Research Article

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How Inflation, Interest Rates, and Turnover Ratios Affect Stock Prices in the Pharmaceutical Sector

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Abstract

This study aims to analyze the influence of macroeconomic variables (inflation and the BI Rate) and company financial performance variables (working capital turnover and inventory turnover) on the stock prices of pharmaceutical companies on the Indonesia Stock Exchange (IDX). The study used secondary data from nine pharmaceutical companies for the period 2017-2020 (a total of 36 observations). Data analysis was performed using multiple linear regression (panel data) using SPSS 25, preceded by classical assumption tests (normality, multicollinearity, heteroscedasticity, autocorrelation). Hypothesis testing used the F test (simultaneous) and t test (partial). The results showed that all four variables simultaneously had a significant effect on stock prices. Partially, only inflation (negative and significant effect) and working capital turnover (positive and significant effect) were proven to affect stock prices. Interest rates and inventory turnover did not have a significant effect partially. The coefficient of determination (R^2) of 0.416 indicates that the independent variables explain 41.6% of the variation in stock prices. Pharmaceutical company management needs to optimize working capital turnover efficiency and anticipate the impact of inflation. Investors can consider these two variables in fundamental analysis. Further research is recommended to add other variables and extend the study period.

Keyword: Stock Price, Inflation, Interest Rate, Working Capital Turnover, Inventory Turnover, Pharmaceuticals, Indonesia Stock Exchange.

1. Introduction

In today's highly competitive business climate, high company assets alone are not enough to guarantee a company's survival. In this era of globalization, companies must confront this challenge if they wish to survive and must possess a competitive advantage to compete in the global market. Based on this reality, to anticipate competition, companies must maintain and improve their performance to ensure business continuity. Financial reports are a tangible manifestation of a company's performance, particularly in managing its finances (Lev, 2018). External parties use them to assess the company's overall condition and encourage investors to invest in its shares through the capital market. Financial information serves as a source of information, a means of management accountability to company owners, a depiction of indicators of company success, and a consideration in decision-making (Wall & Greiling, 2011). According to Jonas & Blanchet, (2000) financial reports issued by companies serve as an important guideline for investors in assessing the company's condition.

The capital market is a crucial pillar of a country's economy, serving as a means of long-term financing for companies and an investment vehicle for the public (Véron & Wolff, 2016). For investors, stock prices are a key indicator in investment decision-making, reflecting a company's value and expectations for future performance (Puspitaningtyas, 2017). Stock price behavior is influenced by a complex interaction between external macroeconomic factors and internal factors affecting a company's financial performance (Nguyen et al., 2023).

Among the various sectors listed on the Indonesia Stock Exchange (IDX), the pharmaceutical subsector holds a strategic position. This sector not only plays a vital role in national health development but also demonstrates resilience and significant contributions to the economy, contributing approximately 10.05% to

non-oil and gas Gross Domestic Product (GDP) in the fourth quarter of 2019. The pharmaceutical industry faces unique dynamics, where its performance is heavily influenced by health policies, product innovation, and is sensitive to macroeconomic conditions such as inflation and interest rates.

Theoretically, inflation and interest rates are macroeconomic indicators with broad impacts. High inflation can erode people's purchasing power and increase companies' production costs, potentially depressing profitability and stock market attractiveness (Chowdhury, 2024). Meanwhile, rising interest rates can shift investor interest from riskier instruments like stocks to fixed-income instruments (Fabozzi et al., 2024). Internally, a company's operational efficiency, as reflected in the working capital turnover ratio and inventory turnover, is a fundamental assessment for investors. High working capital turnover indicates the effective use of funds to generate sales, while strong inventory turnover demonstrates management's ability to manage inventory (Bendavid et al., 2017; Ukaegbu, 2014).

