The Impact of Financial Distress, Information Technology, and Macroeconomics on Stock Returns of State-Owned Enterprises Listed on the Indonesia Stock Exchange (IDX)

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Abstract. This study aims to analyze the impact of financial distress, measured using the Springate S-Score, information technology represented by IT spending, and macroeconomic factors such as interest rates and exchange rates on the stock returns of State-Owned Enterprises (SOEs) listed on the Indonesia Stock Exchange during the period of 2019-2023. The research method employed is multiple linear regression analysis with a quantitative approach, utilizing secondary data from annual financial reports of SOEs selected through purposive sampling. The results show that financial distress, as proxied by the Springate S-Score, has a significant positive effect on stock returns, while information technology does not have a significant impact on stock returns. The macroeconomic factor, exchange rate, has a significant positive effect on stock returns, whereas interest rates show no significant relationship. Overall, these findings provide insights for investors and SOE management in formulating more effective investment strategies and operational decisions in the capital market.

Keywords: Financial Distress, Springate S-Score, Information Technology, Macroeconomic Factors, Stock Returns.

1. Introduction

The Indonesian capital market, specifically the Indonesia Stock Exchange (IDX), is essential to the nation's economy movement as one of the main channels for company financing. One of the common ways companies raise equity is by selling shares to the public. The performance of a company's stock becomes a key indicator in assessing the financial health of the company and also serves as an important factor influencing investment decisions made by investors (Mahyuda et al., 2021); (Destina, 2022). Stock return, which represents The gap between the price at which shares are bought and sold, reflects the profit gained by investors from stock investments. According to Hartono (2019), stock return indicates the result of an investment, which could either be profit or loss, depending on how the stock price fluctuates. This stock return becomes a key factor that entices investors to fund the business, as evaluating inventory performance provides insights into prospects for the company's financial future.

During the period of 2019-2023, Indonesia experienced various domestic and global economic dynamics that significantly impacted the performance of the stock market. One of the major events during this period was the large-scale restructuring of State-Owned Enterprises (SOEs) carried out by the Indonesian government through the Ministry of SOEs. This restructuring included the consolidation of business clusters, streamlining the number of SOEs, operational efficiency, service digitization, and initial public offerings (IPOs) of subsidiaries (Muawwan, 2023). The primary goal of this restructuring was to create healthier, more competitive SOEs that would contribute optimally to the national economy. The government also clustered SOEs based on their core business lines and reduced the number of SOEs from 142 to 107, with the final target of restructuring being around 70 to 80 entities (Manurung, 2020).

However, even though these restructuring measures were taken to improve the financial condition of SOEs, this sector still faces various external challenges, such as global economic uncertainty caused by the COVID-19 pandemic, surging inflation, the Russia-Ukraine geopolitical conflict, and tight global monetary policies, including interest rate hikes by the Fed and Bank Indonesia in 2022-2023 (Nityakanti, 2023). In addition, the Russia-Ukraine conflict has affected global oil prices, which reached more than US$100 per barrel due to disrupted global supply (Aida & Nugroho, 2022). All these external factors have had a significant impact on certain sectors managed by SOEs, such as the energy, property, and construction sectors, as reflected in the fluctuating performance of SOE stocks (Tari, 2021);(Soenarso, 2023).

The fluctuations in SOE stock performance are particularly evident in the non-financial sector, where firms such as PT Waskita Karya, PT Adhi Karya, and PT Wijaya Karya have experienced sharp declines in stock prices due to various internal and external factors affecting their financial performance. Data extracted from the Indonesia Stock Exchange indicates that shares of several SOEs have experienced significant declines, such as PT Waskita Karya, which saw a decline of more than 40% in 2020 (Tari, 2021). This has become a major concern for investors, as global uncertainty and weak internal company conditions can lead to a decline in stock performance that is detrimental to shareholders.

One of the factors of concern is financial distress, which refers to a company's financial condition where It can't meet its short- and long-term obligations, often leading to bankruptcy or the need for restructuring measures (Brigham & Houston, 2007). Financial distress in State-Owned Enterprises (SOEs) becomes a serious issue because SOEs have a significant responsibility towards national economic stability and public welfare. Several SOEs, such as PT Wijaya Karya and PT Adhi Karya, show signs of potential financial distress based on financial ratio analysis using predictive models such as the Altman Z-Score and Springate S-Score (Darmawan, 2022). In this context, financial distress can directly affect stock returns, as the deterioration in a The financial performance of the business tends to reduce investor confidence, which ultimately results in a decline in stock prices (Fernando, 2021). Several studies, such as those by Rabani (2024) and Darmayanti et al., (2020), show that the Springate S-Score has a notable favourable impact on stock performance as a stand-in for financial crisis, while Bachmid et al., (2021) found a significant negative impact.

