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The Effect of Profitability, Liquidity, Solvency, and Activity Ratios on Stock Prices with *Dividend Payout Ratio* as A Moderation Variable in Insurance Companies in Indonesia

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ABSTRACT

This study aims to examine the influence of proxied financial performance on profitability, liquidity, solvency, and activity ratios, which are then moderated by dividend policy on the share price of insurance companies in Indonesia. Multi-linear regression panel data with *a random effect* approach was used to investigate the factors that influence stock prices. The sample data was selected to be limited to insurance companies listed on the Indonesia Stock Exchange (IDX) from 2014 to 2023. The data tested included 12 insurance companies listed on the Indonesia Stock Exchange (IDX). The data was obtained from the company's quarterly report which can be accessed through S&P Capital IQ. In this study, the software used to process the data is Stata version 17. The results show that the profitability ratio proxied at *Return on Equity* (ROE), solvency ratio proxied at *Debt to Equity Ratio* (DER), activity ratio proxied at *Total Assets Turnover* (TATO), and dividend policy proxied at *Dividend Payout Ratio* (DPR) have a significant effect on stock prices. Meanwhile, the ratio of liquidity proxied to *the Current Ratio* (CR) has no significant effect on the stock price and the DPR cannot moderate the influence of ROE on the stock price.

Keywords - Activity, *Dividend Payout Rasio,* Liquidity, Profitability, Solvency

INTRODUCTION

The economy is one of the fastest-growing sectors in the era of globalization, especially the insurance industry (Iswahyudi et al., 2023). The insurance industry has a crucial role in driving national economic and financial growth, as well as contributing to the development of the Indonesian capital market. Insurance provides financial protection and risk management services. Public awareness of the importance of this has increased the demand for insurance products (OJK, 2023). This condition opens up increasingly large investment opportunities for insurance companies listed on the Indonesia Stock Exchange (IDX) to attract many investors.

One of the indicators that investors use to assess a company's performance is the stock price. High stock prices reflect the company's good financial performance to increase dividends and attract more demand for shares from investors (Yanti, 2019). Therefore, it is important to understand the factors that affect stock prices, particularly in the insurance industry.

Financial ratios such as profitability, liquidity, solvency, and activity ratios have an important role in describing a company's financial performance (Wati et al., 2022). These financial ratios can be compared with various company data to describe profit and loss as well as stock price developments at a given time. Companies that have effective and efficient profitability, liquidity, and asset

management can create high profits and solvency values, thus becoming a positive signal in fundamental analysis and influencing stock prices.

The profitability ratio measured by *the Return on Equity* (ROE) value reflects the company's capabilities in achieving profits from the company's operational activities (Santoso, 2019). Furthermore, the liquidity ratio measured by *the Current Ratio* (CR) describes the company's performance in fulfilling its short-term obligations (Ramadhanti, 2022). The solvency ratio measured by *the Debt to Equity Ratio* (DER) indicates the company's ability to meet its long-term obligations (Iswahyudi et al., 2023). And the activity ratio measured by *Total Asset Turnover* (TATO) describes the efficiency of using company assets (Oktariansyah, 2020). Analysis of these ratios can provide a clear picture of the financial health of the insurance company that affects the stock price.

In addition to the financial ratios above, there is *a Dividend Payout Ratio* (DPR) that can strengthen or weaken the influence of the profitability ratio on stock prices (Mardianti & Dewi, 2021). Based on previous research, dividend regulation is known to affect the relationship between fundamental indicators and stock prices (Ramadhani et al., 2019). In general, company management distributes dividends as a representation of the company's value. They believe that dividend distribution can attract potential investors and increase stock prices and *returns* in the market.

The development of insurance company stock prices in Indonesia has experienced significant fluctuations. Since 2020, insurance companies' share prices have experienced a sharp decline as a result of Covid-19. In the *2023-2027 Indonesian Insurance Roadmap published by the OJK, it is stated that the investment returns of insurance companies have also decreased* (OJK, 2023). The decline occurred very significantly from 2019 to 2022.

The results of a study conducted by Sihombing & Zakchona (2024) related to the influence of profitability, liquidity, solvency, and activity ratios on stock prices moderated by dividend policies provide a consistent view of the importance of these elements in shaping investor perceptions of stock prices. By detailing every aspect of financial performance and focusing on stocks, this research makes a meaningful contribution to understanding the relationship between those factors and stock prices. Additionally, an in-depth understanding of these factors can be the basis for companies to design more effective financial strategies to improve their performance and competitiveness in the stock market. Therefore, it is necessary to conduct research to measure the influence of profitability, liquidity, solvency, and activity ratios on stock prices with *dividend payout ratio* as a moderation variable in insurance companies in Indonesia.

THEORETICAL

A. Stock Price

Stock prices are an important factor for investors because stock prices can represent the issuer's achievements which are one of the benchmarks for a company's achievements (Iswahyudi et al., 2023). The price of stocks is determined by the *trader* and refers to the level of supply and demand that exists

in the capital market. Stock price maximization can usually be analyzed through financial statements to estimate stock prices in the long run.

In economic theory, fluctuating stock price changes are something that normally occurs (Sukartaatmadja et al., 2023). This is influenced by the level of supply and demand. If demand is high, then the stock price will increase. And vice versa, if the offer is high, then the stock price will decrease.

Stock prices are generally influenced by two types of factors, namely internal factors and external factors (Yudistira & Adiputra, 2020). Internal factors are elements that come from within the company, which are closely related to the company's performance. Meanwhile, external factors are related to the country's economic condition.

B. Profitability Ratio

The profitability ratio is part of the company's net profit obtained from the company's operational activities (Santoso, 2019). This ratio aims to measure and evaluate a company's ability to generate profits from revenues related to sales, assets, and equity based on a specific measure. The greater the company's ability to achieve profits from sales, assets, or equity, the higher the company's value is reflected in its share price.

