

MEASURING THE FINANCIAL PERFORMANCE OF PHARMACEUTICAL COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE USING THE DUPONT SYSTEM

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Abstract

This research aims to analyze the influence of Return on Equity (ROE) on the stock prices of pharmaceutical companies listed on the Indonesia Stock Exchange (IDX) during the period from 2019 to 2022. The research includes all pharmaceutical companies listed on the IDX during the study period. There are 11 pharmaceutical companies listed on the IDX during the research period. The sample was selected using purposive sampling with the inclusion criteria of pharmaceutical companies listed on the Indonesia Stock Exchange during the observation period (2019-2022), publishing financial reports during the observation period (2019-2022), publishing closing stock prices during the observation period (2019-2022), and not having a negative profit amount. This research uses a quantitative approach. Data collection was carried out through document study, which involved gathering annual and quarterly financial reports of pharmaceutical companies listed on the Indonesia Stock Exchange during the period of 2019-2022. Relevant secondary data can also be obtained from other reliable sources. The analysis method used is the DuPont System Analysis, which breaks down ROE into key components such as Profit Margin, Asset Turnover, and Financial Leverage. The research findings indicate that ROE has an impact on stock prices. The results of this research are expected to contribute to providing deeper insights to stakeholders regarding the financial performance of pharmaceutical companies on the Indonesia Stock Exchange. Understanding how well companies utilize equity and manage their financial risks. Providing useful information for investors to make informed investment decisions. Contributing to the literature on financial analysis, particularly in the context of the pharmaceutical industry in Indonesia.

Keywords: *Return on Equity, stock price, DuPont System Analysis, pharmaceutical companies.*

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh Return on Equity (ROE) terhadap harga saham perusahaan farmasi yang terdaftar di Bursa Efek Indonesia (BEI) selama periode tahun 2019 sampai dengan tahun 2022. Penelitian ini mencakup seluruh perusahaan farmasi yang terdaftar di BEI selama periode penelitian. Terdapat 11 perusahaan farmasi yang terdaftar di BEI selama periode penelitian. Sampel dipilih dengan menggunakan purposive sampling dengan kriteria inklusi perusahaan farmasi yang terdaftar di Bursa Efek Indonesia selama periode pengamatan (2019-2022), mempublikasikan laporan keuangan selama periode pengamatan (2019-2022), mempublikasikan harga saham penutupan selama periode pengamatan (2019-2022), dan tidak memiliki jumlah laba yang negatif. Penelitian ini menggunakan pendekatan kuantitatif. Pengumpulan data dilakukan melalui studi dokumen, yaitu dengan mengumpulkan laporan keuangan tahunan dan triwulanan perusahaan farmasi yang terdaftar di Bursa Efek Indonesia selama periode 2019-2022. Data sekunder yang relevan juga dapat diperoleh dari sumber-sumber lain yang dapat dipercaya. Metode analisis yang digunakan adalah *DuPont System Analysis*, yang membagi ROE menjadi komponen-komponen utama seperti Margin Laba, Perputaran Aset, dan *Financial Leverage*. Temuan penelitian menunjukkan bahwa ROE memiliki dampak terhadap harga saham. Hasil penelitian ini diharapkan dapat berkontribusi dalam memberikan wawasan yang lebih dalam kepada para pemangku kepentingan mengenai kinerja keuangan perusahaan farmasi di Bursa Efek Indonesia. Memahami seberapa baik perusahaan memanfaatkan ekuitas dan mengelola risikonya. Memberikan informasi yang berguna bagi investor untuk membuat keputusan investasi yang tepat. Berkontribusi pada literatur tentang analisis keuangan, khususnya dalam konteks industri farmasi di Indonesia.

Kata kunci: Return on Equity, harga saham, DuPont System Analysis, perusahaan farmasi.

INTRODUCTION

Pharmaceutical companies operate in the drug industry, both manufacturing and retail. Besides producing medicines for curing diseases, these companies often manufacture various health products, such as dietary supplements and vitamins. The Indonesia Stock Exchange (IDX) healthcare sector includes industries like hospitals, labs, and medical equipment providers. There are 11 pharmaceutical companies listed on the IDX, including prominent ones like KLBF, SIDO, KAEF, and INAF (info.emtrade.id, October 2022).

