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Technical and Fundamental Analysis of Insurance Stock Prices on the Indonesian Stock Exchange (2018–2022)

Siti Fauziah Hanipah[1], Palti Marulitua Sitorus[2], Willy Sri Yuliandhari[3], Suhal Kusairi[4]
Telkom University, Bandung, Jawa Barat, Indonesia[1,2,3,4]
sitifauziahhanipah30@gmail.com[1]

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Corresponding author:
Siti Fauziah Hanipah
Telkom University, Indonesia
E-mail: sitifauziahhanipah30@gmail.com

ABSTRACT
Purpose: This study was conducted to determine the influence of fundamental (ROA, TATO, DER, NPM, and EPS) and technical (past share price, share volume, and past share volume) variables on share prices. in insurance companies listed on the IDX.
Purpose: This study aims to analyze the effect of fundamental variables (ROA, TATO, DER, NPM, EPS) and technical variables (past share price, share volume, past share volume) on stock prices of insurance companies listed on the Indonesia Stock Exchange (IDX).
Research methodology: The study uses secondary panel data consisting of quarterly financial reports from 11 insurance companies during the 2018–2022 period. Panel data regression analysis with a fixed effects model was employed to test the relationship between the variables.
Results: The findings show that TATO, DER, past share prices, and share volume have a positive and significant influence on stock prices, while past share volume has a significant negative effect. ROA, NPM, and EPS do not significantly affect stock prices. The F-test confirms that fundamental and technical variables together significantly influence stock prices.
Conclusions: Both fundamental and technical indicators are crucial in determining stock prices of insurance companies, supporting their use in investment evaluations.
Limitations: The study only covers non-reinsurance insurance companies listed on the IDX that consistently published quarterly reports from 2018 to 2022 and were not delisted during the period.
Contribution: This study provides practical insights for investors in evaluating and selecting insurance stocks using combined fundamental and technical analysis.

Keywords: *Fundamental, Insurance, Stock Exchange, Stock Price, Technical*

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1. Introduction

The trading activity on the Indonesia Stock Exchange (IDX) tends to increase every year, as can be seen from the Average Daily Transaction Value (RNTH) and Daily Frequency (FH). According to the IDX Indonesia Stock Exchange Activities 2022 data, in 2012–2022, the RNTH data rose from 4.54 Trillion to 14.71 trillion, while the FH rose from 0.12 million to 1.31 million. This shows that the capital market in Indonesia is increasingly in demand, and is one of the most promising investment options. The increasing frequency of trading in the capital market is predicted to be due to the influence of active buying and selling activities and the high attention of investors. The more activity occurs, the easier it is for investors to buy and sell shares at reasonable prices. High liquidity can also reduce the risk of being unable to sell shares quickly if needed.

Investors can choose the various types of stocks available in the capital market to balance the selected investment portfolio and reduce the risk of loss. One of the stocks that can be selected by investors on the IDX is insurance industry stocks, which is a non-bank financial institution industry that plays an important role in Indonesia's financial system. This industry has the second largest market share after banking and is the largest market share holder in the non-banking financial institution industry. The phenomenon of insurance in this country is increasingly interesting to observe, with the entry of multinational companies adding to the tight competition for the market. The insurance industry is still highly dependent on economic growth, but this does not mean that the national insurance industry is unable to make any contribution to economic development in Indonesia. On the other hand, the prospects and projections of the future development of the insurance industry still provide hope, which is realized by several appropriate policy agendas.

Indonesia’s insurance industry has grown in recent years. The insurance industry's gross premium increased to Rp. 532.85 trillion in 2022, up to 2.46% from Rp. 520.02 trillion in the previous year (2021), which is a sign of this growth. The social insurance sector contributes the most to the insurance industry’s gross premium in 2022 (43.62%), followed by life insurance (31.89%), general insurance and reinsurance (21.39%), and compulsory insurance (2.18%). The operational indicator of the insurance industry that has also increased is the number of claims paid by the industry in 2022, amounting to Rp. 392.78 trillion, an increase of 10.29%. In the claims indicator, the insurance industry sectors that experienced an increase in the number of claims in 2021 were the social insurance sector (22.09%), general insurance and reinsurance (15.35%), and compulsory insurance (2.64%), while the life insurance sector experienced a decrease of 15.77%.

The growth of insurance claims and premiums indicates an increase in demand from the community. With the establishment of numerous insurance companies, including Sharia insurance and conventional insurance, the general public is becoming more aware of the risks and need for insurance protection. The types of products in insurance companies have also been developed, with many choices according to the needs of customers, such as life insurance and health insurance, which are now collaborating with investment systems.