In addition to financial distress, another internal factor affecting stock returns is information technology (IT), particularly investment in IT Spending. According to Nhat (2025), technological advancements have forced companies to innovate and adapt to technological developments in order to remain competitive in the market. Investment in information technology can improve operational efficiency and open new growth opportunities, potentially leading to better improved stock returns and business performance. However, study on the connection between stock returns and IT expenditures in SOEs remains limited. This highlights the significance of conducting studies to look at how IT investments affect stock returns in state-owned businesses going through digital transformation and restructuring (Azhar, 2023). The findings of study by Hadi et al. (2023) and Zhang & Zhuang (2020) reveal that Stock returns are significantly improved by the application of information technology. Conversely, the findings of Nhat (2025) show that this variable has a negative impact on stock returns.

Macroeconomics, particularly interest rates and exchange rates, also plays an important role in investment decisions and stock market performance. The interest rate set by Bank Indonesia influences a company's cost of capital and the attractiveness of the stock market for investors. High interest rates can encourage investors to shift to safer instruments, reducing demand for stocks and lowering stock prices (Yuliaratih & Artini, 2018). On the other hand, fluctuating exchange rates also affect company performance, particularly those reliant on importing raw materials or exporting products. Exchange rate changes can increase production costs or reduce profit margins, which in turn affects stock returns (Tandelilin, 2010). Research by Sukmadewi & Badjra (2023), Ananda & Santoso (2022), and Iqmal & Putra (2020) show a significantly negative effect of interest rates on stock returns, while Bangun et al. (2020), Akal et al. (2022), and Feren & Bangun (2019) found a significantly positive effect. Regarding exchange rates, studies by Mawaddah et al. (2024), Ananda & Santoso (2022), and Iqmal & Putra (2020) found a significantly positive relationship with stock returns, while Nugraheni and Paramita (2020) found a significantly negative impact.

2. Literature Review

2.1. Agency Theory

Signal theory explains that a company's management sends certain signals to investors to provide insight into their expectations about the success and prospects of the business going forward (Brigham & Houston, 2007). Companies typically send positive signals when their outlook is considered favorable, which investors then assess and verify (Hartono, 2019). If the signal proves accurate, investors will respond positively by purchasing shares, conversely, if the outlook is poor, investors will sell shares (Brigham & Houston, 2007) . Spence (1973) explains that the cost of sending negative signals is higher than sending positive ones, meaning companies with poor performance tend to provide less convincing signals. This theory highlights that managers seek to disclose internal information to reduce information asymmetry, aiming to send positive signals concerning the performance of the business to the market and assist in investors decision-making (Spence, 1973). As a kind of signal, financial reports seek to give a comprehensive view of the performance and financial health of the business. to external parties, including investors, in order for them to make better choices based on transparent and reliable information (A Gumanti, 2009).

2.2 Stock Return

Stock performance is a key indicator of the company's overall financial health and shows how well its stock assets are managed. (Regitasari & Ernandi, 2021). Stock return is among the most important indicators in assessing stock performance. This return represents the profit received by investors, which is the difference between the value gained from the investment and the amount of capital initially invested (Brigham & Houston, 2007); (Bangun et al., 2020). According to Fahcrudin & Ihsan (2021), stock return can be derived from two main sources, dividends and capital gains. A corporation distributes its profits to its shareholders in the form of dividends, whereas capital gains arise from the difference between the selling price and the purchase price of the stock. When stock prices rise, the capital gain earned by investors also increases.

2.3 Financial Distress

Ross et al. (2003) state that financial distress occurs when a company's operating cash flow is insufficient to pay short-term liabilities (such as accounts payable or interest on debt), leading the business to implement remedial measures. When a business finds it difficult to fulfil its maturing obligations, it is said to be in financial difficulty (Drescher, 2014). In this study, To quantify financial suffering, the Springate model is employed. The Springate S-Score is a predictive model for corporate failure developed based on the Altman method. Springate successfully identifies 4 ratios that can be applied to forecast a company's potential bankruptcy. Ghodrati (2012) explains that this method has an accuracy rate of up to 92.5% in distinguishing between companies experiencing distress and those that are not.

