). Pengaruh ROA, EPS, dan PBV terhadap Harga Saham (Perusahaan Subsektor Properti dan Real Estat yang Terdaftar di BEI tahun 2018-2019). Edunomika, V (2), 1012-1021.

Satyatama, H.R., & Sumantyo, R. (2017). Performance Analysis of Indonesia's Mining Sector Price Index. Signifikan, 6 (2), October 2017, 357– 370.

Setiawan, V. N. (2022, Oktober 1). Retrieved Desember 8, 2022 from CNBC Indonesia Web site: https://www.cnbcindonesia.com/market/20221001111608-17-376457/5-negara-penghasil-nikel-terbesar-di-dunia-ada-ri

Sivilianto, H., & Endri, E. (2019). Determinants of External and Internal Stock Price of Coal Mining Subsector Companies Period 2005-2017. Scholars Bulletin, V (4), 162-168.

Statistics Indonesia. (2020). Pressrelease: BPS. Retrieved Januari, 2022 from BPS Web Site.

Stockbit. (2022, September 27). Investasi: Stockbit. Retrieved Januari 3, 2023 from Stockbit Web site: https://snips.stockbit.com/investasi/saham-nikel

Tradingeconomics. (2022). Commodity: Tradingeconomics. Retrieved Januari, 2022 from TradingeconomicsWebsite:https://www.google.com/search?q=nickel+price+trading+economics&oq=nicke+price+tradi&aqs=chrome.1.69i57j0i13i512l2j0i22i30l7.9535j0j4&sourceid=chrome&ie=UTF-8

Wahyu, D. D., & Mahfud, M. K. (2018). Analisis pengaruh NPM, ROA, TATO, EPS, dan DER terhadap Nilai Perusahaan. Diponegro Journal of Management, VII (2), 1-11.

Wooldridge, J.M. (2019). Introductory Econometrics: A Modern Approach, 7th Edition. Cengage Learning.

Wulandari, B., Daeli, I. J., Bukit, I. K., & Sibarani, W. N. (2020). Pengaruh ROE, CR, TTO, NPM terhadap Harga Saham Perusahaan Manufaktur Sub Customer Goods yang Terdaftar di Bursa Efek Indonesia. Riset & Jurnal Akuntansi, IV (1), 114-124.