From 2018 to 2022, the market capitalization of insurance stocks increased from 28.17 trillion to 47.60 trillion. In addition, the total volume increased from 27.42 million to 63.16 million. The increase in market capitalization and the total volume of insurance shares reflects investor confidence in the insurance industry and their confidence in the potential growth and profitability of insurance companies. This can generate greater interest from investors in buying insurance stocks, which in turn can increase share prices and market capitalization values. An increase in market capitalization and total volume of insurance stocks may also indicate the growth of the insurance industry as a whole. If more insurance companies are listed on the market and the trading activity of insurance stocks increases, this reflects an increased demand for insurance, higher penetration, or the development of innovative insurance products.

Shares investors must be careful when choosing the right shares. Before buying a stock, investors must conduct a comprehensive analysis of a company's environment. Stock analysis aims to assess the intrinsic value of a stock and compare it with the current stock market price(Muhammad & Ali, 2018).

Investors need to know what factors affect the price of the shares they buy in order to determine whether the shares are worth buying or selling (Filippou, T Nguyen, & Viswanath-Natraj, 2023). Investors need this information to determine whether their shares have the potential to generate profits. Investment decisions are based on information available in the capital market and stock prices that are influenced by the internal and external conditions of the company, so investors need accurate and precise information to make the right investment decisions (Petrusheva & Jordanoski, 2016). There are two types of analyses: technical and fundamental. Technical analysis is a technique used to predict the direction of stock price movements and other stock market indicators based on historical data such as stock price information and transaction volume. In technical analysis, investors believe that future stock price movements can be predicted using data on past stock price movements. Therefore, investors rely on past information to estimate future stock prices (Almeida & Vieira, 2023). Fundamental analysis is related to the assessment of company performance regarding the effectiveness and efficiency of a company in achieving its goals. Financial ratios can be used to analyze company performance and are divided into four groups: liquidity, activity, debt, and profitability ratios(Bonga, 2015)

Based on this, it is important to conduct research on "Analysis of the Effect of Technical Fundamental Variables on the Insurance Industry Stock Price on the Indonesia Stock Exchange (IDX)" to determine the factors that have the most influence on stock price movements in the insurance industry in the 2018–2022 period so as to provide convenience and important knowledge for companies and potential investors to choose stocks that can provide a higher rate of return (Hanipah, Sitorus, Yuliandhari, & Kusairi, 2024).

2. Literature review

2.1 Shares and Share Prices

Shares can be divided into preferred (preferred stock) and ordinary (common stock). Preference shares are shares that pay dividends that are fixed in amount and have been previously stated. Thus,us, the preferred stock dividend is the annuity. Common stock is ownership of a company that shares the risk if the company suffers a loss and benefits if it makes a profit.

The share price is the price per share in the capital market, and is recorded daily at the closing price. The closing price is the price formed at the end of the stock exchange. Stock prices are formed by the interaction of stock investors caused by the expectations of company profits. Stock prices can also be interpreted as investors' perceptions regarding the success of the company's performance using the resources owned by the company; high stock prices increase a company's value.

Stock prices are a reference when making investment decisions and often change according to the level of supply and demand. Demand for shares is influenced by various pieces of information about the issuer company, especially financial information from the company's financial statements (Aisyah & Djuanda, 2022). Although investors do not have to earn fixed income, they can take advantage of stock price fluctuations to gain from price differences (capital gains). The gain in the price difference is the difference between the price of shares when purchased and the price of shares when sold. Stock prices in the market are important for companies because they determine their value. A company's market value can be calculated by multiplying the share price by the number of outstanding shares.

2.2 Stock Analysis

2.2.1 Technical Analysis

Technical analysis is the study of market behavior depicted in charts to predict future price trends. Technical analysis can also be interpreted as an analysis of stock price estimates by looking at historical stock price data, which is analyzed statistically to determine price trends that will occur in the future (Aisyah, Angraini, Sadik, Sartono, & Dito, 2024). Technical analysis is currently one of the most interesting and challenging topics to discuss in financial science because it is used to assist in the process of analyzing a stock easily and quickly(Chowdhury, 2021).

In a technical analysis, investors believe that future stock price movements can be predicted from past stock price movement data. Thus, investors will rely on past information to estimate future stock prices

(Ajmera, 2023). Technical analysts attempt to identify and exploit price patterns and trends in financial markets. Technical analysis can help predict future stock prices using data on stock price movements and past transaction volumes, which are usually displayed in the form of graphs or charts(Tlustý, 2022). A trader must understand the meaning of the chart by explaining the basic reasons for the price movement and how it all happened, which can be said to be an analysis of stock price movements based on stock price movements in the past. The fundamental tenet of technical analysis is that the balance between supply and demand determines the prices (Agrawal et al., 2024).