2.4 Information Technology

According to Wiranti et al. (2023), technology encompasses programming, implementation, development, and management of computer-based information systems, including hardware and software. Information Technology (IT) is used to support individuals in creating, modifying, storing, communicating, and sharing information. Investment and application of IT in various sectors have brought significant changes, such as improved customer service and more modern products (Nhat, 2025). Digital transformation involving big data, artificial intelligence, and blockchain can enhance operational efficiency and strengthen customer relationships (Naimi-Sadigh et al., 2022). IT Spending refers to the allocation of company funds for information systems, including hardware and software, which are recorded as company assets (Risa & Hermanto, 2023). Decisions to make IT Spending are typically made after the company establishes its business and IT strategies. In this study, IT Spending is measured based on its proportion to the company's total assets, indicating how much the company allocates for IT each year (Risa & Hermanto, 2023).

2.5 Interest Rate

According to Sunariyah (2004), the interest rate is one of the factors that influences investors' decisions to place their funds in deposits or Bank Indonesia Certificates (SBI), making stocks less attractive. The BI Rate, which Bank Indonesia sets to preserve the rupiah's stability, is the interest rate employed in this study. The measurement is done in percentage, and the data collected includes the BI Rate for the period from 2019 to 2023.

2.6 Exchange Rate

The Rupiah exchange rate is the value of the Rupiah against the United States Dollar. The intermediate exchange rate announced by Bank Indonesia between the Rupiah and the US dollar is the one that is used. The exchange rate data is obtained from Bank Indonesia, and the middle exchange rate at the end of the year for the study period from 2019 to 2023 is used.

3. Hypothesis

3.1 The Effect of Springate S-Score as a Proxy for Financial Distress on Stock Return

When a company's operating cash flow is insufficient to cover its immediate obligations, it is said to be in financial difficulty. such as accounts payable and loan interest, requiring corrective actions (Ross et al., 2003). The Springate model, which measures financial distress, indicates that a higher S-Score reflects a healthier financial condition, positively impacting stock prices and attracting investors (Darmayanti et al., 2020); (Sari & Andayani, 2022). Springate (1978) explained that an S-Score above 1.062 suggests low financial distress, leading to higher investor confidence and positive stock returns, while an S-Score below 0.862 indicates high financial distress, which typically results in lower stock prices and negative returns. Signaling theory further supports this, suggesting that when a company faces financial distress, management often sends signals to investors, such as financial performance announcements or restructuring plans, to prevent further stock price decline (Bachmid et al., 2021); (Brigham & Houston, 2007). Research by Rabbani (2024) and other studies (Khuzairina et al., 2024); (Caparino & Simamora, 2020) confirms that a positive relationship exists between financial distress, as indicated by the Springate model, and stock returns. However, there is still a gap in research regarding the specific impact of Springate S-Score on stock returns in SOEs during periods of restructuring, which this research attempts to address. Based on this, the hypothesis is:

H_1 = **Springate S-Score as a proxy for financial distress has a significant positive effect on stock returns.**

3.2 The Effect of Information Technology on Stock Return

Investment in Information Technology (IT) is part of a company's capital expenditure allocated for the development of information systems, including hardware and software, which is directly reflected in the company's assets (Risa & Hermanto, 2023). The adoption of innovative IT can create economic advantages for the company and enhance the potential for stock returns (Nugroho, 2013). Study by Hadi et al. (2023) demonstrates that the use of IT significantly and favourably affects stock returns, with a positive correlation between IT implementation and stock market performance. Regarding the theory of signalling, IT investment can be seen as a positive signal that demonstrates the company's long-term commitment to efficiency, innovation, and business growth, which in turn increases investor confidence and stock prices. Conversely, a lack of IT investment may be seen as a negative signal (Brigham & Houston, 2007). Based on these findings, Thus, it may be said that companies that successfully adopt and implement IT efficiently tend to achieve higher profitability and receive positive reactions from the stock market (Hadi et al., 2023); (Zhang & Zhuang, 2020). Based on this, the hypothesis is :

H_2 = **Information Technology has a significant positive effect on stock returns.**

