

The Effect Of Inflation, Interest Rate, Exchange Rate And Gdp Growth On Stock Price Index (Property And Real Estate Companies 2017-2021)

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ABSTRACT: *The purpose of this research is to examine the forces that will shape the performance of the IDX property and real estate index from 2017 to 2021. Inflation, interest, and exchange rates, as well as GDP growth, are the variables examined. Information gathered from www.idx.co.id, www.bi.go.id, and www.bps.go.id. Stock price index data covering 60 months was gathered for this analysis. In this research, regression analysis using Eviews 11 was employed for data crunching. The Normality, Multicollinearity, Autocorrelation, and Heteroscedasticity tests from the Classical Assumption Test are used in this investigation. The Coefficient of Determination Test (R²), the Partial T Test, and the Simultaneous F Test are all examples of Hypothesis Tests. Inflation was found to have a significant value (0.04040.05), interest rates (0.00210.05), exchange rates (0.00220.05), and gross domestic product (0.00260.05) were all found to be significantly different from zero.*

Tujuan dari penelitian ini adalah untuk mengkaji kekuatan-kekuatan yang akan membentuk kinerja indeks properti dan real estat BEI dari tahun 2017 hingga 2021. Inflasi, suku bunga, dan nilai tukar, serta pertumbuhan PDB, merupakan variabel yang diteliti. Informasi dikumpulkan dari www.idx.co.id, www.bi.go.id, dan www.bps.go.id. Data indeks harga saham yang mencakup 60 bulan dikumpulkan untuk analisis ini. Dalam penelitian ini digunakan analisis regresi menggunakan Eviews 11 untuk pengolahan data. Uji Normalitas, Multikolinearitas, Autokorelasi, dan Heteroskedastisitas dari Uji Asumsi Klasik digunakan dalam penelitian ini. Uji Koefisien Determinasi (R²), Uji T Parsial, dan Uji F Simultan merupakan contoh Uji Hipotesis. Inflasi ditemukan memiliki nilai signifikan (0,04040,05), suku bunga (0,00210,05), nilai tukar (0,00220,05), dan produk domestik bruto (0,00260,05) semuanya ditemukan berbeda secara signifikan dari nol.

Keywords: *Inflation; Interest; Exchange rate; GDP growth; Stock price index*

I. INTRODUCTION

Indonesia is one of several countries affected by the global Covid-19 outbreak which has caused economic activity to fluctuate. The investor's decision to invest in the capital market, especially on the characteristics of certain stocks, will be influenced by conditions like this.

The stock market is not a guaranteed profit machine, and there are costs and risks associated with every investment. The bigger the potential prize, the bigger the potential loss. The level of risk in financial markets is often related to the state of a country, particularly in its political, economic and social sectors. (Amin et al., 2019).

Stock prices can be affected by increases and decreases in inflation rates. For investors, it is very important to keep an eye on interest rates as well as inflation. (Sunariyah, 2013) claim that the interest rate serves as the cost of borrowing. Interest is calculated as a periodic percentage of the principal balance of the loan.

Significant shifts in currency values occurred as a consequence of the changing economic climate. According to (Saputra & Dharmadiaksa, 2016) There is an urgent need for exchange rate stability to provide favorable business conditions and boost the global economy.

Changes in stock prices can be explained by the GDP aspect. The GDP projection is the main indicator of economic growth. Products for personal use, not for investment, are what drive GDP. A company's stock price rises in response to increased profits, which in turn affects stock prices (Kewal, 2012). Research conducted by (Sangkyun Pak, 1997) in (Thobarry, 2009) examining the relationship between GDP growth and stock prices that has been done above found a positive effect of GDP growth on stock prices while according to research (Mugambi & Okech, 2016) shows that GDP growth has no significant effect. Meanwhile, according to research (Wiradharma & Sudjarni, 2016) shows that Gross Domestic Product has a significant negative effect on stock returns. Study (Kewal, 2012) GDP growth has no significant effect.