The technical analysis consists of the following steps:

1. Past Share Prices

This variable estimates stock prices by observing past changes in stock prices, which were one year earlier in this case. The past price behavior is reflected in future prices. Data on past stock prices use the previous year's closing price data for the period of the year to be estimated. Stock price movements follow a pattern that has occurred in the past. Stock prices move in a trend and experience a deflection when they reach a certain price point (Jegadeesh & Titman, 2011).

2. Sales volume of shares

Stock trading volume can be interpreted as the number of shares of an issuer or company traded on the capital market every day at a price level agreed upon by the seller and buyer of the shares through a stock trading broker. Historically, stock trading volume has been related to market prices on stock exchanges because stock trading volume is considered a measure of market strength or weakness in accordance with the law of supply and demand. A survey on technical analysis stated that this tool is popular for informing buying or selling decisions regarding participation in the stock market(Muharam, Isyanto, & Sumarni, 2023).

3. Volume of past stock sales

Past sales volume is the ratio of the number of shares traded in the past to the number of shares outstanding at a certain time. Based on past prices and volumes, various models of technical analysis are used to determine the direction in which a stock's price will go and whether an investor should decide to buy. If the direction of the stock price falls, an investor decides to sell (Cahyani & Hidayah, 2025).

2.2.2 Fundamental analysis

The fundamental analysis is the study of the economy, industry, and company conditions to calculate the value of a company's shares. Fundamental analysis focuses on key data in a company's financial statements to determine whether the stock price has appreciated accurately. Fundamental analysis is a stock analysis method that involves analyzing data or information related to company performance. Financial reports are the main source for this analysis, including the use of stock ratios such as earnings per share (Septyarini & Maharani) and price–earnings ratio (PER) (Drakopoulou, 2016). Company fundamentals are very important for related parties, especially investors, as a consideration in investing, so in general, there are several things related to the fundamentals of a stock that will affect investors' decisions in buying and selling shares, namely price to book value (PBV), price to earnings (PER), Return on Assets (ROA), Return on Equity (ROE), earning per share (Septyarini & Maharani), debt equity ratio (DER), dividend yield (DY), Margin of Safety (MOS), Asset and liability, cash flow, and the company's ability to distribute dividends (Nti, Adekoya, & Weyori, 2020).

Fundamental analysis states that every investment instrument has a strong foundation, namely, intrinsic value, which can be determined through a very careful analysis of the current conditions and prospects for the future (Permadi, 2024). The basic idea of this approach is that stock prices are influenced by a company’s economic fundamentals (Ediriweera & Dissanayake, 2022). This analysis focuses on the financial ratios and events that directly or indirectly affect a company's performance. Fundamental analysis uses data from the company's finances, such as profits, dividends paid, sales, and others (Fitriani, Minanurohman, & Firmansah, 2022).

Fundamental analysis can be performed using two approaches: top-down and bottom-up. The bottom-up approach is a way of finding stocks that provide good prospects in the future by examining the stocks individually from their financial statements. While the top-down approach involves analyzing the macroeconomic sector and then analyzing sectors that will shine in the future with these macroeconomic assumptions, after finding a sector that has this potential, we obtain issuers that provide higher yields than other sectors. Every theory or approach has its weaknesses. The weakness of the top-down approach is the possibility that issuer shares are in other sectors that have the same yields with possibly lower risks, while the bottom-up approach can overcome the deficiencies of the top-down approach. However, the bottom-up approach has drawbacks, namely, in terms of time, where the work done tends to take a long time because it analyzes existing companies one by one. The company's fundamental variables that can affect stock prices include(Vidada, Saridawati, Aliudin, Suprianto, & Sabariah, 2025):

1. Return on Assets (ROA)

Return on Assets is a ratio that measures management effectiveness as a whole and is aimed at the size of the level of profit earned in relation to sales and investment. Return on Assets is an indicator of a company's financial performance, and is a profitability ratio used to measure a company's effectiveness in generating profits by utilizing its total assets. Return on Assets is the ratio of profit after tax or net income after tax and total assets. The greater the ROA, the better the company's performance because the return is greater.

2. Total Asset Turnover (TATO)

This ratio was used to measure the turnover of funds in a company's assets. In addition, this ratio measures a company's ability to carry out sales activities on its assets. If the company generates the same sales with fewer assets, the company is more effective because it requires a lower level of investment. The more effectively a company uses its assets, the fewer assets it needs.