However, empirical findings regarding the influence of these four factors on stock prices are inconsistent. Some studies, such as Ilmas et al., (2022) found inflation to have a significant negative effect, while Sitanggang & Munthe (2019) found no significant effect on interest rates. Similarly, Hamdi, (2013) demonstrated a positive effect of working capital turnover, but (Supriantikasari & Utami, 2019) found that inventory turnover was insignificant. This inconsistency suggests the need for further research with specific contexts to obtain more robust evidence.

Based on this background, this study aims to analyze the simultaneous and partial effects of inflation, interest rates (BI Rate), working capital turnover, and inventory turnover on the stock prices of companies in the pharmaceutical sub-sector listed on the Indonesia Stock Exchange (IDX) for the 2017-2020 period. Specifically, this study answers the following questions: (1) How do these four variables simultaneously influence stock prices? (2) How does each variable partially influence stock prices? With a focus on the pharmaceutical industry, the results of this study are expected to provide empirical contributions to the development of financial management science and provide practical considerations for company management and investors.

2. The Art of Research

2.1. Theoretical basis

- Stock price is the market value of a share determined by the intersection of supply and demand on the stock exchange, reflecting investors' collective perceptions of the company's intrinsic value and prospects (Deakin & Singh, 2009; Goux, 1997). This price fluctuates and is influenced by various factors, both macroeconomic and company fundamentals (Gursida, 2017).
- Inflation is the general tendency for prices of goods and services to rise in an economy over a given period, indicating a decline in the purchasing power of the currency (Gafurdjan, 2024; Juhro et al., 2025). High inflation increases economic uncertainty and increases company input costs, which can negatively impact profitability and company value.
- The interest rate, represented by the BI Rate in this study, is the price paid for the use of borrowed money. Interest rates serve as an instrument of monetary policy and serve as a benchmark for the opportunity cost of investment (Bernanke & Reinhart, 2004; Faia & Monacelli, 2007). Rising interest rates tend to make fixed-income instruments (such as deposits) more attractive than stocks, which can reduce stock demand.
- Working Capital Turnover is a ratio that measures a company's efficiency in using its working capital to generate sales. A higher ratio indicates that the company is able to manage its current assets and current liabilities effectively, which in turn can increase liquidity and profitability (Eljelly, 2004).
- Inventory Turnover measures how quickly a company's inventory of merchandise or raw materials is sold or used within a given period. A high turnover rate indicates efficient inventory management, reduces holding costs, and reflects strong product demand or an appropriate production strategy (Demeter & Matyusz, 2011; Koumanakos, 2008).

2.2. Previous Research and Hypothesis Development

The relationship between the four independent variables and stock prices has been studied with mixed results, creating room for further research, particularly in the pharmaceutical sector. Inflation and Stock Prices: Theoretically, high inflation erodes real corporate profits and suppresses consumer purchasing power, negatively impacting stock valuations. (Hutabarat & Simanjuntak, 2013), in their respective studies on the telecommunications and technology sectors, found that inflation has a negative and significant effect on stock prices. Based on this logic, the first hypothesis is proposed:

H1: Inflation has a negative impact on the share prices of pharmaceutical sub-sector companies.

Interest Rates and Stock Prices: Financial theory suggests an inverse relationship between interest rates and stock prices. However, several empirical studies in the Indonesian context have shown inconsistent results. Khoury, (2015) found that interest rates had no significant effect on automotive stocks, while Carbó-Valverde et al., (2021) found a significant negative effect. This inconsistency gives rise to the following hypotheses to be tested:

H2: Interest rates have a negative impact on share prices of pharmaceutical sub-sector companies.

Working Capital Turnover and Stock Prices: Working capital efficiency is a positive signal to investors about a company's operational capabilities and short-term financial health. Hamdi, (2013) and Yudha et al., (2024) consistently found that working capital turnover has a positive and significant effect on stock prices across different sectors. Therefore, the following hypothesis is proposed:

H3: Working capital turnover has a positive effect on the share prices of pharmaceutical sub-sector companies.