The pharmaceutical industry benefited significantly during the COVID-19 pandemic, as reflected in its high-performance reports. However, the sector might slow down now as conditions have substantially improved. Vaccination efforts, including second booster shots, are still increasing for the general public. Also, health awareness among Indonesians has probably improved compared to before the pandemic, which could keep demand for products at a higher level (info.emtrade.id, October 2022).

The pharmaceutical industry is important to Indonesia's economy.

Companies listed on the IDX provide essential healthcare products and help the economy grow. Studying their financial performance from 2019 to 2022 is necessary with financial analysis being key to understanding their performance. One of the most relevant and informative financial analysis methods is the DuPont System (Aprilia, R., Sari, P., Dimiyanti, 2019.). The DuPont System is a comprehensive measurement tool that evaluates a company's operational efficiency and profitability. It combines key financial metrics, including profitability ratios such as Net Profit Margin (NPM), activity ratios like Total Assets Turnover (TATO), and financial leverage, to provide a thorough assessment of the company's performance.

Given this background, the research problem is: Does the Return on Equity (ROE) of pharmaceutical companies influence their stock prices during the 2019-2022? This study aims to get empirical evidence on the influence of pharmaceutical companies' ROE on stock prices during the 2019-2022 period using the DuPont System analysis. The results provide stakeholders with deeper insights into the financial performance of IDX-listed pharmaceutical companies, improving their understanding of equity utilization and financial risk management. The findings provide valuable information for investors to make informed investment decisions and contribute to the financial analysis literature, particularly in the context of Indonesia's pharmaceutical industry.

This study focuses on financial performance of IDX-listed

pharmaceutical companies from 2019 to 2022 during the observation period (2019-2022). The observation period was chosen to examine the development of the pharmaceutical industry during the Covid-19 pandemic, which have published financial reports during the observation period and have not reported negative profits. These limits of the study are applied to focus on the pharmaceutical industry and maintain the accuracy of the analysis.

THEORETICAL FRAMEWORK

Agency Theory

Agency theory, popularized by Jensen & Meckling (1976) revolves around the cooperative contractual relationship between agents and principals. In this context, the agent typically represents management, while the principal signifies shareholders. This cooperative contract involves the principal giving the authority to the agent to achieve the principal's goals. The owner assigns managers to oversee the company's operations, as shareholders typically encounter constraints in directly managing the company. (Wany et al., 2022).

Company Financial Performance

According to Rudianto (2013), financial performance refers to the outcomes a company's management achieves in managing assets effectively over a certain period. Financial performance information is necessary to assess potential changes in economic resources to predict the production capacity of available resources (Marhaenis Guruh, dkk 2023). Understanding the measurements allows a company to evaluate its

financial performance. Evaluating financial performance is crucial for efficiently and effectively allocating assets to maximize profits and ensure the company's sustainability. (Yanti & Diatmika, 2022).

Stock

Stock is the ownership status of the assets of the company issuing the stock. By owning a company's stock, investors or potential investors have rights to the company's income and wealth, minus the company's liabilities (Wany et al., 2022)

DuPont Analysis

Weston and Bringham (1994) state, "The DuPont System analysis encompasses all activity ratios and profit margins on sales to show how these ratios affect profitability." The DuPont system measures a company's performance by combining financial ratios, specifically Net Profit Margin (NPM) for profitability and Total Assets Turnover (TATO) for activity. These ratios are derived from the company's net profits and resources. The DuPont system's financial analysis approach is Return on Investment (ROI), generated through the multiplication of the components of sales and the efficiency of using total assets to generate profitst (Yanti & Diatmika, 2022).

According to Munawir (2010) cited in (Pranata, 2021),, analyzing financial statements with the DuPont method offers several benefits:

1. Its comprehensive nature allows management to understand the

efficiency levels of capital use, production, and sales departments.

2. It can measure the profitability of each product the company produces to identify potential products.
3. It measures the productivity of unit or department development.

Return on Equity

Return on Equity is a ratio to measure how effectively a company generates profits using its equity. The ROE value in this study is derived from the net income after-tax ratio to the company's equity in a particular quarter. ROE measure the net profit obtained from the management of capital invested by the company's stakeholders. (Wany et al., 2022).

ROE indicates the return rate on shareholders' equity, showing how efficiently a company uses the capital provided by shareholders. ROE considers the company's capital structure, which is calculated by comparing net income with shareholders' equity. It is more relevant to shareholders because it provides insight into how well the company generates profits for its owners (Ade, et.al., 2021).