3. Debt to Equity Ratio (DER)

The debt-to-equity ratio is the ratio of debt to company Equity A condition that shows the company's ability to fulfill its operational activities using its own capital. That is, the more capital used to fulfill the company's operational activities, the lower the possibility of making loans to minimize the obligation to pay interest expenses for the company.

4. Net Profit Margin (NPM)

The net profit divided by total sales yields NPM. This ratio indicates how much profit the company receives from each rupture of sales.

5. Earnings Per Share (Septyarini & Maharani)

The EPS is the net profit presented to shareholders divided by the total number of shares in the company. This ratio tests management's success in achieving profits for shareholders. EPS is the most useful measure of profitability, and when compared with earnings per share in similar companies, this EPS can provide a definite estimate of profitability between the company concerned and its comparison company. It should be noted that the counterpart company must be a company engaged in the same type of industry. If this EPS is calculated for several years, it will show whether the company's profitability is improving or worsening. Some of the reasons investors buy shares are to obtain dividends; if the EPS value is small, the company has less opportunity to pay dividends, so it can be said that investors will tend to be more interested in stocks that have good earnings per share than stocks with bad EPS.

3. Research method

3.1 Type and Object of Research

This study was conducted on insurance companies listed on the Indonesian Stock Exchange. The reason for selecting this object is that, in the sample selection, there are no data shortage constraints and a definite information point regarding industries that have gone public. This research was conducted on insurance sector companies on the IDX, which have continuously issued quarterly financial reports for the last five years, namely, 2018–2022. The research uses secondary data obtained from www.idx.co.id,

www.yahoofinance.com, and the respective official websites or companies that are the subject of the research. The data used were panel data collected over three months. Polled data are a combination of time-series data over a five-year period, namely 2018–2022, with cross-sectional data from 11 insurance companies. The software used to assist data processing in this study is Microsoft Excel 2019 and Eviews 12.

3.2 Operationalization of Variables

The dependent variable used in this study is stock price (HS), while the independent variables are selected based on previous research, namely return on assets (ROA), Total Asset Turnover (TATO), debt-to-equity ratio (DER), Net Profit Margin (NPM), earnings Per Share (Septyarini & Maharani), past stock price (HSML), stock volume (VS), and past stock volume (VSML). Table 1 lists the research variables and indicators used in this study.

Table 1. Research Variables and Indicators

Variabel	Definition	Scale
Stock Price (Y)	Stock price data at the time of closing (closing price) quarterly	Ratio
ROA (X1)	ROA = Net IncomeTotal Assets	Interval
TATO (X2)	TATO = Net SalesTotal Assets	Interval
DER (X3)	DAR= Total DebtTotal Equity	Interval
NPM (X4)	NPM = Profit after interest and taxNet sales	Interval
EPS (X5)	EPS = Net IncomeNumber of shares outstanding	Interval
Share price 3 months ago (X6)	Data on closing stock price in the past 3 months period	Ratio
Share volume (X7)	Data on stock trading volume (shares) per quarter	Ratio
Share volume 3 months ago (X8)	Data on stock trading volume (shares) in the past 3 month period	Ratio

3.3 Data Analysis Techniques

In this study, the relationship between the research variables was tested using panel data regression analysis. Panel data are a combination of cross-sectional and time series data. The same unit cross-section was measured over time. The panel data analysis uses three models: pooled least squares (PLS), Fixed Effect models (Nugroho, Femala, & Maryani), and Random Effect models (REM).

4. Results and discussions

4.1 Panel Data Analysis

Panel data analysis used three models: pooled least squares, fixed-effect models, and random models. The three models were then tested using the Chow and Haustman tests to determine the best model.

a. Chow Test

This test was carried out to select a model: the pooled least squares (PLS) model or the fixed effects model (Nugroho et al.). Based on the estimation results, the Chow test results are obtained as follows and are presented in Table 2.

Table 2. Chow test

Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross-section F	**6.637413**	**(10,201)**	**0.0000**

From the Chow test calculation results in Table 2, the H0 rejection criteria can be observed from the p-value. If the p-value was smaller than the real level (α), then reject H0. In Table 3, it can be seen that the results of the Chow test output of Eviews 12 with a p-value of 0.0000 are smaller than the real level (α = 0.05); therefore, the null hypothesis is rejected, and there is enough evidence to state that the more appropriate temporary model to use is the fixed effect model.

b. Hausman Test

This test was conducted to select whether the model would be a random-effects model or a fixed-effects model. The null hypothesis is stated as a random effects model, whereas the fixed-effects model is an alternative hypothesis. Table 3 presents the Hausman test results based on the estimation results.