Inventory Turnover and Stock Prices: While high inventory turnover is generally considered positive, the relationship with stock prices is not always linear and can depend on the nature of the industry. Eryatna et al., (2021) found that inventory turnover had no significant effect on stock prices in consumer goods companies. In the pharmaceutical industry, which has specific production cycles and regulations, the effect may also be indirect. The proposed hypothesis is:

H4: Inventory turnover has a positive effect on the share prices of pharmaceutical sub-sector companies.

Simultaneous Effects: In addition to partial effects, it is important to examine the combined contribution of these four variables in explaining stock price movements. Research such as that conducted by Van Den Berg & Van Der Klaauw, (2001) shows that a combination of macro and micro variables can have a significant simultaneous effect. Thus, the fifth hypothesis is formulated:

H5: Inflation, interest rates, working capital turnover, and inventory turnover simultaneously have a significant effect on the share prices of pharmaceutical sub-sector companies.

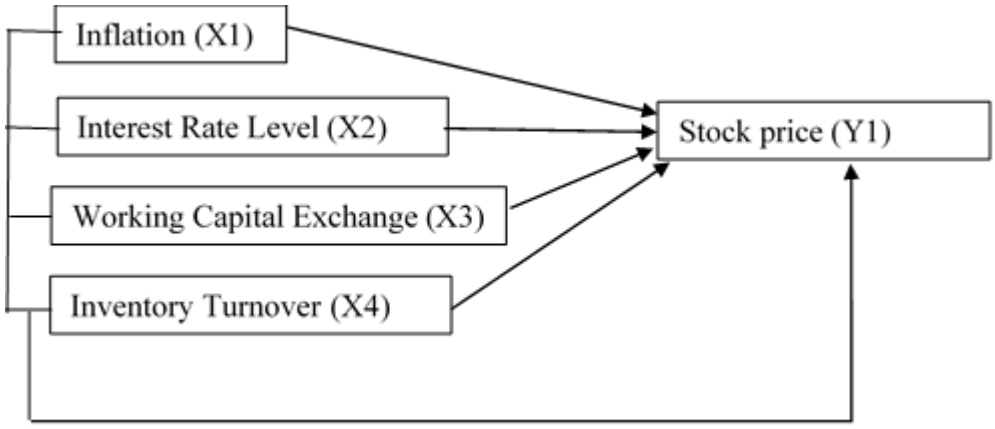

Figure 1. Visualization of the Research Thinking Framework

The conceptual framework of this study can be visualized as follows: The four independent variables (Inflation, Interest Rates, Working Capital Turnover, Inventory Turnover) (see Figure 1) are suspected to influence the dependent variable (Share Price), both individually and collectively. This study aims to test the strength and direction of these relationships in the specific context of pharmaceutical companies in Indonesia.

3. Method

3.1. Data Types and Sources

This study uses a quantitative approach with a panel data regression analysis method. The data used are secondary data sourced from, One) Annual financial reports of pharmaceutical sub-sector companies published by the Indonesia Stock Exchange (IDX) through the website www.idx.co.id, covering the period 2017 to 2020. Two) Macroeconomic data, namely the inflation rate and the BI Rate, obtained from the official publication of Bank Indonesia.

3.2. Population and Sample

The population in this study was all companies incorporated in the pharmaceutical sub-sector on the IDX during the observation period, totaling 10 issuers. The sample was selected using a purposive sampling technique with the following criteria: 1) The company was actively listed on the IDX during the 2017-2020 study period. 2) The company presented complete annual financial reports consecutively during that period. 3) The company did not experience a prolonged delisting or suspension. Based on these criteria, one issuer (PT Merck Sharp Dohme Pharma Tbk./SCPI) was excluded because it was only listed during the study period, resulting in a final sample of 9 companies (see table 1). With a 4-year observation period, the total analysis unit (observation) was 36 data.