The profitability ratio in this study is proxied by *Return on Equity* (ROE). ROE is a ratio that describes the success or failure of management in optimizing the rate of return on investment (Ramadhanti, 2022). ROE is important because it can show how well a business uses the equity held by its shareholders to generate profits.

In addition, ROE is a key indicator for analysts and investors. A higher ROE value indicates that a business can make good use of its equity to generate profits, while a lower ROE indicates inefficiencies or other problems with the company's finances. The increase in ROE has an impact on the increase in the company's selling value so that it will affect the stock price and *stock* return (Awliya, 2022).

C. Liquidity Ratio

The liquidity ratio is a ratio that aims to assess a company's capabilities in fulfilling its short-term obligations (Ramadhanti, 2022). The most commonly used liquidity ratio to measure this is *the Current Ratio* (CR).

This ratio represents the relationship between cash, assets, and current liabilities in a company's finances. The high number of assets and current liabilities reflects the company's ability to meet its obligations (Pattiruhu & Paais, 2020). CR is usually calculated by comparing total current assets with total current debt. This ratio is also used to assess the level of security (*margin of safety*) of a company.

A large CR value indicates the company's high ability to meet its short-term obligations. A large CR also has an impact on investor confidence in the company's capabilities in achieving high profits. This also affects the movement of stock prices in the future. When the CR increases, the stock price will also increase and vice versa (Anggadini & Damayanti, 2021).

D. Solvency Ratio

The solvency ratio is a ratio that aims to measure debt to a company's equity. The calculation for the solvency ratio is carried out by comparing the company's total debt with all its equity (Iswahyudi et al., 2023). If a company is liquidated, *the Debt to Equity Ratio* (DER) as one of the liquidity ratios, is responsible for covering the total liabilities by paying its obligations (Syarif, 2019).

DER is one of the ratios needed by investors because investors need to know the health of the company by looking at the comparison between the loan capital and the company's capital itself. In general, investors will avoid stocks with high DER values. This is because the high DER value indicates that the company's risk is relatively high.

The high DER ratio describes the composition of the total debt that is getting larger than the company's capital. This can increase the risk that investors receive as a result of the interest burden on the debt borne by the company. In addition, high DER can also result in a decline in stock prices and affect *stock* returns (S. P. Pangestu & Wijayanto, 2020).

E. Activity Ratio

The activity ratio is used to assess how effective and efficient a company is in using its capital and assets. This ratio is represented by *Total Asset Turnover* (TATO) to calculate how much revenue or sales a company earns through the assets it owns (Sukamulja, 2024).

TATO describes the effectiveness of assets in increasing a company's sales. The higher TATO value will make the company more efficient in generating revenue or sales from the assets it owns. It also shows that the company is able to utilize its assets effectively and efficiently to create value for its shareholders. And vice versa, if the TATO is low-value, it shows that the company is unable to utilize its assets effectively and negatively impacts the company's financial performance (Laili, 2020).

Asset efficiency can have an effect on high profits and high dividend distribution. High dividends will have an impact on high stock prices and provide a positive signal for potential investors to buy shares in the company (Sihombing & Zakchona, 2024).

F. *Dividend Payout Ratio* (DPR)

The dividend policy is usually used by investors as a reference in assessing the company's performance. Dividend policy is related to determining the amount of *the Dividend Payout Ratio* (DPR). The DPR is a comparison between dividends and earnings per share (Silalahi & Manik, 2019). This ratio describes the company's management policy on the size and size of the dividend distribution to shareholders.

Dividend policy is a very important policy in a company to determine whether the profits obtained by the company will be distributed to shareholders as dividends or will be withheld in the form of retained earnings. The dividend policy is considered a signal for investors in assessing the good and bad of a company. This is because dividend policies can have an effect on the company's stock price (Malik & Kodriyah, 2021).

A low dividend distribution will impact the company's smaller profits and be allocated to retained earnings, while less retained earnings will slow earnings growth. On the other hand, a high dividend distribution will have an impact on high stock prices because it will attract potential investors (Sihombing & Zakchona, 2024).

G. Hypotesis

The Effect of *Return on Equity* on Stock Prices

The high ROE value reflects that the company manages to make the most of its equity to generate high profits so that the demand for shares will increase and have an impact on the high stock price (Avishadewi & Sulastiningsih, 2021). This is evident from research by Andriani et al. (2022) which shows that a high ROE value will attract investors to invest. This reflects that the company has a good performance, so the stock price will also increase. In addition, the high ROE value indicates that the company can generate profits from its own capital that benefits investors so that investors are interested in investing in shares. This causes the demand for stocks to be high and stock prices to increase (Satar & Jayanti, 2020). Based on the description above, the hypotheses in this study are as follows:

H$_1$: The *Return on Equity variable* has a positive effect on the stock price

The Effect of *Current Ratio* on Stock Price

CR is generally used as a basis for determining the rise and fall of stock prices. If the CR value is higher, the higher the company's ability to pay off its short-term debt obligations (Alfarisi & Santoso, 2022). This is supported by the results of research from Tya & Triyonowati (2023) which states that investors will be more confident to invest in a company with a high CR because it indicates that the company is free from financial problems. High investment demand from investors has an effect on the rise in stock prices. The results of research by Marcelina & Cahyono (2022) also state that an increase in stock prices can occur if the liquidity ratio looks good and the condition is stable. Based on the description above, the hypotheses in this study are as follows:

H$_2$: The *Current Ratio variable* has a positive effect on the stock price

The Effect of *Debt to Equity Ratio* on Stock Price

The high level of DER ratio can provide benefits if a company is able to make optimal use of its debt (Setyowati & Prasetyo, 2021). Therefore, the company can provide a higher share price. The results of Nining's (2020) research illustrate that DER has a positive effect on stock prices. This shows that despite the high value of the DER, investors are attracted to the potential for high returns and will invest in the company. The increasing demand for these shares will also have an impact on the increase in stock prices. This is in agreement with research conducted by Syahrial & Rosyadah (2023) that investors will take into account the value of a company's DER when making investment decisions because DER is associated with rising stock prices. Based on the description above, the hypotheses in this study are as follows:

H$_3$: The *Debt to Equity Ratio variable* has a positive effect on the stock price

The Effect of *Total Asset Turnover* on Stock Price

The TATO ratio describes a company's ability to utilize its assets to generate profits (Pangestu & Sunarsih, 2020). If the higher the value of TATO, the higher the company's share price will also be. This is because investors consider companies with high TATO ratios to be able to make optimal use of their assets. The results of Anggriani et al.'s (2021) research show that TATO has a positive influence on stock prices. This reflects the level of effectiveness of the company in using all its assets to achieve large profits. This is also in line with research conducted by Sumantri & Sukartaatmadja (2022) that companies with high profits will attract investors to invest. Thus, the stock price also affects the company. Based on the description above, the hypotheses in this study are as follows:

H4: The *Total Asset Turnover* variable has a positive effect on the stock price

The Effect of *Dividend Payout Ratio* on Stock Price

DPR is a percentage of the profit received by shareholders compared to the total net profit of the company (Herdianta & Ardiati, 2020). A high DPR will benefit shareholders or investors. This attracts investors to buy the company's shares and the share price will also increase. The results of Satar & Jayanti's (2020) research show that a high DPR will attract investor interest because investors tend to favor large dividends. The dividends distributed to investors will have an effect on the company's share price. This is also in agreement with research conducted by Fitri & Purnamasari (2018) that if the dividends received increase, it will certainly make investors interested in buying the company's shares. With the number of shares purchased, the company's share price will also rise. Based on the description above, the hypotheses in this study are as follows:

H5: The *Dividend Payout Ratio* variable has a positive effect on the stock price

***Dividend Payout Ratio* Moderates the Effect *of Return on Equity* on Stock Price**

A high level of profitability will attract investors to invest their shares in the company, so the demand for shares will be high and the stock price will also increase. Based on signal theory, the increase in dividends can make the market react positively and tend to interpret that the company has good prospects in the future (Sihombing & Zakchona, 2024). Research results (Anggriani et al., 2021; Mardianti & Dewi, 2021) shows that with increased dividend payments to shareholders, investors can predict that the profits that have been obtained by the company will continue and improve so that many investors buy the company's shares and increase their share price. This is also in line with research conducted by Satar & Jayanti (2020) that the emergence of the House of Representatives as a moderator strengthens the influence of *return on equity* on stock prices. This is because the high dividends distributed will be considered a signal so that investors are interested in investing their capital. A high rate of return on capital accompanied by large dividends will attract many investors who will indirectly increase the company's share price. Based on the description above, the hypotheses in this study are as follows:

H6: The *Dividend Payout Ratio* variable can moderate the effect of *Return on Equity* on stock prices

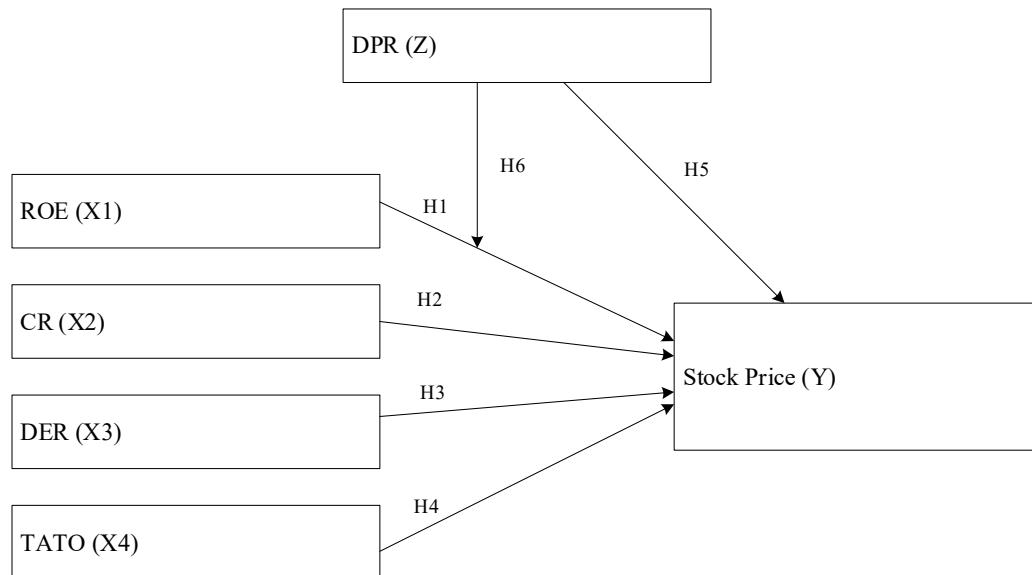The research variable model used is a replication of previous research by (Sihombing & Zakchona, 2024).

Fig. 1. Frame of Mind
Source: (Sihombing & Zakchona, 2024)

RESEARCH METHODS

A. Types of Research

This study uses a quantitative approach based on hypothesis testing from measurable data. Quantitative research is a type of research on social problems based on testing a theory consisting of several variables, measured with numbers, and analyzed with statistical procedures to produce structured information (Ali, 2022). This quantitative approach aims to provide solutions to the problem formulation of the variables studied and draw conclusions from the research results. Based on data from the Financial Services Authority (OJK), there are 136 insurance companies in Indonesia (OJK, 2023). Meanwhile, insurance listed on the Indonesia Stock Exchange (IDX) is 18 insurance companies.