Table 3. Hausman Test

Test Summary	**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random	**15.689240**	**8**	**0.0471**

Table 3 shows that the p-value of 0.0471 was smaller than the real level (=0.05). This indicates that the null hypothesis is rejected; thus, there is sufficient evidence to state that the selected model is a fixed-effect model. The results of the fixed-effects model are shown in Table 4.

$$Y = -0.0693 - 0.1425X1 + 0.0885X2 + 0.0357X3 + 0.0195X4 - 0.00728X5 + 0.7330X6 + 0.0139X7 - 0.0054X8 + \varepsilon$$

Description:
Y = Stock price, X1 = Return on Assets, X2 = Total Asset Turnover, X3 = debt-to-equity ratio, X4 = net profit margin, X5 = earnings per share, X6 = past stock price, X7 = Stock volume, and X8 = Past stock volume.

Table 4. Model estimation results with a fixed effects model

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-0.069256	0.010493	-6.600347	0.0000
X1	-0.142537	0.174267	-0.817924	0.4144
X2	0.088494	0.022679	3.901966	0.0001
X3	0.035696	0.005058	7.056654	0.0000
X4	0.019504	0.012561	1.552703	0.1221
X5	-0.007236	0.012518	-0.577996	0.5639
X6	0.732990	0.042927	17.07518	0.0000
X7	0.013876	0.002485	5.583548	0.0000
X8	-0.005307	0.002474	-2.145141	0.0331
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
Root MSE	0.930012	R-squared		0.985216
Mean dependent var	-12.65447	Adjusted R-squared		0.983892
S.D. dependent var	22.45912	S.E. of regression		0.972976
Sum squared resid	190.2831	F-statistic		744.1618
Durbin-Watson stat	1.872104	Prob(F-statistic)		0.000000
Unweighted Statistics				
R-squared	0.972956	Mean dependent var		1.36E-11
Sum squared resid	5.922691	Durbin-Watson stat		2.024634

1. Classical Assumption Test

Normality

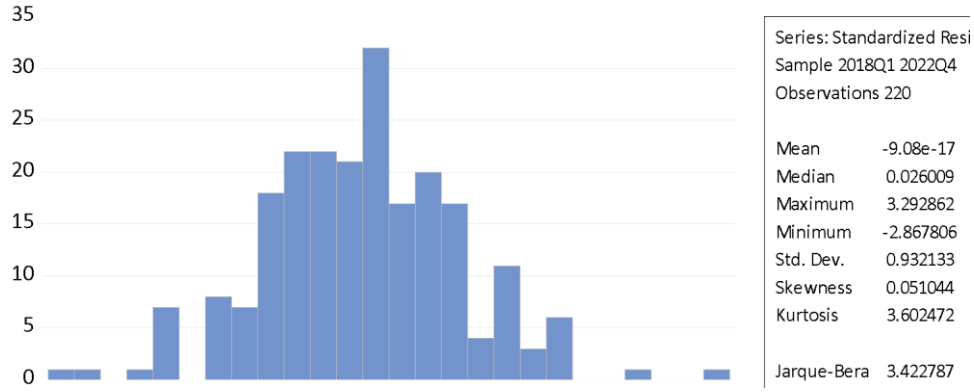

Figure 1. FEM Normality Test Results

In Figure 1, The Jarque-Bera value is 3.422787, with a p-value of 0.180614, which is greater than the significance level (0.05). This indicates that H1 data are accepted or that the residuals are normally distributed.

2. Multicollinearity

The multicollinearity test aims to determine whether the regression model finds a correlation between the independent variables. Multicollinearity in the model is observed in the value of the Variance Inflation Factor (VIF). If the independent variable had a VIF value of 10, it indicated that there was no multicollinearity.

Table 5. Multicollinearity Test Results with VIF

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.001254	9.338486	NA
X1	0.823513	5.185641	3.637394
X2	0.007410	3.594322	1.888330
X3	0.000305	6.590923	1.629436
X4	0.005915	5.322817	4.147249
X5	0.000263	1.948273	1.948273
X6	0.000187	1.389950	1.389950
X7	0.000383	2.836480	2.836480
X8	0.000373	2.762628	2.762628

Table 5 shows that all variables have VIF values <10, meaning that it can be concluded that there are no symptoms of multicollinearity in the regression model.