Table 1. Names of Research Sample Companies

No.	Issuer Code	Company name
1	KLBF	PT Kalbe Farma Tbk.
2	KAEF	PT Kimia Farma (Persero) Tbk.
3	DVLA	PT Darya-Varia Laboratoria Tbk.
4	MERK	PT Merck Tbk.
5	PYFA	PT Pyridam Farma Tbk.
6	TSPC	PT Tempo Scan Pacific Tbk.
7	INAF	PT Indofarma (Persero) Tbk.
8	SIDO	PT Industri Jamu dan Farmasi Sido Muncul Tbk.
9	PEHA	PT Phapros Tbk.

3.3. Operational Definition and Measurement of Variables

All variables were measured quantitatively. To standardize units and approximate a normal distribution, stock price data and all independent variables were transformed into natural logarithms (Ln) before the regression analysis was conducted.

Table 2. Operational Definitions and Measurement of Variables

Symbol	Measurement	Scale
Stock Price (Y1)	The closing price of shares at the end of the observation period.	Ln (Year Ending Stock Price) in Rupiah
Inflation (X1)	The general increase in prices of goods and services calculated based on the Consumer Price Index (CPI).	Ln (Annual Inflation Rate in %)
Interest Rate (X2)	BI Rate is set by Bank Indonesia as the policy interest rate.	Ln (Annual BI Rate in %)
Working Capital Turnover (X3)	The ratio that shows the effectiveness of using working capital to generate sales.	Ln (Net Sales / Net Working Capital)

3.4. Data Analysis Model

Data analysis was conducted using multiple linear regression on panel data. To obtain the best results, it is necessary to first explain the measurement of each research variable (see Table 2). The empirical model to be measured in this study is as follows:

$$Ln\ (Y) = \alpha + \beta_1\ Ln(X_1) + \beta_2\ Ln(X_2) + \beta_3\ Ln(X_3) + \beta_4\ Ln(X_4) + e$$

Information:

Y = Stock price
X_1 = Inflation
X_2 = Interest Rate
X_3 = Working Capital Turnover
X_4 = Inventory Turnover
α = Constant
β_1-β_4 = Regression Coefficient
e = error term.

Furthermore, this study will conduct data processing and statistics using the help of IBM SPSS Statistics software version 25. The analysis begins with the Classical Assumption Test (Das, 2019) which includes: One) Normality Test: Using the Kolmogorov-Smirnov test to ensure the residual model is normally distributed (criteria: Asymp. Sig. > 0.05). Two) Multicollinearity Test: Using the Tolerance and Variance Inflation Factor (VIF) values to ensure there is no high correlation between independent variables (criteria: Tolerance > 0.10 and VIF < 10). Three) Heteroscedasticity Test: Using a Scatterplot graph between the Standardized Predicted Value and the Standardized Residual to detect the presence or absence of certain patterns (criteria: randomly distributed points). Four) Autocorrelation Test: Using the Durbin-Watson (DW) statistic for time series data (criteria: DW value around 2, or between -2 to +2).

Furthermore, after the classical assumption test is fulfilled, this research will conduct a research Hypothesis Test (Poole & O'Farrell, 1971) with the following provisions: One) F Statistical Test (Simultaneous): To test the simultaneous influence of all independent variables on the dependent variable. The hypothesis is accepted if the F-calculated value> F-table or p-value <0.05. Two) t Statistical Test (Partial): To test the influence of each independent variable individually on the dependent variable. The hypothesis is accepted if the t-calculated value> t-table or p-value <0.05. Three) Coefficient of Determination (R^2 and Adjusted R^2): To measure how much percentage of the variation in the dependent variable can be explained by the independent variables in the model.

4. Result

4.1. Descriptive Statistics

The research data consists of 36 observations (9 companies over 4 years). Variables were transformed into natural logarithms (Ln) before analysis. The following is an overview of the data used in the regression model:

- Stock Price (Ln) has an average of 3.1695.
- Inflation (Ln) has an average of 0.4282, reflecting the average annual inflation rate for the study period.
- Interest Rate (Ln) has an average of 0.6864.
- Working Capital Turnover (Ln) and Inventory Turnover (Ln) have averages of 0.3160 and 0.4774, respectively.