3.3 The Effect of Interest Rate on Stock Return

BI interest rate is a monetary policy tool issued by Bank Indonesia to control interest rates (Feren & Bangun, 2019). Tandelilin (2010) found that interest rates negatively affect stock returns, as higher rates encourage investors to shift to safer instruments like deposits, reducing market activity. Rising interest rates increase company costs and reduce profitability, negatively impacting stock returns (Bachtriyoh, 2013). Signaling theory suggests that interest rate changes send signals about economic conditions and company prospects. An increase in rates signals inflation and economic risks, leading to lower stock returns, while a decrease signals stability, encouraging investment in the stock market. Studies by Sukmadewi & Badjra (2023), Ananda & Santoso (2022), Iqmal & Putra (2020), and Yusfiarto (2020) confirm the negative relationship between interest rates and stock returns. Based on this, the hypothesis is :

H_3 = **Interest Rate has a significant negative effect on stock returns.**

3.4 The Effect of Exchange Rate on Stock Return

According to Sukirno (Sukirno, 2010), the exchange rate is the amount of money required to obtain a single foreign currency equivalent, reflecting the value of the domestic currency against foreign currencies (Bodie et al., 2009). When the exchange rate falls, one of the policies typically implemented by the government or central bank is raising interest rates, making bank savings more attractive and reducing consumption and other investments (BankIndonesia, 2020). This increase in interest rates tends to cause investors to withdraw their investments from the stock market, as other instruments like bonds become more appealing with higher returns, ultimately leading to lower stock prices and stock returns (Devia, 2020). However, Tandelilin (2010) demonstrated that a strengthening exchange rate against foreign currencies has a positive impact on stock returns, as it is seen as a sign of economic stability. In the context of signaling theory, exchange rate changes can be viewed as signals about economic conditions, with an appreciation of the domestic currency indicating economic stability and benefiting companies, while depreciation signals economic uncertainty and lowers stock returns. Research by Iqmal & Putra (2020), Ananda & Santoso (2022), Mawaddah et al. (2024), and Permaysinta & Sawitri (2021) supports the findings that exchange rates have a positive effect on stock returns. Based on these findings, the proposed hypothesis is:

H_4 = Exchange Rate has a significant positive effect on stock returns.

4. Method

This research uses a quantitative approach with a descriptive method (Sugiyono, 2020). The data used in this research are secondary data. Sugiyono (2020) stated that secondary data refers to data that is not collected directly by the researcher but obtained from other sources or written documents. This type of data can include evidence, records, or historical reports, such as annual financial statements. For this research, the secondary data used consists of the annual financial statements of SOEs listed between 2019 and 2023 on the Indonesia Stock Exchange (IDX). These data can be accessed through the IDX website (idx.co.id) and the related SOE websites. Other data sources include the Bank Indonesia website (bi.go.id), reference journals, and other online information. A sample of 15 businesses with a total of 75 observations was chosen using the purposive sampling technique, with 9 outlier data points, resulting in a total of 66 observations. The criteria for the population selected as samples in this study are non-financial sector SOEs listed on the Indonesia Stock Exchange from 2019 to 2023, companies that have not experienced delisting, and SOEs that report financial statements in rupiah. The final criterion is that the companies must have complete data as required for this research.

5. Analysis and Discussion

5.1. Descriptive Statistical Test

Table 1. Descriptive Statistical Test Results

	N	Minimum	Maximum	Mean	Std. Deviation
Y_Stock_Return	66	1,30000	2,36162	1,8301868	,24635697
X1_Springate_Score	66	-3,92602	2,72732	,4279805	,85340905
X2_Information_Technology	66	-,00234	,01060	,0011173	,00275972
X3_Interest_Rate	66	3,50000	6,00000	4,7954545	,99509286
X4_Exchange_Rate	66	13901,00	15731,00	14752,8182	753,70829
Valid N (listwise)	66				

Source: Data Processing with SPSS 27

The following is a description of the findings of the descriptive statistics analysis based on the aforementioned table:

1) Stock Return: The minimum stock return is 1.30000 for PT Wijaya Karya Tbk in 2023, indicating the lowest stock return and profitability among the sample companies, while the maximum stock return is 2.36162 for PT Bukit Asam Tbk in 2022, indicating the highest return. The average return is 1.8301868, meaning companies in the sample provide an average 18.30% return. The standard deviation is 0.24635697, showing limited variation in stock returns across the sample companies.