Table 6. Multicollinearity Test Results with correlation values

	X1	X2	X3	X4	X5	X6	X7	X8
X1	1.0000	0.2489	-0.2440	0.7020	0.3535	0.2350	0.1986	0.1744
X2	0.2489	1.0000	0.2846	-0.2261	0.5758	0.2621	-0.1738	-0.1732
X3	-0.2440	0.2846	1.0000	-0.5184	0.2821	-0.0270	-0.3171	-0.3068
X4	0.7020	-0.2261	-0.5184	1.0000	-0.0569	-0.0750	0.4194	0.3919
X5	0.3535	0.5758	0.2821	-0.0569	1.0000	0.4142	-0.0945	-0.0967
X6	0.2350	0.2621	-0.0270	-0.0750	0.4142	1.0000	-0.1493	-0.1437
X7	0.1986	-0.1738	-0.3171	0.4194	-0.0945	-0.1493	1.0000	0.7945

X8	0.1744	-0.1732	-0.3068	0.3919	-0.0967	-0.1437	0.7945	1.0000

Another way to see multicollinearity is to look at the relatively high simple correlation values (0.8 or more) between one or more pairs of independent variables. Multicollinearity did not occur if the correlation coefficient was less than 0.8. Table 6 shows that the value between each independent variable does not exceed 0.8; therefore, it can be concluded that there is no multicollinearity in the regression model.

3. Heteroscedasticity

One way to overcome the problem of heteroscedasticity is to provide cross-sectional weight and white-heteroscedasticity-consistent covariance treatment to anticipate data that are not homoscedastic. Another way is to look at the sum square residual values of the weighted and unweighted statistics (Zhou & Fang, 2016)**.**

Table 7. Heteroscedasticity Test Results

Weighted Statistics			
Root MSE	0.930012	R-squared	0.985216
Mean dependent var	-12.65447	Adjusted R-squared	0.983892
S.D. dependent var	22.45912	S.E. of regression	0.972976
Sum squared resid	190.2831	F-statistic	744.1618
Durbin-Watson stat	1.872104	Prob(F-statistic)	0.000000
Unweighted Statistics			
R-squared	0.972956	Mean dependent var	1.36E-11
Sum squared resid	5.922691	Durbin-Watson stat	2.024634

The sum square residual value of weighted statistics is obtained at 190.28, and the sum square residual value of unweighted statistics is obtained at 5.92, indicating that there is no heteroscedasticity problem.

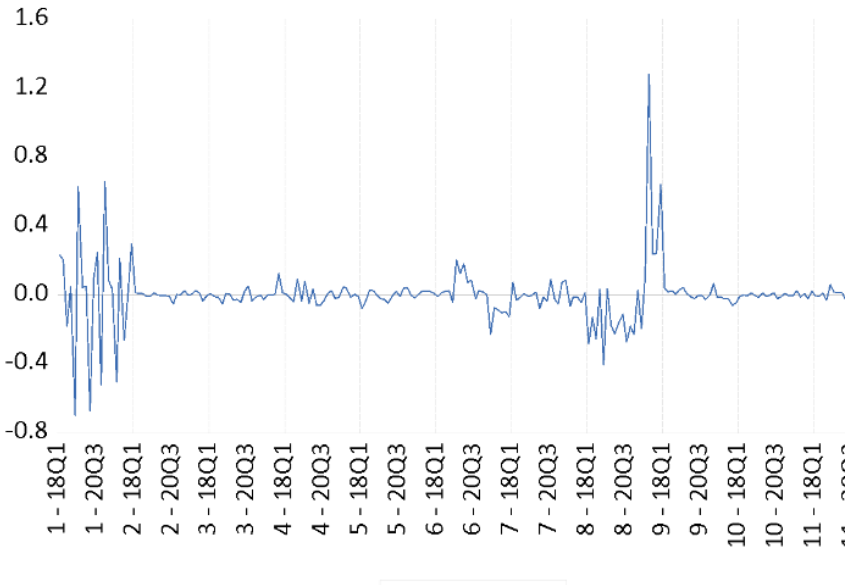

Figure 2. Heteroscedasticity Test with Residuals Graph

From the graph, the residuals (blue) cannot cross the limits (500 and -500), meaning that the residual variances are the same. Therefore, it can be concluded that there are no symptoms of heteroscedasticity or that the test passes the heteroscedasticity test.

4. Autocorrelation

The Durbin-Watson (DW) table shows that there is autocorrelation when the number of observations (n) = 220 and the number of variables (k) = 8 at a real level of 0.05. This gives dL = 1.71398 and dU = 1.84513.