Table 3. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		36
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	,26327266
Most Extreme Differences	Absolute	,076
	Positive	,055
	Negative	-,076
Kolmogorov-Smirnov Z		,453
Asymp. Sig. (2-tailed)		,986

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

4.2. Classical Assumption Test Results

A. Normality Test

The normality test aims to determine whether the data distribution follows or approximates a normal distribution. Based on the results of the normality test, as shown in Table 3, the data used in this study are normal. This is evident from the statistical test performed, which shows that the Kolmogorov-Smirnov results are significant, as the Asymp sig value is 0.986 > 0.05, indicating that the data are normally distributed.

Table 4. Multicollinearity test results

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	INFLASI	,799	1,251
	SUKU BUNGA	,807	1,239
	PERPU MODAL	,840	1,191
	PERPU PERSEDIAAN	,853	1,173

B. Multicollinearity Test

Multicollinearity testing aims to determine whether or not there is a relationship between the independent variables. The results obtained in Table 4 show that the VIF values for all independent variables are below 10, and the tolerance value is >0.1. This indicates that there is a relationship between the independent variables in this study, or there is no relationship between them. Therefore, it can be concluded that the regression model does not exhibit symptoms of multicollinearity.

C. Heteroscedasticity Test

The heteroscedasticity test is used to determine whether a regression model exhibits similarity or inequality in variance between observations. A scatterplot graph can determine whether a regression model exhibits heteroscedasticity. A specific pattern in the graph indicates heteroscedasticity. The scatterplot results (see Figure 2) show that the points are randomly distributed, both above and below the number 0 on the Y-axis. Therefore, it can be concluded that there is no heteroscedasticity in the regression model in this study.

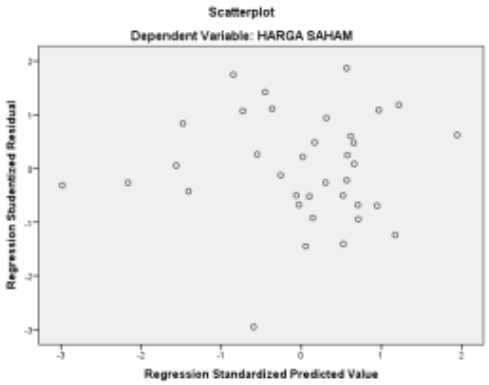

Figure 2. Scatterplot Graph

D. Autocorrelation Test

The autocorrelation test aims to determine whether or not there is a relationship or correlation between the error in period t with the disturbing error in period t-1 (previous). Based on the results of the Durbin Watson calculation in this study (see table 5) it is known to be 1.111 or less than 2 greater than -2 or (-2 < 1.111 < +2), it can be concluded that the data in this regression model is free from autocorrelation symptoms.

Table 5. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,645[a]	,416	,340	,27974	1,111

a. Predictors: (Constant), PERPU PERSEDIAAN, SUKU BUNGA, PERPU MODAL, INFLASI

b. Dependent Variable: HARGA SAHAM

4.3. Research Data Analysis

A. Multiple Regression Coefficient Analysis

The data processing results were performed using SPSS software to obtain simultaneous and partial model significance tests. The regression coefficient was determined from the unstandardized coefficient value. Based on the regression results, as shown in Table 6, the following regression equation was obtained:

Table 6. Results of Multiple Linear Regression Analysis

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	2,105	,722
	INFLASI	-,912	,417
	SUKU BUNGA	1,824	1,114
	PERPU MODAL	1,162	,268
	PERPU PERSEDIAAN	-,344	,246

Y = 2,105 - 0,912X1 + 1,824X2 + 1,162X3- 0,344X4 + e

From the regression model, it can be explained as follows:

1. A constant value of 2.105 means that if the independent variables, namely inflation (X1), interest rate (X2), capital turnover (X3), and inventory turnover (X4), are zero (0), then the dependent variable (Y), namely stock price, will remain at 2.105.
2. The regression coefficient for the inflation variable (X1) is negative at 0.912. This means that if the inflation variable increases by one unit while the other variables are held constant, the Y variable, namely stock price, will decrease by 0.912, or 91.2%.
3. The regression coefficient for the interest rate variable (X2) is positive at 1.824. This means that if the interest rate variable increases by one unit while the other variables are held constant, the Y variable, namely stock price, will increase by 1.824, or 182.4%.
4. The regression coefficient of the Working Capital Turnover variable (X3) is positive at 1.162, meaning that if the Working Capital Turnover variable increases by 1 (one) unit while other variables are considered constant, then the Y variable, namely Stock Price, will experience an increase of 1.162 or 116.2%.
5. The regression coefficient of the Inventory Turnover variable (X4) is negative at 0.344, meaning that if the Inventory Turnover variable increases by 1 (one) unit while other variables are considered constant, then the Y variable, namely Stock Price, will experience a decrease of 0.344 or 34.4%.

Table 7. Simultaneous Test Results (F Test)

ANOVA[a]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1,725	4	,431	5,511	,002[b]
Residual	2,426	31	,078		
Total	4,151	35			

a. Dependent Variable: HARGA SAHAM

b. Predictors: (Constant), PERPU PERSEDIAAN, SUKU BUNGA, PERPU MODAL, INFLASI

B. Simultaneous Test (F-Test)

The F test is used to determine whether the independent variables simultaneously have a significant effect on the dependent variable. The F test results (see Table 7) indicate that the independent variables simultaneously have a significant effect on the dependent variable. This is evidenced by the calculated F value > F table and a significant value smaller than α = 0.05. Where the calculated F value is 5.511 > F table 2.68 and a significant value of 0.002 <0.05. Thus, it can be said that the variables of inflation, interest rates, capital turnover, and inventory turnover simultaneously have a positive and significant effect on stock prices.

Table 8. Partial Test Results (t-Test)

Model		T	Sig.
1	(Constant)	2,917	,007
	INFLASI	-2,186	,037
	SUKU BUNGA	1,637	,112
	PERPU MODAL	4,335	,000
	PERPU PERSEDIAAN	-1,399	,172

C. Partial Test (t-Test)

The t-test is used to determine whether the independent variable partially influences the dependent variable. From the results of the partial test (f-test) (see table 8), the t-test results can analyze the influence of each variable: interest rate, working capital turnover, and inventory turnover on stock prices, which can be seen from the direction of the sign and the level of significance. The interest rate variable has a positive direction, the working capital turnover variable has a positive direction, and the inventory turnover variable has a negative direction. The results of the partial hypothesis testing of each independent variable on the dependent variable can be analyzed as follows:

a) The Effect of Inflation (X1) on Stock Prices (Y). Based on the research that has been conducted, where inflation has a negative and significant effect on stock prices. This can be proven by the calculated t-value > t-table, and a significant value <α = 0.05. Where the calculated t-value for the inflation variable is -2.186 > 2.03951 and a significant value of 0.037 < 0.05. This means that inflation Model T Sig. has a negative and significant effect on stock prices.
b) The Effect of Interest Rates (X2) on Stock Prices (Y) Based on the results of the research that has been conducted, where interest rates do not have a positive and insignificant effect on stock prices. This can be proven by the calculated t-value < t-table, and a significant value >α = 0.05. Where the calculated t-value for the interest rate variable is 1.637 < 2.03951 and a significant value of 0.112 > 0.05. This means that interest rates have no positive and insignificant effect on stock prices.
c) The Effect of Capital Turnover (X3) on Stock Prices (Y) Based on the research results, capital turnover has a positive and significant effect on stock prices. This is evidenced by the calculated t-value > t-table, and a significance value <α=0.05. The calculated t-value for the capital turnover variable is 4.335 > 2.03951, with a significance value of 0.000 <0.05. This means that capital turnover has a positive and significant effect on stock prices.
d) The Effect of Inventory Turnover (X4) on Stock Prices (Y) Based on the research results, inventory turnover has no negative and insignificant effect on stock prices. This is evidenced by the calculated t-value < t-table, and a significance value >α=0.05. The t-value for the inventory turnover variable is 1.399 < 2.03951, with a significance value of 0.172 > 0.05. This means that inventory turnover has no negative or significant effect on stock prices.