Hypothesis

Based on the background, theory and previous research, the hypothesis developed in this study is:

Ho: There is no influence of Return on Equity (ROE) on stock prices during 2019-2022.

H1: There is an influence of Return on Equity (ROE) on stock prices during 2019-2022.

RESEARCH METHOD

Research Design

This study uses a quantitative approach to measure financial performance of IDX-listed pharmaceutical companies from 2019 to 2022. The analysis method used is the DuPont System to understand the contribution of each component to ROE. ROE is chosen because it measures the return rate on shareholders' equity, providing insight into how efficiently the company uses the capital provided by shareholders.

Population and Sample

The population includes the pharmaceutical companies listed on the IDX during the research period. Using purposive sampling, 11 pharmaceutical companies were selected based on these criteria: pharmaceutical companies on the IDX during 2019-2022, published financial reports, published closing stock prices, and Reported positive profits. The sample are as follows:

PT Darya Varia Laboratorium Tbk (DVLA)

1. PT Kalbe Farma Tbk (KLBF)
2. PT Merck Tbk (MERK)
3. PT Phapros Tbk (PEHA)
4. PT Pyridam Farma Tbk (PYFA)
5. PT Organon Pharma Indonesia Tbk (SCPI)
6. PT Industri Jamu dan Farmasi Sido Muncul Tbk (SIDO)
7. PT Tempo Scan Pacific Tbk (TSPC).

Research Variables

The dependent variable in this study is the stock price. The measurement of the stock price variable is the closing price of each pharmaceutical company listed on the IDX. The independent variable in this study is return on equity (ROE), which is used in the DuPont system analysis. Supporting variables involve the components of the DuPont System, namely Net Profit Margin (NPM), Total Asset Turnover (TATO), and Financial Leverage.

Sources of Data

Data were obtained from the annual financial reports of pharmaceutical companies on the IDX, quarterly financial reports, closing stock prices, and other verified financial data sources. Data were also collected from the official IDX website and related financial databases.

Data Collection Technique

Data were collected through document studies, consisting of annual and quarterly financial reports of pharmaceutical companies listed on the IDX in 2019-2022 period and other relevant secondary data from other reliable sources.

Results and Discussion

Net Profit Margin (NPM)

The values and average NPMs for the companies studied during the period 2019-2022 are as follows:

Table. 1

Year	Company							
	DVLA	KLBF	MEREK	PEHA	PYFA	SCPI	SIDO	TSPC
2019	12%	11%	11%	9%	4%	7%	26%	5%
2020	9%	12%	11%	5%	8%	8%	28%	8%
2021	8%	12%	12%	1%	1%	5%	31%	8%
2022	8%	12%	16%	2%	39%	7%	29%	8%
Average"	9%	12%	12%	4%	13%	7%	29%	7%
	12%							

Source: Secondary data that has been processed by researchers.

The table above shows the selected companies' average Net Profit Margin (NPM) from 2019 to 2022. The average NPMs are as follows: PT Darya-Varia Laboratoria Tbk (DVLA) at 9%, PT Kalbe Farma Tbk (KLBF) at 12%, PT MERCK Tbk (MERK) at 12%, PT Phapros Tbk (PEHA) at 4%, PT Pyridam Farma Tbk (PYFA) at 13%, PT Organon Pharma Indonesia Tbk (SCPI) at 7%, PT Industri Jamu dan Farmasi Sido (SIDO) at 29%, and PT Tempo Scan Pacific Tbk (TSPC) at 7%.

According to Dicky Pranata (2021), if NPM is $\geq 20\%$ (industry standard), showing that the company can generate

a net profit from its sales activities. The author concludes that the companies sampled over the four years have NPM values below the industry standard, except for PT Industri Jamu dan Farmasi Sido (SIDO) which has an average of 29%. This implies that the efficiency of the companies, apart from PT Industri Jamu dan Farmasi Sido (SIDO), in generating profit from sales activities is not adequate.