II. METHOD

This study aims to characterize the effect of monetary variables such as inflation (X1), interest rates (X2), exchange rates (X3), and GDP growth (X4) on the stock price index (Y) of real estate and construction companies throughout the 2017-2021 period. Quantitative methods were used in this investigation. This study utilizes secondary sources for data collection, including the websites www.idx.co.id, www.bi.go.id, and www.bps.go.id. The following is a list of research samples.

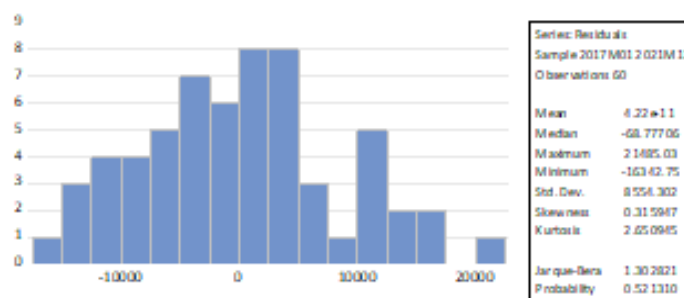
No	CODE	ISSUER
1	APLN	PT. Agung Podomoro Land Tbk
2	ASRI	PT. Alam Sutera Realty Tbk
3	BCIP	PT. Bumi Citra Permai Tbk

No	CODE	ISSUER
4	BIPP	PT. Bhuwanatala Indah Permai Tbk
5	BKDP	PT. Bukit Darmo Property Tbk
6	BKSL	PT. Sentul City Tbk
7	BSDE	PT. Bumi Serpong Damai Tbk
8	CTRA	PT. Ciputra Development Tbk
9	DART	PT. Duta Anggada Realty Tbk
10	DILD	PT. Intiland Development Tbk
11	DUTIES	PT. Duti Pertiwi Tbk
12	ELTY	PT. Bakrieland Development Tbk
13	EMDE	PT. Megapolitan Developments Tbk
14	EMII	PT. Fortune Mate Indonesia Tbk
15	GAMA	PT. Aksara Global Development Tbk
16	GMTD	PT. Gowa Makassar Tourism Development Tbk
17	INPP	PT. Indonesian Paradise Property Tbk
18	JRPT	PT. Jaya Real Property Tbk
19	LPCK	PT. Lippo Cikarang Tbk
20	LPKR	PT. Lippo Karawaci Tbk
21	MDLN	PT. Modernland Realty Tbk
22	OMRE	PT. Indonesia Realty Tbk
23	PLIN	PT. Plaza Indonesia Realty Tbk
24	PPRO	PT. PP Property Tbk
25	PWON	PTM Pakuwon Jati Tbk
26	RTX	PT. Roda Vivatex Tbk
27	SAME	PT. Sarana Meditama Metropolitan Tbk
28	HRM	PT. Suryamas Dutamakmur Tbk
29	SMRA	PT. Summarecon Agung Tbk
30	SSIA	PT. Surya Semesta Internusa Tbk

Image : Data processed by the author

III. RESULT AND DISCUSSION

Normality test



Source: Author Processing Results

From the results of the normality test output, the calculated probability value is 0.521310, which is greater than the alpha level of 0.05 (5%). Probability > alpha 0.05, it can be concluded that the residuals are normally distributed and the classical assumptions about normalcy are met.

Multicollinearity Test

Multicollinearity test results in the following table:

Variables	coefficient		
	Uncentered Variances	Centered VIF	Centered VIF
C	1.72E+09	1316978	NA
INFLATION	491.7171	30.89878	2.962668
SBI	625.2640	104.9784	3.299896
EXCHANGE RATE	0.000873	1333,888	1.958181
GDP	176.6867	18.46413	2.515559

Source: Author Processing Results

The results of the multicollinearity test show that in the Centered VIF column table, the VIF value for the inflation variable (X1) is 2.962668, the VIF value for the sbi variable (X2) is 3.299896, the VIF value for the exchange rate variable (X3) is 1.958181, the VIF value for the gdp variable (X4) is 2.515559, none of the four variables is greater than 10. $VIF < 10$, then this regression model is declared not to have multicollinearity.