Table 9. Results of Determination Test (R2)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,645[a]	,416	,340	,27974	1,111

a. Predictors: (Constant), PERPU PERSEDIAAN, SUKU BUNGA, PERPU MODAL, INFLASI
b. Dependent Variable: HARGA SAHAM

D. Coefficient of Determination (R2)

The results of the determination coefficient test as shown in table 9 show a correlation coefficient (R) value of 0.645, which means there is a positive and unidirectional relationship between variable X and variable Y.

The R Square value of 0.416 explains that variable X (inflation, interest rates, capital turnover, and inventory turnover) affects variable Y (Stock Price) by 0.416 or 41.6%. While the remaining 58.4% is influenced by other factors outside the independent variables studied.

5. Discussion

Based on data analysis, this study found that simultaneously, all four variables—inflation, interest rates, working capital turnover, and inventory turnover—have a significant impact on pharmaceutical company stock prices. However, partial test results revealed a more complex dynamic, with only two variables having a significant effect individually. The following is an in-depth interpretation of these key findings.

The results confirm the hypothesis that inflation has a negative and significant impact on stock prices. This finding is consistent with economic theory and previous research such as (Gursida, 2017). In the context of the pharmaceutical industry, the impact mechanism of inflation can be explained through two main channels. First, high inflation increases production costs, particularly for raw materials, energy, and logistics components. This increase in the cost of goods sold (COGS) directly suppresses companies' gross profit margins. Second, inflation erodes people's real purchasing power. Although demand for health products is inelastic for essential medicines, consumers may delay purchases or switch to cheaper generic products for non-essential drugs or supplements. This decline in revenue and profit growth expectations is perceived by the market as a negative signal, leading to a correction in stock valuations. The study period (2017-2020), which was marked by a general decline in inflation, actually reinforced this finding; the decline in inflation correlated with an increase in the attractiveness of pharmaceutical sector stocks as a defensive asset.

Contrary to the initial hypothesis and conventional theory, interest rates (the BI Rate) were not shown to significantly influence pharmaceutical stock prices. This finding aligns with research by (Faia & Monacelli, 2007). Several rational explanations can be put forward. First, pharmaceutical stock investors tend to be long-term investors, focusing more on company fundamentals and the prospects for sustainable growth in the healthcare industry, rather than short-term interest rate fluctuations. Second, during the study period, BI Rate movements were relatively stable and on a downward trend, thus not creating a significant shock to the capital market. Third, as a sector considered defensive and crisis-resistant, pharmaceutical stock performance is often less sensitive to interest rate changes than cyclical sectors such as property or finance. Investor capital flows may not immediately shift to fixed-income instruments simply because of a moderate increase in interest rates, given the stable potential for capital gains and dividends from pharmaceutical stocks.

A particularly strong finding in this study is the positive and significant influence of working capital turnover on stock prices, supporting the hypothesis and research by Hamdi (2020). This ratio is a vital indicator of operational efficiency and short-term liquidity health. In the pharmaceutical industry with its high working capital intensity to finance inventory and receivables, a company's ability to accelerate cash turnover is highly valued by the market. High working capital turnover indicates several things: (1) Operational Efficiency: The company is able to convert inventory and receivables into cash quickly, reducing the need for costly external financing. (2) Good Liquidity Risk Management: The company has adequate ability to meet short-term obligations without disrupting operations. (3) Growth Potential: Rapidly rotating working capital provides more internal funds that can be reinvested in expansion or research and development (R&D). Investors interpret this signal positively, as it reflects quality management and healthy growth prospects, which are ultimately reflected in stock price appreciation.