A sample is a part of the population that is the actual source of data in a study based on certain characteristics (Amin et al., 2023). The sampling method in this study uses *the purposive sampling method,* which is a sample determination technique based on predetermined criteria. The criteria for determining the sample used include the following:

1. Insurance companies in Indonesia listed on the Indonesia Stock Exchange (IDX) in 2014 – 2023.

2. Insurance companies in Indonesia with complete financial information in 2014 – 2023 according to the variables used in the study, namely 12 companies.

B. Data Types and Data Sources

Secondary data is a type of data obtained through various media sourced from literature, books, and documents (Sugiyono, 2019). The data source used in this study was obtained from the insurance company's quarterly data which can be accessed on S&P Capital IQ through www.capitaliq.spglobal.com.

C. Empirical Model of Research

This study is an associative quantitative research that analyzes the relationship between two or more variables. The relationship used in this study is a causal or causal relationship by including independent variables, namely the influencing variables, and the dependent variables, namely the affected variables (Sugiyono, 2019).

This study used multiple linear regression model analysis to determine the influence of more than one independent variable on one dependent variable (Prasetyo & Jannah, 2019). This regression model illustrates that the relationship between independent variables and dependent variables is linear. This means that changes in independent variables will cause proportional changes in dependent variables. Based on the research of Sihombing & Zakchona (2024), the multiple linear regression model equation can be written as follows:

$$ln(HS_{it}) = \alpha_0 + \beta_1 ROE_{it} + \beta_2 CR_{it} + \beta_3 DER_{it} + \beta_4 TATO_{it} + \beta_5 DPR_{it} + \beta_6 (DPR * ROE)_{it} + \epsilon_{it}$$

HS	: Stock Price
a	: Constant
B1-B6	: Coefisien Regresi
ROE	: *Return on Equity*
CR	: *Current Ratio*
DER	: *Debt to Equity Ratio*
TATO	: *Total Asset Turnover*
DPR	: *Dividend Payout Ratio*
DPR*ROE	: *Dividend Payout Ratio* memoderasi *Return on Equity*
Q	: *Error Term*

D. Variable Operational Definition
Variable Dependency

The dependent variable in this study is the stock price. The share price is the price given for each share of the company issued on the stock exchange. The price of this stock is an important factor and must be determined in advance by investors who want to invest (Sinaga et al., 2023).

High stock prices reflect good financial performance to increase dividend returns, and investors can increase demand for stocks. The determination of stock prices is influenced by the volatility of supply and demand, which has an impact on high stock prices (Sihombing & Zakchona, 2024).

TABLE I

DEPENDENT VARIABLES AND INDEPENDENT VARIABLES

Variable	Proksi	Formula	Source
Stock Price (Y)	Harga Saham Penutupan per Kuartal	$Ln (HS)$	(Sihombing & Zakchona, 2024)
Dividend Policy (Z)	*Dividend Payout Ratio* (DPR)	$DPR = \dfrac{Devidend}{Net\ Income} x100\%$	(Sihombing & Zakchona, 2024)
Profitability Ratio (X_1)	*Return on Equity* (ROE)	$ROE = \dfrac{Net\ Income}{Shareholders\ Equity} x100\%$	(Sihombing & Zakchona, 2024)
Liquidity Ratio (X_2)	*Current Ratio* (CR)	$CR = \dfrac{Current\ Assets}{Current\ Liabilities} x100\%$	(Sihombing & Zakchona, 2024)
Rasio Solvabilitas (X_3)	*Debt to Equity Ratio* (DER)	$DER = \dfrac{Total\ Liabilities}{Total\ Equity} x100\%$	(Sihombing & Zakchona, 2024)
Activity Ratio (X_4)	*Total Assets Turnover* (TATO)	$TATO = \dfrac{Sales}{Total\ Assets} x100\%$	(Sihombing & Zakchona, 2024)

E. Data Analysis Methods

The data analysis method is a method used to process research data using a data simplification process in an easy-to-interpret form (Sugiyono, 2019). The method used by the researcher is regression analysis. In this study, the software used to process the data is Stata version 17. Stata can be used to process data effectively and efficiently.

Descriptive Statistical Analysis

Descriptive statistical analysis in the study is used to present information about the characteristics of the research variables while supporting the variables being studied (Wahyuni, 2020). The data overview is comprehensive and easy to interpret from each variable. Data presentations related to descriptive statistics include calculating the mean (average), looking for standard deviations, and looking at the maximum and minimum values for each variable.

Selection of Regression Models

In a multi-linear regression model with panel data, there are several statistical models that can be used, including *Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM). These three models will be tested with several types of statistical methods, namely the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test.

The Common Effect Model (CEM) is known as the simplest model in panel data analysis by combining *time series* and *cross section* data. CEM is an analytical concept by referring to variables that have the same influence on all observed companies (Septianingsih, 2022). All observations are considered to be from the same population, without taking into account structural differences between firms or periods.

Fixed Effect Models (FEMs) are generally used when you want to model variations that exist all the time. The FEM model takes into account the existence of characteristics that cannot be observed in each company, but still affects dependent variables. This model tries to control the influence of factors that remain within each company and only analyzes the variations in data that occur over time (Septianingsih, 2022).

Furthermore, *the Random Effect Model* (REM) can be used when variations between firms do not have a significant correlation with independent variables in the model (Septianingsih, 2022). Differences between firms are considered to be random effects that are not observed and this model tries to explain the variations in the data by taking into account all the components that occur over time.

Chow Test

The Chow test is a statistical method used to determine one of the models in the regression of panel data, between *the Fixed Effect Model* (FEM) and *the Common Effect Model* (CEM) (Savitri et al., 2021). In the Chow test, the following hypotheses were used:

1. If the probability value (p-value) > a significance level of α (0.05), then H0 is supported. This indicates that the Common Effect Model (CEM) is more appropriate to use to analyze the panel

data.
2. If the probability value (p-value) < a significance level of α (0.05), then H0 is rejected. This indicates that the Fixed Effect Model (FEM) is more appropriately used.