Table 8. Durbin-Watson Test Results

Weighted Statistics			
Root MSE	0.930012	R-squared	0.985216
Mean dependent var	-12.65447	Adjusted R-squared	0.983892
S.D. dependent var	22.45912	S.E. of regression	0.972976
Sum squared resid	190.2831	F-statistic	744.1618
Durbin-Watson stat	1.872104	Prob(F-statistic)	0.000000

The estimation results obtained a DW value of 1.872104, so it can be said that the model is free from autocorrelation.

4.2 Hypothesis Testing

Partial Effect of Fundamental and Technical Variables on Stock Prices

The first hypothesis is that fundamental and technical factors partially influence stock prices. The data-processing results are listed in Table 9. The partial test results of the independent variable regression equation for the dependent variable showed a constant value of -0.069. A negative sign means that it shows the opposite effect between the independent variable and the dependent variable, where fundamental and technical factors can reduce the stock price by its constant value, assuming that the independent variable is zero.

Table 9. t Test Results

Variable	Coefficient	t-Statistic	Prob.	Decision
C	-0.069256	-6.600347	0.0000	H1 accepted
ROA	-0.142537	-0.817924	0.4144	H1 rejected
TATO	0.088494	3.901966	0.0001	H1 accepted
DER	0.035696	7.056654	0.0000	H1 accepted
NPM	0.019504	1.552703	0.1221	H1 rejected
EPS	-0.007236	-0.577996	0.5639	H1 rejected
HSM	0.732990	17.07518	0.0000	H1 accepted
VS	0.013876	5.583548	0.0000	H1 accepted
VSM	-0.005307	-2.145141	0.0331	H1 accepted

Based on the statistical test results, the independent variables that partially affect stock prices at the 5% real level are TATO, DER, past stock prices, stock volume, and past stock volume. ROA, NPM, and EPS have no real effects at the 5% level. Based on Table 9, this can be explained as follows.

a. ROA

The ROA significance value is 0.4144. The significance value was greater than 0.05. Based on these results, it can be concluded that hypothesis one (H1) is rejected or partially rejected, and the ROA variable does not have a significant negative effect on insurance stock prices. ROA shows the effectiveness of a company's utilization of its assets in generating net profit after tax. However, the results of this study show that ROA had no significant effect on stock prices. This shows that the effectiveness of the use of assets owned by a company in generating net profit after tax is not a reference

for investors in making investment decisions. Investors do not use ROA alone as a measure of company performance to predict a company's stock price. An increase in a company's assets should result in an increase in profits for the company; however, in this study, an increase in a company's assets did not provide a positive response to profits in several companies. The absence of a positive response to profit decreases the share price of the company and dividends for shareholders. This certainly makes investors uninterested in investing in or buying company shares(Karki, Dahal, Perera, Wimalasiri, & Ghimire, 2024).

b. TATO

The significance value of TATO was 0.0001. The significance value (5 %) was set at $p < 0.05$. Based on these results, it can be concluded that hypothesis one (H1) is accepted or partially accepted, and the TATO variable has a positive and significant effect on insurance share prices. This condition explains why when a company's TATO changes, it affects the company's stock price. Total Asset Turnover (TATO) shows how effectively a company uses all assets to create sales and earn profits. A company's profit depends on its sales. The higher the level of asset turnover, the higher the profit earned by the company, provided that the other factors are considered constant. The increase in profits generated attracts investors to invest in the company, which affects the increase in the company's share price.

c. *DER*

The significance value is 0.0000. The significance value (5 %) was set at $p < 0.05$. Based on these results, it can be concluded that hypothesis one (H1) is accepted or partially accepted, and the DER variable has a positive and significant effect on stock prices. DER describes the level of risk a company has in fulfilling all its obligations using its own capital. A high DER value indicates that the company has a high level of risk, so investors tend to avoid it, which results in decreased demand for shares and triggers a decline in stock prices.

d. NPM

The significance value is 0.1221. The significance value was greater than 0.05 (5%). Based on these results, it can be concluded that hypothesis one (H1) is rejected or partially rejected because the NPM variable does not have a significant positive effect on stock prices. NPM has no significant effect on stock prices, indicating that investors tend to pay less attention to it as a ratio that can be considered in their investment decisions. This also shows that investors lack confidence in a company's ability to efficiently manage its operational performance. In this case, investors cannot use NPM when choosing their investment object.