Although a high inventory turnover ratio theoretically reflects efficiency, the results of this study indicate that this ratio does not significantly impact pharmaceutical stock prices. This finding aligns with Jatisuryaputra (2020). The unique characteristics of the pharmaceutical industry provide important context. First, pharmaceutical companies must maintain adequate inventory levels (safety stock) to comply with government regulations, ensure the availability of essential drugs, and anticipate fluctuating demand, particularly for specific products or during pandemics. This results in a lower absolute inventory turnover ratio than the retail sector. Second, inventory value in pharmaceuticals is closely linked to product portfolios. Companies with a portfolio of highly valuable specialty products or patented drugs may have lower inventory turnover but very high profitability per unit. Therefore, investors tend to view profitability metrics (such as

gross margin) and the strength of their R&D product pipeline as more important indicators than simply inventory turnover rate.

The Adjusted R^2 value of 0.340 indicates that the model built with these four variables can explain approximately 34% of the variation in stock prices (or 41.6% based on R^2). While significant, the large unexplained proportion (around 66%) confirms the complexity of stock pricing. Other factors outside the model, such as profitability performance (ROE, ROA), dividend policy, product innovation and R&D results, corporate events (mergers/acquisitions), macro market sentiment, and healthcare regulatory and political factors, play a significant role. These findings do not diminish the research's contribution, but rather emphasize that inflation and working capital efficiency are two important pieces of the puzzle in the fundamental analysis of pharmaceutical stocks, while also paving the way for further research to integrate other explanatory variables.

6. Conclusion

Based on the analysis and discussion, this study concludes that macroeconomic factors and internal financial performance of companies have varying effects on the stock prices of pharmaceutical sub-sector companies on the Indonesia Stock Exchange during the 2017-2020 period. First, simultaneously, the variables of inflation, the BI Rate, working capital turnover, and inventory turnover were shown to have a significant effect in explaining stock price movements, indicating that a combination of external and internal factors needs to be considered in the analysis. Second, partially, only inflation (with a significant negative effect) and working capital turnover (with a significant positive effect) were shown to be significant determinants of stock prices. Meanwhile, interest rates and inventory turnover did not show a significant effect, indicating that pharmaceutical sector investors may be more focused on long-term fundamentals and inflation resilience, and less sensitive to moderate fluctuations in policy interest rates. Third, the model was able to explain 41.6% of stock price variations, confirming that although inflation and working capital efficiency are key components, other factors outside the model play a more dominant role in market valuation.

This study has several limitations that should be acknowledged. First, the study's limited scope, limited to nine pharmaceutical companies over a four-year period (2017-2020), may affect the generalizability of the findings. This period also encompasses the onset of the COVID-19 pandemic, which was an external shock with specific impacts on the healthcare sector and financial markets as a whole. Second, the research model only includes four explanatory variables, while the coefficient of determination (R^2) indicates that more than half of the stock price variation (58.4%) is explained by other unmodeled factors, such as profitability performance (ROA, ROE), capital structure, dividend policy, product innovation, or macro market sentiment. Third, the use of annual data may be inadequate in capturing short-term market reactions to changes in the studied variables.

The findings of this study have important practical implications for various stakeholders. For pharmaceutical company management, these results highlight the need for operational strategies focused on working capital efficiency to send a positive signal to the market, while simultaneously developing proactive mitigation measures (such as hedging or supply chain efficiency) to address inflation risks, which have been shown to depress valuations. For investors and capital market analysts, this study provides a more measurable analytical framework, where the national inflation rate and working capital turnover ratio can be used as two initial screening tools in assessing pharmaceutical sector stocks, although they should still be complemented by analysis of other fundamental factors. For academics and future researchers, the findings showing the insignificance of interest rates and inventory turnover open up the opportunity for in-depth studies of the specific characteristics of the pharmaceutical industry and more relevant alternative explanatory variables. Thus, the implications of this study are not only applicable to investment and corporate decision-making but also constructive for the development of sectoral financial literature in Indonesia.

Acknowledgments

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