Hausman Test

The Hausman test is a statistical method used to decide which model is most appropriate to use between *the Fixed Effect Model* (FEM) and *the Random Effect Model* (REM) (Savitri et al., 2021). The hypotheses used in this test include:
1. If the probability value > a significance level of α (0.05), then H0 is supported. This shows that *the Random Effect Model* (REM) is the most suitable model.
2. If the probability value < a significance level of α (0.05), then H0 is rejected. This shows that *the Fixed Effect Model* (FEM) is the most suitable model.

Lagrange Multiplier Test

Lagrange Multiplier test is a statistical method used to determine models on panel data regression between *Common Effect Models* (CEM) or *Random Effect Models* (REM) (Savitri et al., 2021). The hypothesis used in this test is:
1. If the probability value > a significance level of α (0.05), then H0 is supported. This shows that *the Common Effect Model* (CEM) is the most suitable model.
2. If the probability value < a significance level of α (0.05), then H0 is rejected. This shows that *the Random Effect Model* (REM) is the most suitable model.

Classic Assumption Test

The classical assumption test is a statistical requirement that must be met by multiple linear regression analysis, which is based on *Ordinary Least Square* (OLS). This classical assumption test is a test translated from the *Classical Linear Regression Model* (CLRM), where it becomes an assumption that can be used as information (Hill et al., 2018). The classical assumption test is carried out to verify that the linear regression model used meets the basic assumptions required so that the estimated results obtained are valid and unbiased (Greene, 2018). Some of the classic assumption tests used, including the following:

Normality Test

The normality test is one of the classic assumption tests used to ensure that the *error term* of the regression model is normally distributed (Nugraha, 2022). If the residual is not distributed normally, then the results of the statistical test will be invalid and will affect the conclusions drawn. In theory, normality tests are important to be carried out with the aim of ensuring the validity of statistical tests. However, the normality test is not a BLUE (*Best Linear Unbias Estimator*) requirement for panel data regression analysis, so it is not mandatory (Supendi, 2022).

Multicollinearity Test

The multicollinearity test was used to assess whether independent variables in the regression model were highly correlated (Yaldi et al., 2022). The coefficient of each independent variable will indicate the presence or absence of multicollinearity. The regression model is considered valid if there is no relationship between the independent variables.

According to Ghozali (2018b), the multicollinearity test can be carried out using *the Variance Inflation Factor* (VIF) value with the following conditions:

1. If the VIF value is > 10, then multicollinearity occurs.
2. If the VIF value is < 10, then multicollinearity does not occur.

Heteroscedasticity Test

Heteroscedasticity testing was carried out to see if variance and residual differences were found in a regression model (Indri & Putra, 2022). If a variant of one observation is the same as another, it is known as homoskedasticity. One of the tests that is usually used to identify heteroscedasticity is the Breusch-Pagan test. Based on the research conducted by Ghozali (2018b), the following guidelines are used in the test:

1. If the probability value of an independent variable < a significance level of α (0.05), then heteroscedasticity occurs.
2. If the probability value of an independent variable > a significance level of α (0.05), then heteroscedasticity does not occur.

Cross Dependency Test

The *cross dependency* test is a test that aims to find out whether there is a dependency between the variables involved in the study conducted (Pesaran et al., 2001). The *cross dependency* test in this study uses a saran test. This test is used to test the existence of an individual's fixed effect with the following conditions:

1. If the value of the curiosity test < a significance level of α (0.05), then there is a dependence between variables.
2. If the value of the curiosity test > a significance level of α (0.05), then there is no dependence between variables.

Autocorrelation Test

The autocorrelation test was carried out to determine the relationship or correlation between the data of the current period and the previous period (Novianingtyas & Bagana, 2022). Autocorrelation indicates the presence of patterns in the residuals that are not described by the model. This test can be said to be one of the important tests because it aims to ensure that there is no autocorrelation relationship that can affect the results of the research analysis.

According to the study, the autocorrelation test can be carried out with the Wooldridge test with the following conditions:

1. If the probability value < a significance level of α (0.05), then an autocorrelation problem occurs.
2. If the probability value > a significance level of α (0.05), then there is no autocorrelation problem.

Hypothesis Test

In statistical analysis, there are several tests used to assess the accuracy and validity of the regression model built (Darma, 2021). The hypothesis tests that will be carried out in this study include

the t test, the F test, and the determination coefficient (R^2) test. These three tests have different objectives, but overall aim to measure important aspects of the regression model.

T test

The t-test was carried out to see the impact of each independent variable on its dependent variable (Ghozali, 2019). This aims to assess whether the effect is significant or not. The t-test is generally carried out by comparing the probability value of each independent variable with the (α) alpha used, which is 0.05, as referred to the following conditions:

1. If the probability value of an independent variable < a significance level of α (0.05), then H1 is supported and H0 is rejected. This means that a significant influence was found between independent variables on their dependent variables.
2. If the probability value of an independent variable > a significance level of α (0.05), then H0 is supported and H1 is rejected. This means that it is found that there is a non-significant influence between independent variables on their dependent variables.

F Test

The F-test is used to test the regression model as a whole. This test serves to find out how much influence all independent variables simultaneously have on the dependent variables (Ghozali, 2019). The F test can be done by comparing the probability produced and the significance level (α) used, which is 0.05, as referring to the following conditions:

1. If the probability value < a significance level of α (0.05), then a significant influence is found.
2. If the probability value > a significance level of α (0.05), then no significant influence was found.

Coefficient of Determination Test (R2)

The coefficient of determination, or often referred to as *R-squared* (R^2), is used to calculate the percentage variation of all independent variables used in explaining their influence on their dependent variables (Dukalang, 2020). The value of R^2 ranges from 0 to 1. The higher the value of the determination coefficient obtained, the more it will indicate that there is more variation in the dependent variable that can be explained by all its independent variables.