e. EPS

The significance value of EPS was 0.5639. The significance value was greater than 0.05 (5%). Based on these results, it can be concluded that hypothesis one (H1) is rejected or partially rejected, and the EPS variable has no significant effect on stock prices. The EPS has no significant effect on stock prices, indicating that investors pay less attention to the EPS as a ratio that can be considered in their investment decisions. The results of this study show that profit does not affect investors in assessing a company's feasibility to be used as a profitable investment vehicle, and it is a consideration for investors not to use EPS in choosing their investment objects.

f. Past Share Price

The significance value of past stock prices was 0.0000. The significance value (5 %) was set at $p < 0.05$. Based on these results, it can be concluded that hypothesis one (H1) is accepted or partially accepted, and the past stock price variable has a significant positive effect on stock prices. This research is in line with previous research (Zulkarnaen 2017), where the past stock price indicator partially has a significant positive effect on the share price of property sector companies.

g. Share Volume

The significance value of stock volume was 0.0000. The significance value (5 %) was set at p < 0.05. Based on these results, it can be concluded that hypothesis one (H1) is accepted or partially accepted, and the stock volume variable has a significant positive effect on stock prices.

h. Past stock volume

The significance value of the past stock volume is 0.0331. The significance value (5 %) was set at p < 0.05. Based on these results, it can be concluded that hypothesis one (H1) is accepted or partially accepted, and the past stock volume variable has a significant negative effect on stock prices**.**

The TATO indicator has a significant effect on stock price. The TATO value of TATO is 0.088. The DER indicator has a significant effect on stock prices. The constant DER value is 0.035. Previous stock price indicators have a significant effect on stock prices. The constant value of stock price is 0.732. The stock volume indicator has a significant effect on stock price. The constant value of stock volume was 0.013. Previous stock volume indicators have a significant effect on stock prices. The constant value of the past stock volume is -0.005.

2. Simultaneous Effect of Fundamental and Technical Variables on Stock Prices

hypothesis suspects the simultaneous influence of fundamental and technical variables on stock prices. The data-processing results are listed in Table 10. The F-count was 744.16, with a significance of 0.00. The significance level of 0.000 is smaller than the alpha of 0.050 (0.000.05), indicating that the second hypothesis is accepted. Thus, fundamental and technical variables have a simultaneous and significant effect on stock prices (Wijaya & Nugroho, 2022).

Table 10. Test F Results

Weighted Statistics			
Root MSE	0.930012	R-squared	0.985216
Mean dependent var	-12.65447	Adjusted R-squared	0.983892
S.D. dependent var	22.45912	S.E. of regression	0.972976
Sum squared resid	190.2831	F-statistic	744.1618
Durbin-Watson stat	1.872104	Prob(F-statistic)	0.000000

Based on the results of testing the coefficient of determination in Table 10, the amount of R-square (R2) is 0.985216, so the assumption obtained is that the effect explained by the variation of the two variables with a total of eight indicators, namely fundamental variables and technical variables, on the company's stock price is 98.52%. The explanation of the remaining percentage, namely, 1.48% (100%–98.52%), is a factor outside the model that also affects stock prices.

5. Conclusion

5.1 Conclusions

Based on the results described in the previous section, the following conclusions can be drawn:

1. Partial significant test results (t-test) of the fixed effect model, namely fundamental and technical variables on the value of insurance companies, and the conclusion obtained is that of the eight indicators, which have a significant effect on stock prices. The indicators of the independent variable are as follows:
   a. The fundamental variables of the company that have a significant influence on stock prices are the TATO and DER indicators of insurance companies. By contrast, the ROA, NPM, and EPS indicators show no significant effect on stock prices.
   b. Technical factors, namely indicators of past stock prices, stock volume, and past stock volume, have a significant positive effect on the share prices of insurance sector companies.
2. The results of the simultaneous significant test (F test) on the fixed effects model show that there is a simultaneous significant effect of independent variables, namely fundamental variables (ROA, TATO, DER, NPM, and EPS) and technical variables (past stock prices, stock trading volume, and past trading volume) on stock prices. The conclusion obtained is that it can be proven that there is a

simultaneous significant effect on stock prices, as seen from the significant probability value in the model. The R-squared value of 0.985216 indicates that the contribution of the independent variables to explaining the pattern of changes in the dependent variable (stock price) is high. Stock prices are influenced by fundamental and technical variables by 98.52%.

5.2 Suggestions

Based on the results of the analysis and discussion that have been presented, the following suggestions are made:

1. Investors who want to invest in insurance shares on the IDX, when making a decision to buy shares, should pay attention to the variables that most dominantly influence share prices, namely, the past share price, second TATO, and third share volume.
2. Future research should increase the number of samples with complete information to predict stock prices, and extend the research period so that the test results are more accurate.

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