Total Assets Turnover (TATO)

The values and average TATO for the companies studied during the period 2019-2022 are as follows:

Table .2

Year	Company							
	DVLA	KLBF	MEREK	PEHA	PYFA	SCPI	SIDO	TSPC
2019	0,99	1,12	0,83	0,53	1,30	1,30	0,87	1,31
2020	0,92	1,02	0,71	0,51	1,21	1,81	0,87	1,20
2021	0,91	1,02	1,04	0,57	0,78	1,78	0,99	1,16
2022	0,95	1,06	1,08	0,65	0,47	0,87	0,95	1,08
Average"	0,95	1,06	0,91	0,56	0,94	1,44	0,92	1,19
	1,00							

Source: Secondary data that has been processed by researchers.

The table above shows selected companies' average Total Asset Turnover (TATO) from 2019 to 2022. The average TATO values are as follows: PT Darya-Varia Laboratoria Tbk (DVLA) at 0.95 times, PT Kalbe Farma Tbk (KLBF) at 1.06 times, PT MERCK Tbk (MERK) at 0.91 times, PT Phapros Tbk (PEHA) at 0.56 times, PT Pyridam Farma Tbk (PYFA) at 0.94 times, PT Organon Pharma Indonesia Tbk (SCPI) at 1.44 times, PT Industri Jamu dan Farmasi Sido (SIDO) at 0.92 times, and PT Tempo Scan Pacific Tbk (TSPC) at 1.19 times.

According to (Pranata, 2021), if TATO is ≥ 2 times (industry standard), showing

that the company can generate net sales using its assets effectively. The author concludes that the companies sampled over the four years have TATO values below the industry standard, indicating that the overall effectiveness of asset utilization in sales activities is inadequate.

Financial Leverage

The values and average Equity Multiplier for the companies studied during the period 2019-2022 are as follows:

Table.3

Year	Company							
	DVLA	KLBF	MERK	PEHA	PYFA	SCPI	SIDO	TSPC
2019	1,40	1,21	1,52	2,55	1,53	2,30	1,15	1,45
2020	1,48	1,23	1,52	2,59	1,45	1,92	1,19	1,43
2021	1,50	1,21	1,50	2,48	4,82	1,25	1,17	1,40
2022	1,43	1,23	1,37	2,34	3,44	1,38	1,16	1,50
Average"	1,45	1,22	1,48	2,49	2,81	1,71	1,17	1,44
	1,72							

Source: Secondary data that has been processed by researchers.

The table above shows the average Equity Multiplier for selected companies from 2019 to 2022. The average Equity Multiplier values are as follows: PT Darya-Varia Laboratoria Tbk (DVLA) at 1.45 times, PT Kalbe Farma Tbk (KLBF) at 1.22 times, PT MERCK Tbk (MERK) at 1.48 times, PT Phapros Tbk (PEHA) at 2.49 times, PT Pyridam Farma Tbk (PYFA) at 2.81

times, PT Organon Pharma Indonesia Tbk (SCPI) at 1.71 times, PT Industri Jamu dan Farmasi Sido (SIDO) at 1.17 times, and PT Tempo Scan Pacific Tbk (TSPC) at 1.44 times.

Return on Equity (ROE)

The values and average ROE for the companies studied during the period 2019-2022 are as follows:

Tabel .4

Year	Company							
	DVLA	KLBF	MERK	PEHA	PYFA	SCPI	SIDO	TSPC
2019	17%	15%	13%	12%	7%	21%	26%	10%
2020	12%	15%	12%	7%	14%	26%	29%	13%
2021	11%	15%	19%	3%	3%	12%	36%	13%
2022	11%	16%	24%	4%	62%	9%	32%	14%
Average"	13%	15%	17%	6%	22%	17%	31%	12%
	17%							

Source: Secondary data that has been processed by researchers.

The table above shows selected companies' average Return on Equity (ROE) from 2019 to 2022. The average ROE values are as follows: PT Darya-Varia Laboratoria Tbk (DVLA) at 13%, PT Kalbe Farma Tbk (KLBF) at 15%, PT MERCK Tbk (MERK) at 17%, PT Phapros Tbk (PEHA) at 6%, PT Pyridam Farma Tbk (PYFA) at 22%, PT Organon Pharma Indonesia Tbk (SCPI) at 17%, PT Industri Jamu dan Farmasi Sido (SIDO) at 31%, and PT Tempo Scan Pacific Tbk (TSPC) at 12%.

The general industry average standard for ROE is 40% (Kasmir, 2008: 205) as cited in (Oktavia & Faddila, 2023). The author concludes that the companies

sampled over the four years have ROE values below the industry standard, indicating that the effectiveness of asset use in generating sales is not adequate.