2) Springate S-Score (Financial Distress Proxy): The minimum S-Score is -3.92602 for PT Indofarma Tbk in 2023, indicating financial distress (< 0.862), while the maximum is 2.72732 for PT Bukit Asam Tbk in 2022, indicating a healthy financial condition (> 0.862). The average S-Score is 0.4279805, showing that most companies in the sample are experiencing financial distress. The standard deviation is 0.85340905, indicating high variability in financial distress among the sample companies.

3) Information Technology (IT Spending): The minimum IT spending is -0.002334 for PT Waskita Beton Precast Tbk in 2022, showing minimal investment in IT, while the maximum is 0.01060 for PT Telkom Indonesia in 2021, indicating high IT investment. The average IT spending is 0.0011173, suggesting that companies in the sample allocate funds for IT investment. The standard deviation of 0.00275972 indicates moderate variation in IT spending across companies.

4) Interest Rate: The minimum interest rate set by Bank Indonesia is 3.5%, and the maximum is 6.0%. The average interest rate is 4.7954545%, reflecting the average interest rate during the research period. The standard deviation is 0.99509286, showing limited variation in interest rates.

5) Exchange Rate: The minimum exchange rate is 13,901 IDR per USD, and the maximum is 15,731 IDR per USD. The average exchange rate is 14,752.82 IDR per USD, indicating relatively stable exchange rates during the research period. The standard deviation is 753.70829, indicating moderate variation in exchange rates.

5.2 Normality Test

Table 2. Data Normality Testing Results

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual
N			66
Normal Parameter a,b	Mean		,000000
	Std. Deviation		,22391280
Most Extreme Differences	Absolute		,053
	Positive		,053
	Negative		-,044
Test Statistic			,053
Asymp. Sig. (2-tailed)			,200^d
Monte Carlo Sig. (2-tailed)	Sig.		,922
	99% Confidence Interval	Lower Bound	,915
		Upper Bound	,929

Source: Data Processing with SPSS 27

In the table, The Asymp.Sig (2-tailed) score of 0.200, which is greater than 0.05, indicates the normality test results. suggest that the data for this study follows a normal distribution. To ensure the data distribution is normal, the researcher removed 9 outlier samples, reducing the total number of samples used for this analysis from 75 to 66.

5.3 Multicolinearity Test Results

Table 3. Multicolinearity Test Results

		Collinearity Statistics	
Model		Tolerance	VIF
1	X1_Springate_Score	,947	1,056
	X2_Information_Technology	,955	1,047
	X3_Interest_Rate	,966	2,145
	X4_Exchange_Rate	,465	2,149
a. Dependent Variable: Y_Stock_Return			

Source: Data Processing with SPSS 27

The table indicates that every variable has a Variance Inflation Factor (VIF) value less than 10 and a tolerance value more than 0.1. These results align with the multicollinearity testing criteria, meaning the uncorrelated variables in the framework of regression don't show multicollinearity.

5.4 Heteroscedasticity Test

Table 4. Heteroscedasticity Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	,180	,398		,451	,654
	X1_Springate_Score	,014	,020	,091	,698	,488
	X2_Information_Technology	3,341	6,123	,071	,546	,587
	X3_Interest_Rate	,012	,024	,091	,491	,625
	X4_Exchange_Rate	-4,435E-6	,000	-,026	-,138	,891

Source: Data Processing with SPSS 27

To detect heteroscedasticity issues, this study uses the Glejser Method. All independent variables have significance values higher than 0.05, The results of the heteroscedasticity test indicates proving that there are no heteroscedasticity issues with this multiple linear regression model.

5.5 Autocorrelation Test

Table 5. Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,417[a]	,174	,120	,23113765	2,036

Source: Data Processing with SPSS 27

The findings of the autocorrelation test shown in Table 4.5 indicate a Durbin-Watson (dW) value of 2.036. This value is compared against the Du value from the table and 4-Du. No autocorrelation exists if the Durbin-Watson value falls between dU and 4-dU, with a sample size of 66. Referring to the Durbin-Watson table, the dU value is 1.7319 and the dL value is 1.4758, which results in a 4-dU value of 2.2681. Therefore, it can be concluded that there is no autocorrelation in this study because the Durbin-Watson value (dW) lies between dU and 4-dU (1.7319 < 2.036 < 2.2681).