RESULTS AND DISCUSSION

A. Research Results
Statistics Descriptive

In table 4.1 below, the results of descriptive statistical analysis of the research variables consisting of average values, standard deviations, minimum values and maximum values.

TABLE II

DESCRIPTIVE STATISTICS

Variabel	Obs	Mean	Std. Dev.	Min	Max
Stock Price	480	7.159537	1.132637	5.641375	9.10609
ROE	480	.1139859	.079219	-.4063265	1.327148
CR	480	1.576043	3.80131	.211021	3.125378
DER	480	1.566839	1.10327	.1271263	5.960726
TATO	480	.9061871	.561189	.0001154	2.306702
DPR	480	.2960596	.541829	0.00000	4.46043

Source: Stata Processed Data 17, 2024

Based on the data above, the results show that in the stock price variable, the average share price of the company is 7.159537 with a standard deviation, which is 1.132637. This shows that there are significant price fluctuations between companies. The lowest share price was recorded at 5.641375, while the highest share price reached 9.10609.

The *return on equity* (ROE) variable shows a fairly small average, which is 0.1139859, with a standard deviation of 0.079219, as well as a minimum value of -0.4063265 and a maximum value of 1.327148. This illustrates that financial performance between companies varies quite a bit, with some companies performing poorly, while others performing quite well.

For the *variable current ratio* (CR), there is an average value of 1.576043 and a standard deviation of 3.80131. The CR value was the lowest value of 0.211021, while the highest value was 3.125378. This suggests that there are some companies that face significant liquidity issues, while others have huge liquidity reserves.

In the *debt to equity ratio* (DER) variable, the average value obtained is 1.566839 with a standard deviation of 1.10327. Furthermore, the lowest DER value is 0.1271263 and the highest value reaches 5.960726. This illustrates that the variation in debt ratios between companies is quite high and the use of debt is quite significantly different.

The *total asset turnover* (TATO) variable shows that the average is 0.9061871 with a standard deviation of 0.561189. The smallest value for the TATO variable is 0.0001154 and the largest value is 2.306702. This shows that most companies are less efficient in utilizing their assets, although there are some companies that are highly efficient.

The dividend *payout ratio* (DPR) variable shows an average of 0.2960596, with a standard deviation of 0.541829, as well as a minimum value of 0.0000 and a maximum value of 4.46043. This reflects the diversity of dividend policies among the sample companies. There are companies that prioritize growth and reinvestment, while there are other companies that focus on providing large dividends to shareholders.

The Regression Models

There are several tests used to obtain the best regression model, the following are the results of the tests that have been performed:

TABLE III

COMPARISON OF CEM, FEM, AND REM MODEL TESTS

	Significance Test	Prob.	Decisions
Chow Test	Chi-square: 466.78	0.0000	The FEM is supported
Hausman Test	Chi-square: 23.64	0.0001	The FEM is supported
Lagrange Multiplier Test	LM: 4635.02	0.0000	The FEM is supported

Source: Stata Processed Data 17, 2024

Chow Test

Based on the results of the Chow test, a probability value of 0.0000 was obtained, which is smaller than the significance level of α (0.05). This states that *the Fixed Effect Model* (FEM) is more appropriate than *the Common Effect Model* (CEM).

Hausman Test

The results of the Hausman test showed that a probability value of 0.0001 was obtained, which is smaller than the significance level of α (0.05). Thus, it can be concluded that *the Fixed Effect Model* (FEM) is more appropriate than *the Random Effect Model* (REM).

Lagrange Multiplier (LM) Test

The Lagrange Multiplier test is not necessary because the results of the Chow test and the Hausman test show that *the Fixed Effect Model* (FEM) is the right model to use. Therefore, it can be concluded that the *Fixed Effect Model* (FEM) is the most suitable model.

Classic Assumption Test

In this study, the classical assumption test was carried out by testing multicollinearity, heteroscedasticity, and autocorrelation. The following are the results of the tests that have been carried out:

Multicollinearity Test

TABLE IV

MULTICOLLINEARITY TEST RESULTS

Variabel	VIF	1/VIF
ROE	4.50	0.222447
CR	1.47	0.682367
DER	3.05	0.327346
TATO	7.35	0.135982
DPR	9.32	0.107343
ROE*DPR	9.34	0.107072
Mean VIF	5.84	

Source: Stata Processed Data 17, 2024

Based on the results of the multicollinearity test above, the VIF (*Variance Inflation Factor*) and *inverse* VIF (1/VIF) values show that there is no multicollinearity problem because all independent variables have values less than 10. Furthermore, a mean VIF of 5.84 also indicates that there is no problem of multicollinearity.

Heterokedasticity Test

TABLE V

HETEROKEDASTICITY TEST RESULTS

	chi2(1)	Prob > chi2
Heteroskedasticity	2.29	0.1303

Source: Stata Processed Data 17, 2024

Based on the results of the Heterokedasticity test above, a prob>chi2 value of 0.1303 was obtained, which is greater than the significance level of α (0.05). Thus, it can be concluded that the model is free from the problem of heterocedasticity.

Cross Dependency Test

TABLE VI

CROSS DEPENDENCY TEST RESULTS

	Pesaran's test of cross-sectional independence	Pr
Cross Dependency	0.873	0.336

Source: Stata Processed Data 17, 2024

Based on the results of the curiosity test above, a value of 0.336 was obtained, which is greater than the significance level of α (0.05). So, it can be concluded that there is no dependence between variables in the data.

Autocorrelation Test

TABLE VII

AUTOCORRELATION TEST RESULTS

	F (1, 11)	**Prob > F**
Autocorrelation	0.256	0.6230

Source: Stata Processed Data 17, 2024

Based on the results of the Autocorrelation test above, a probability value of 0.6230 was obtained, which is greater than the significance level of α (0.05). Thus, it can be concluded that the model is free from the problem of autocorrelation.