Coefficient of Determination

The coefficient of determination is symbolized by "R²", representing the contribution of the independent variable (X) to the dependent variable (Y). The R² value is useful for predicting and seeing the extent of the influence contributed by variable X simultaneously on variable Y. The following are the results of the analysis of the coefficient of determination:

Table .5

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,504 ^a	0,254	0,217	762,639

a. Predictors: (Constant), ROE

b. Dependent Variable: Closing Price

Source: Data processed by IBM SPSS 23

T-Test (Hypothesis Testing)

According to an article from accounting.binus.ac.id (2021). The T-test is used to test the research hypothesis on the influence of each independent variable on the dependent variable. It verifies if there is no significant difference between two sample means from the same population. (Sudjiono, 2010). T-statistics is used to determine the

significance level in hypothesis testing, obtained through bootstrapping. A hypothesis test is considered significant if the T-statistics value is greater than 1.96; if it is less than 1.96, the test is not considered significant. (Ghozali, 2016).

The following are the results of the T-Test (hypothesis testing) data processing:

Table.6

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	t Sig.
1	(Constant)	671,076	449,884		1,492 ,151
	ROE	9471,617	3626,246	0,504	2,612 ,017

a. Dependent Variable: Closing Price

Source: Data processed by IBM SPSS 2

From Table 6, it can be seen that the Sig ROE is $0.017 < 0.05$, meaning that the independent variable (X) has a significant effect on the dependent variable (Y).

Conclusion and Recommendations

Conclusion

This study analyzes the financial performance of pharmaceutical companies listed on the Indonesia Stock Exchange (IDX) from 2019 to 2022 using the DuPont System analysis method. Key conclusions include:

- Net Profit Margin

Table 1 shows that PT Industri Jamu dan Farmasi Sido (SIDO) has an average NPM of 29%. This indicates that the efficiency of other companies in generating profit from sales activities is insufficient compared to PT Industri Jamu dan Farmasi Sido (SIDO).

- Total Assets Turnover (TATO)

Table No. 2 shows that the sample companies over the four years have values below the industry standard, indicating that the effectiveness of using total assets for sales activities is insufficient.

- Financial Leverage

The use of financial leverage can contribute positively to ROE but must be managed carefully to avoid unwanted financial risks.

- ROE

The author concludes that the sample companies over the four years have values below the industry standard, indicating that the effectiveness of asset utilization in generating sales activities is not sufficient.

- SPSS Test

From the data processed with IBM SPSS 23, the author concludes that ROE significantly influences the stock prices of pharmaceutical companies during the 2019-2022 period. The R^2 value is 0.254, meaning the percentage contribution of the ROE variable to stock prices is 25.4%, while other variables influence the remaining.

Recommendations

• **For Companies**

Optimizing Capital Structure:

- Reevaluate the company's capital structure to balance equity and debt and manage financial leverage wisely to increase ROE without incurring uncontrolled risks.

Focusing on Operational Efficiency:

- Improve operational efficiency to enhance profit margins by identifying and reducing inefficient costs and considering more optimal pricing strategies.

Transparency and Reporting:

- Enhance transparency in financial reporting to increase investor trust and provide a more accurate picture of the company's performance.

For Investors

In-Depth Fundamental Analysis:

- Methods like the DuPont System are used to comprehensively analyze pharmaceutical companies' financial performance.

Understanding Risks and Opportunities:

- Evaluating the risks and opportunities within the pharmaceutical industry, including regulatory challenges,

product innovation potential, and competitive dynamics.

Consulting with Financial Experts:

- Consulting with financial experts or investment advisors to get additional insights and make well-informed decisions regarding investment strategies in the pharmaceutical sector.

For Future Research

Development of Analysis Models:

Developing more complex and detailed analysis models can provide deeper insights into factors affecting the financial performance of pharmaceutical companies. Using advanced mathematical models or statistical analysis methods can be an interesting research area.

Comparison with Similar Industries:

Comparing financial performance with pharmaceutical companies in other countries or similar industries in Indonesia can provide a deeper understanding of the advantages and challenges faced by local pharmaceutical companies.

ESG Analysis (Environmental, Social, and Governance):

Incorporating ESG analysis into research can provide insights into how environmental, social, and governance factors affect financial performance. This is increasingly important as sustainable investment becomes a primary focus.

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