5.6 Multiple Linear Regression Test

Table 6. Multiple Linear Regression Test Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3,125	,691		4,520	,000
	X1_Springate_Score	,097	,035	,335	2,801	,007
	X2_Information_Technology	12,033	10,631	,135	1,132	,262
	X3_Interest_Rate	,065	,042	,262	1,536	,130
	X4_Exchange_Rate	,000	,000	-,344	-2,019	,048

Source: Data Processing with SPSS 27

The results of this regression analysis can be described as follows:

$$Y = 3{,}125 + 0{,}097X_1 + 12{,}033X_2 + 0{,}065X_3 + 0{,}000X_4 + e$$

5.7 T Test (Partial)

Table 7. T Test (Partial) Results

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3,125	,691		4,520	,000
	X1_Springate_Score	,097	,035	,335	2,801	,007
	X2_Information_Technology	12,033	10,631	,135	1,132	,262
	X3_Interest_Rate	,065	,042	,262	1,536	,130
	X4_Exchange_Rate	,000	,000	-,344	-2,019	,048

Source: Data Processing with SPSS 27

Based on the table, the following conclusions can be drawn:

1. Hypothesis 1: "Springate S-Score (X1) as a proxy for financial distress has a significant positive effect on stock returns. The regression analysis shows a coefficient of 0.097, a significance value of 0.007 (less than 0.05), and a t-value of 2.801. This supports H_1, indicating a positive and significant effect of Springate S-Score on stock returns in SOEs".

2. Hypothesis 2: "Information Technology (X2) has a positive but not significant effect on stock returns. The regression shows a coefficient of 12.033, a significance value of 0.262 (greater than 0.05), and a t-value of 1.132. Therefore, H_2 is not supported, as IT investment does not significantly impact stock returns".

3. Hypothesis 3: "Interest Rates (X3) have a positive but not significant effect on stock returns. The regression shows a coefficient of 0.065, a significance value of 0.130 (greater than 0.05), and a t-value of 1.536. This means H_3 is not supported, as interest rates do not significantly affect stock returns".

4. Hypothesis 4: "Exchange Rates (X4) have a significant positive effect on stock returns. The regression shows a coefficient of 0.048, a significance value of 0.048 (less than 0.05), and a t-value of -2.019. This supports H_4, indicating that exchange rates positively and significantly affect stock returns in SOEs".

5.8 Simultaneous F Test

Table 8. Simultaneous F Test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,686	4	,172	3,210	,019[b]
	Residual	3,259	61	,053		
	Total	3,945	65			

Source: Data Processing with SPSS 27

Based on the table, the F-value obtained is 3.210 with a significance (Sig.) value of 0.019, which is under 0.05. Consequently, it can be said that the independent variables which include information technology, interest rates, exchange rates, and the Springate S-Score, which serves as a stand-in for financial distress have a substantial combined impact on stock returns.

5.9 Determination Coefficient Test

Table 9. Determination Coefficient Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,417[a]	,174	,120	,23113765

Source: Data Processing with SPSS 27

Based on the table, the research results show that the Adjusted R Square value is 0.120, or 12%. This means that 12% of the variation in Stock Returns can be explained by the four independent variables, namely Springate S-Score as a proxy for Financial Distress, Information Technology, Interest Rate, and Exchange Rate. Meanwhile, other factors that were not examined in this study account for the remaining 88% of the variance.

6. Discussion

6.1 The Effect of Springate S-Score as a Proxy for Financial Distress on Stock Return

The first hypothesis in this study suggests that Springate S-Score, as a proxy for financial distress, has a significant positive effect on stock returns. The regression analysis shows a significance value of 0.007 and an unstandardized beta coefficient of 0.097, indicating a significant positive relationship between the two variables. This means that the higher the S-Score, reflecting a healthier financial condition, the higher the stock returns, and vice versa. These findings support H_1, explaining that Springate S-Score as a proxy for financial distress significantly influences stock returns. Companies with higher Springate S-Scores are considered financially healthier, which boosts investor confidence, increases stock demand, and ultimately drives up stock returns. Conversely, a low Springate S-Score indicates potential financial problems, which can decrease investor confidence, reduce stock prices, and lower stock returns (Rabbani, 2024); (Darmayanti et al., 2020)

These findings align with signaling theory, which explains that companies send signals to the market to reflect their internal conditions. In this case, financial distress, as indicated by a low Springate S-Score, signals poor financial health, sending a negative signal to investors regarding the company's future prospects. This signal reduces investor confidence, affecting stock demand and stock prices, thereby decreasing stock returns. On the other hand, a healthier financial condition, reflected by a higher Springate S-Score, sends a positive signal to investors, which increases stock demand and drives up stock prices, thus improving stock returns. This study supports research by Rabbani (2024) and Darmayanti et al. (2020), which shows a significant positive relationship between Springate S-Score as a proxy for financial distress and stock returns. However, these results contradict those of Bachmid et al. (2021), who found a negative relationship between Springate S-Score and stock returns.