Hypothesis Test
t Test

TABLE VIII

RESULTS OF THE T TEST

Stock Price	Coef.	Std. Err.	z	P>|z|	[95% Conf	Interval]
ROE	-1.504601	.2953806	-5.09	0.000	-2.085057	-.9241453
CR	.0016115	.0012575	1.28	0.201	-.0008595	.0040826
DER	.1944668	.0564616	3.44	0.001	.0835135	.3054201
TATO	3.986435	1.260336	3.16	0.002	1.509732	6.463137
DPR	.0516827	.0207069	2.50	0.013	.0109913	.0923742
ROE*DPR	2.25e-06	2.50e-06	0.90	0.370	-2.67e-06	7.17e-06
Constant	6.099306	.2783732	21.91	0.000	5.552271	6.64634

Source: Stata Processed Data 17, 2024

Based on the regression results in the table above according to the *Fixed Effect Model* (FEM), it can be stated that:

1. The ROE variable (X1) produces a probability of 0.0000, which is less than α (0.05), and produces a coefficient of -1.504601. So, it can be concluded that ROE has a significant effect on stock prices, so H1 is supported.

2. The variable CR (X2) produces a probability of 0.201, which is greater than α (0.05), and produces a coefficient of 0.0016115. Thus, it can be concluded that CR does not have a significant effect on the stock price, so H2 is rejected.

3. The DER variable (X3) produces a probability of 0.001, which is less than α (0.05), and produces a coefficient of 0.1944668. Thus, it can be concluded that DER has a significant effect on stock prices, so H3 is supported.

4. The TATO variable (X4) yields a probability of 0.002, which is less than α (0.05), and yields a coefficient of 3.986435. So, it can be concluded that TATO has a significant effect on stock prices, so H4 is supported.

5. The DPR variable (X5) produces a probability of 0.013, which is smaller than α (0.05), and produces a coefficient of 0.0516827. So, it can be concluded that the DPR has a significant influence on stock prices, so H5 is supported.

6. The ROE*DPR variable (X6) produces a probability of 0.370, which is greater than α (0.05), and produces a coefficient of 2.25e-06. Therefore, it can be concluded that the ROE*DPR does not have a significant effect on the stock price, so H6 is rejected.

F test

TABLE IX

F TEST RESULTS

	Prob. Value
F-stat	0.0000

Source: Stata Processed Data 17, 2024

Based on the results of the F test above, it is shown that the probability value of F-stat is 0.000, which is smaller than the significance level of α (0.05). This proves that all independent variables (ROE, CR, DER, TATO, DPR, and DPR*ROE) simultaneously significantly affect their dependent variables, namely stock prices.

Coefficient of Determination Test (R2)

TABLE X

DETERMINATION COEFFICIENT TEST RESULTS (R2)

	Prob. Value
R^2	0.1400

Source: Stata Processed Data 17, 2024

Based on the results of the determination coefficient (R2) test above, it is known that the *R-squared* value is 0.1400. This shows that statistically all independent variables (ROE, CR, DER, TATO, DPR, and DPR*ROE) are able to explain their dependent variables (stock prices) by 14 percent, while the remaining 86 percent are explained by other independent variables outside the research model.

B. Discussion

TABLE XI

RESEARCH RESULTS

Independent Variables	Dependency Variable	Probability	Coeficient	Result
ROE	Harga Saham	0.000	-1.504601	H_1 didukung
CR	Harga Saham	0.201	.0016115	H_2 ditolak
DER	Harga Saham	0.001	.1944668	H_3 didukung
TATO	Harga Saham	0.002	3.986435	H_4 didukung
DPR	Harga Saham	0.013	.0516827	H_5 didukung
ROE*DPR	Harga Saham	0.370	2.25e-06	H_6 ditolak

The Effect of *Return on Equity* on Stock Prices

Return on Equity (ROE) results in a probability value of 0.000 which is smaller than the significance level of α (0.05). This shows that H1 is supported, so it can be concluded that ROE has a significant influence on the stock price.

Based on the resulting coefficient value of -1.504601, it illustrates that companies that have an ROE value can have an effect on a decline in stock prices. The higher the ROE value of a company, the lower the company's share price.

The results of this study are in line with the research of Dewi & Suwarno (2022) which states that ROE has a negative effect on stock prices. Research by Permatasari et al. (2019) also supports that companies need to be more careful in managing their capital so that the rate of return on capital from the company's performance in generating profits will increase as expected.

Thus, the significant influence of ROE on stock prices in insurance companies in Indonesia shows that ROE is an important indicator in the market valuation of companies.

The Effect of *Current Ratio* on Stock Price

The Current Ratio (CR) shows a probability value of 0.201, which is greater than the significance level of α (0.05) and produces a coefficient of 0.0016115. This shows that H2 was rejected, so it can be concluded that CR has no significant influence on the stock price.

One of the reasons why CR does not have a significant effect on stock prices is because it only reflects short-term liquidity conditions and does not provide a comprehensive picture of the company's financial health, especially in the more complex insurance industry. Investors prioritize other ratios that are more relevant to assess a company's long-term viability, such as profitability, solvency, and risk management ratios.

The results of this study are in line with the research of Ferli et al. (2023) which stated that CR has no significant effect on stock prices. Research by Sulistyani & Harianja (2022) also supports that a high CR value is not necessarily good and a low CR value can result in a decline in the company's share price.

Therefore, while CR reflects a company's ability to meet short-term liabilities, it is not enough to significantly affect the stock price in the insurance company's sector.

The Effect of *Debt to Equity Ratio* on Stock Price

The Debt to Equity Ratio (DER) yields a probability value of 0.001 which is smaller than the significance level of α (0.05). This suggests that H3 is supported, so it can be concluded that DER has a significant influence on the stock price.

Based on the resulting coefficient value of 0.1944668, it illustrates that DER has a positive correlation with stock prices. This means that if the company's DER increases, then the company's share price also increases.

The results of this study are in line with the research of Adikerta & Abundanti (2020) which states that DER has a positive and significant effect on stock prices. Research by Adikerta & Abundanti (2020) also supports that a high DER value illustrates that the use of debt can provide greater profits, so investors will positively assess the use of the company's debt.

Thus, it can be concluded that the increase in DER indicates that the company is taking on debt to fund expansion or increase liquidity, which will be viewed positively by the market if the company can meet its financial obligations without problems.

The Effect of *Total Asset Turnover* on Stock Price

Total Asset Turnover (TATO) results in a probability value of 0.002 which is smaller than the significance level of α (0.05). This shows that H4 is supported, so it can be concluded that TATO has a significant influence on the stock price.

Based on the resulting coefficient value of 3.986435, it illustrates that TATO has a positive correlation with the stock price. This means that the greater the value of TATO, the higher the company's share price.

The results of this study are in line with the research of Anggriani et al. (2021) which stated that TATO has a positive and significant effect on stock prices. The research supports that a high TATO value illustrates that the company is able to generate greater revenue with relatively smaller asset usage.

Investors generally assume that companies that are efficient in managing their assets will generate more stable and sustainable profits. This can increase investor confidence in the company and increase the demand for shares, so that the company's share price tends to rise.

The Effect of *Dividend Payout Ratio* on Stock Price

The Dividend Payout Ratio (DPR) yields a probability value of 0.013 which is smaller than the significance level of α (0.05). This shows that H5 is supported, so it can be concluded that the DPR has a significant influence on the stock price.

Based on the resulting coefficient value of 0.0516827, it illustrates that the DPR has a positive correlation with the stock price. This means that the greater the value of the DPR, the company's share price will also increase.

The results of this study are in line with the research of Estiasih et al. (2020) which stated that the DPR has a positive and significant effect on stock prices. The research supports that the DPR describes the amount of dividends that will be received by investors, if the DPR is of high value, it is considered productive for investors and increases investor confidence in the company.

Research conducted by Rosnaeni et al. (2024) also proves that the larger the dividend paid will make investors assume that the company is giving a positive signal to investment decisions. This resulted in an increase in the DPR so that the demand for company shares would increase and the stock price would also rise.

Dividend Payout Ratio Moderates the Effect *of Return on Equity* on Stock Price

Based on the results of the above test, a probability value of 0.370 was obtained, which is greater than the significance level of α (0.05) and a coefficient of 2.25e-06. This shows that the House of Representatives could not moderate the influence of ROE on the company's share price, so H6 was rejected.

Dividends and ROE have different functions in evaluating the stock performance of a company. Dividends can provide income to investors that can indirectly affect the influence of ROE or the efficiency of a company's profitability on its stock price. These two are independent factors in the stock valuation model.

The results of this study are in line with the research of Sihombing & Zakchona (2024), investors believe that dividends cannot affect ROE to increase the company's share price because shareholders prioritize the distribution of cash flow over dividend distribution, and they prefer to sell shares rather than keep them.

Research by Sampir et al. (2024) also supports that the emergence of the House of Representatives as a moderator of the influence of ROE on stock prices is considered to have not met investor confidence. If the company has a high rate of return on capital coupled with large dividends, it cannot affect the level of the company's stock price.

Overall, while dividends are important in providing income to investors, the DPR does not significantly affect the stock price when compared to other factors such as ROE. Thus, the influence of ROE on stock prices remains more dominant, while the House of Representatives does not have a moderation role in this regard.

CONCLUSIONS AND IMPLICATION

Conclusion

Based on the results of the research conducted, it can be concluded that the financial ratios used in this study have a different influence on the share prices of insurance companies listed on the Indonesia Stock Exchange (IDX) in 2014-2023.

Return on Equity (ROE) has been proven to have a significant influence on stock prices. This indicates that investors will see the ROE level as an indication of risks to be aware of. Furthermore, *the Debt to Equity Ratio* (DER) has a positive effect on the stock price, which indicates that investors will see a good level of solvency as an indicator of the company's stability, which in turn can increase market confidence in the company's shares. *Total Asset Turnover* (TATO) also shows a significant influence on stock prices with a positive coefficient, showing that the more efficient the company is in managing assets, the higher the share price can be achieved. In addition, *the Dividend Payout Ratio* (DPR) also has a significant effect on the stock price. This shows that a stable and reasonable dividend policy will serve as an indicator of the company's financial health and be able to attract investors.

Meanwhile, *the current ratio* (CR) does not show a significant influence on the stock price. This means that the company's liquidity is not a major factor in investors' decisions. In addition, the results of the study also show that the DPR cannot moderate the influence of ROE on the company's share price.

Overall, the results of this study confirm that the ratio of profitability (ROE), solvency (DER), activity (TATO), and dividend policy (DPR) has a significant effect on the share price of insurance companies in Indonesia, while the liquidity ratio (CR) has no significant effect and the DPR cannot moderate the effect of ROE on stock prices.

Implication

Based on the conclusions of the research results that have been described, several suggestions can be given to the relevant parties as follows:

1. Investors should pay attention to financial ratios such as ROE, DER, TATO, and dividend policy (DPR) in conducting fundamental analysis when choosing insurance company stocks. These ratios have proven to have a significant influence on stock price movements.
2. Company management should pay attention to the profitability ratio (ROE), solvency ratio (DER), activity ratio (TATO), and dividend policy (DPR) because this has been proven to have a significant effect on stock prices. Management must continue to strive to improve the company's operational efficiency to attract investors.
3. Further research should be carried out by adding other variables that can affect stock prices, such as external factors, such as market conditions, macroeconomics, government policies, and so on to test whether the results obtained in this study are consistent.

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