6.2 The Effect of Information Technology on Stock Returns

This study tests the second hypothesis, which suggests that Information Technology (IT) has a significant positive effect on stock returns. The regression analysis results show a significance value of 0.262 and an unstandardized beta of 12.033, indicating a positive but insignificant relationship between these variables. IT in this study is represented by IT Spending, which refers to the proportion of spending on IT-related assets relative to the total assets. The findings do not support H_2, indicating that high IT spending and effective implementation of IT do not always significantly impact stock returns. Despite this, the positive relationship is somewhat supported by research from Hadi et al. (2023), which found that IT positively influences stock returns by improving profitability through innovation, better customer relationship management, and supply chain optimization.

However, this study suggests that IT investment does not have a significant impact on stock returns because it does not directly influence investor decisions. Most investors focus more on financial performance, such as net profit, rather than the scale and sophistication of a company's IT investment. Even if a company invests heavily in technology but reports losses, investors may be reluctant to buy its stock, as they do not see immediate benefits from the technology spending. Additionally, the benefits of such investments are long-term and do not immediately reflect in market performance. Implementing IT requires adaptation, training, and complex system integration, so its impact on efficiency and profitability may take time to materialize. Furthermore, investors may not have sufficient information to assess the real value of these technology investments (Nhat, 2025) ; (Hadi et al., 2023).

6.3 The Effect of Interest Rate on Stock Returns

The third hypothesis in this study states that interest rates have a significant negative effect on stock returns. However, the regression analysis reveals an unstandardized beta of 0.065 and a significance value of 0.130, suggesting a positive but not statistically significant association between the two variables. These findings do not support H_3, which suggests that interest rates have a relevant negative effect on stock returns. The results indicate that although the interest rates set by Bank Indonesia increase, this does not necessarily lead investors to shift their investments to instruments like savings or deposits, which can increase interest burdens and reduce profitability, thus not always decreasing stock returns. This study contradicts the findings of Iqmal & Putra (2020), which found that interest rate increases led to a decrease in stock returns. On the other hand, the results of this study are more in line with the findings of Akal et al., (2022) and Bangun et al., (2020), which showed a positive effect of interest rates on stock returns.

During the 2019-2023 period, the interest rate policies implemented by Bank Indonesia were often moderate, adjusted to macroeconomic conditions such as inflation, exchange rate stability, and global uncertainties, including the effect of the COVID-19 pandemic. This situation caused economic instability, with many layoffs and company closures, leading to a shift in funds to the capital market in search of higher returns. Additionally, the appreciation of the exchange rate raised investor expectations that stock prices would increase, thus maintaining investment interest in the stock market despite the increase in interest rates. Certain sectors, such as banking and financial services, tend to benefit from interest rate increases due to higher net interest margins, which contribute to higher stock returns. Therefore, although interest rates rise, the stock market's response is not always linear, and the company's fundamental factors remain the primary consideration for investor (Akal et al., 2022) ; (Bangun et al., 2020).

6.4 The Effect of Exchange Rate on Stock Returns

Hypothesis four in this study suggests that exchange rates have a significant positive effect on stock returns. The regression analysis shows a significance value of 0.048 and an unstandardized beta of 0.000, indicating a significant positive relationship between the two variables. This means that an increase in the exchange rate will result in higher stock returns, and vice versa. The findings support H_4, explaining that exchange rates significantly and positively affect stock returns. When the exchange rate declines, central banks or the government often respond by increasing interest rates, which can cause investors to shift from the stock market to higher-yielding instruments. This would lead to increased stock sales, lower stock prices, and decreased stock returns overall. The results align with the findings of Iqmal & Putra (2020), who found a significant positive relationship between exchange rates and stock returns, explaining that when the rupiah weakens, stock returns tend to decline, and vice versa.

The findings of this study are consistent with the research of Permada et al. (2022), which shows that the dollar index influences stock prices. When the dollar index changes, it reflects the movement of the rupiah against the US dollar, influencing stock movements, including the Composite Stock Price Index (IHSG). A stronger dollar can affect stock performance because investors view exchange rates as an important indicator of economic stability and market prospects. According to signaling theory, macroeconomic information, such as exchange rates, serves as a signal for investors when making investment decisions. When the rupiah strengthens, it is often interpreted as a positive signal for economic stability and effective fiscal and monetary policies. This signal boosts investor confidence in the investment climate in Indonesia, leading to capital inflows into the stock market. Furthermore, a stronger exchange rate reduces the import costs of raw materials for domestic-based industries, improving operational efficiency and company profitability. This information is perceived as a positive signal by the market, driving increased stock demand, which ultimately leads to higher stock prices and returns for investors (Permada et al., 2022).

7. Conclusion

The purpose of this study is "to examine the effects of Springate S-Score as a proxy for financial distress, Information Technology, and macroeconomic factors on stock returns, using State-Owned Enterprises (SOEs) as the subject of the research for the period of 2018–2023". The sampling method used in this study is purposive sampling based on specific criteria within this time range. From the selection process, 75 company data were obtained; however, after excluding nine outlier data points, the final sample used in this study consisted of 66 company data. According the results of the study, several key conclusions can be drawn, including:

1) Springate S-Score as a Proxy for Financial Distress: It was found to have a significant positive effect on stock returns in SOEs during the period of 2019–2023. This indicates that the higher the Springate S-Score, reflecting healthier financial conditions, the greater the investor confidence, which ultimately supports an increase in stock returns. A high Springate S-Score signifies low financial distress, leading to the conclusion that financial distress has an inverse relationship with stock returns. This finding is consistent with signaling theory, where companies that send positive signals through strong financial conditions attract interest in the capital market.

2) Information Technology Investment (IT Spending): IT Spending showed a positive but insignificant relationship with stock returns. This suggests that even though companies allocate large amounts of funds to Information Technology, the market does not immediately respond to these increases. Factors such as high initial costs, long implementation periods, and the uncertainty of short-term results contribute to the lack of significant impact. Moreover, the IT Spending indicator, which only reflects the proportion of technology-related assets, does not fully capture the effectiveness and tangible outcomes of these investments on the company's performance.

3) Interest Rates: Interest rates showed a positive but insignificant relationship with stock returns. This finding does not support the initial hypothesis, which predicted a negative effect. The justification for this result is that the moderate and controlled interest rate policy during the study period did not cause major market fluctuations. In some cases, an increase in interest rates was interpreted as a signal of confidence in economic stability, especially in the banking and financial sectors, which benefited from these conditions.

4) Exchange Rates: The exchange rate was found to have a significant positive effect on stock returns. This suggests that a strengthening rupiah against the US dollar tends to drive an increase in stock returns. Investors perceive exchange rate stability as a positive signal for macroeconomic conditions. A stronger exchange rate also reduces import costs and improves operational efficiency, especially for companies relying on foreign raw materials, leading to increased profitability and stock returns.

8. Limitations and Recommendation

This study has several limitations. First, the data used only covers a five-year period, from 2019 to 2023. The short time span may not fully reflect the long-term dynamics of the influence of independent variables on stock returns. Second, the study focuses solely on non-financial "State-Owned Enterprises" SOEs listed on the Indonesia Stock Exchange, excluding financial sectors such as banking and insurance. Additionally, the research does not focus on a specific industry sector but rather includes various SOE sectors in general. Third, the study only considers four independent variables: financial distress, Information Technology (IT Spending), interest rates, and exchange rates. Many other relevant variables, such as inflation, other financial performance indicators (e.g., ROE, EPS), monetary policy, global economic geopolitical conditions, and non-financial variables like corporate governance, could also influence stock returns.

Given the limitations of this study, several recommendations are made for future research. First, it is suggested to expand the observation period to cover a longer time frame than five years. Extending the study period would allow researchers to capture more diverse market dynamics and observe the long-term effects of the independent variables on stock returns. Second, since this study focused on non-financial SOEs in general, future research should consider narrowing the scope by focusing on specific sectors or subsectors, such as energy, construction, transportation, or manufacturing. Future studies could also use sectoral comparisons. Lastly, it is recommended to include additional independent variables that are relevant to the model, such as macroeconomic aspects like inflation or the consumer price index, or micro-level company indicators like "Return on Equity" ROE, "Earnings per Share" EPS, and firm size. Non-financial aspects, such as corporate governance quality and market sentiment, should also be considered in future studies.

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