Heteroscedasticity Test

Heteroskedasticity Test: Glejser

Null hypothesis: Homoskedasticity

F-statistics	2.254410	Prob. F(4,55)	0.0749
Obs*R-squared	8.451709	Prob. Chi-Square(4)	0.0764
Scaled explained SS	7.474257	Prob. Chi-Square(4)	0.1128

Source: Author Processing Results

From the results of the glejser model heteroscedasticity test, the value of prob. Chi-Square(4) 0.0764 is greater than the alpha level of 0.05, so there is no heteroscedasticity in this regression model.

Autocorrelation test

R-squared	0.590245	Mean dependent var	138164.8
Adjusted R-squared	0.560445	SD dependent var	13363.57
SE of regression	8859909	Akaike info criterion	21.09612
Sum squared residue	4.32E+09	Schwarz criterion	21.27064
Likelihood logs	-627.8835	Hannan-Quinn criter.	21.16438
F-statistics	19.80666	Durbin-Watson stat	0.539133
Prob(F-statistic)	0.000000		

Source: Author Processing Results

From the test results using the Durbin-Watson test, a number of 0.539133 is obtained. As a general guideline the Durbin-Watson range is -2 and +2, so that it is stated that there is no autocorrelation in this regression model.

Multiple Regression Test

Multiple regression equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Variables	coefficient	std. Error	tS statistics	Prob.
C	233044.0	41509.06	5.614291	0.0000
INFLATION	-46.55317	22.17469	-2.099383	0.0404
SBI	80.74645	25.00528	3.229176	0.0021
EXCHANGE RATE	-0.094727	0.029540	-3.206678	0.0022
GDP	41.98528	13.29235	3.158604	0.0026

Source: Author Processing Results

Based on the results above, it can be obtained that the panel regression equation of this study is:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

$$\text{INDEX} = 233043.962702 - 46.5531684704 * \text{INFLATION} + 80.7464493418 * \text{SBI} - 0.0947265714363 * \text{INFLATION_INFLATION} + 41.9852815763 * \text{GDP}$$

The results of the analysis of the equation above are as follows:

- a. A constant coefficient of 233044.0 means that if inflation, interest rates, exchange rates and gdp and the value is 0, then the stock price index is fixed at 233044.0.
- b. The inflation variable is -46.55317, meaning that if inflation increases by one unit, the stock price index will decrease by -46.55317 units, assuming that the other independent variables are of a fixed value.
- c. The SBI variable is 80.74645, meaning that if the interest rate increases by one unit, then the stock price index will increase by 80.74645 units, assuming that the other independent variables are of a fixed value.
- d. The exchange rate variable is -0.094727, meaning that if the exchange rate increases by one unit, then the stock price index will decrease by -0.094727 units, assuming that the other independent variables are of a fixed value.
- e. The GDP variable is 41.98528, meaning that if GDP increases by one unit, the stock price index will increase by 41.98528 units, assuming that the other independent variables are of a fixed value.

T test (partial)

T test results (Partial) in the following table:

Variables	coefficient	std. Error	t-Statistics	Prob.
C	233044.0	41509.06	5.614291	0.0000
INFLATION	-46.55317	22.17469	-2.099383	0.0404
SBI	80.74645	25.00528	3.229176	0.0021
EXCHANGE RATE	-0.094727	0.029540	-3.206678	0.0022
GDP	41.98528	13.29235	3.158604	0.0026

Source: Author Processing Results

Based on the results of the t test above, the results can be seen as follows:

- a. Hypothesis test 1, the inflation variable (X1) has a coefficient value of -46.55317 and a significant value of 0.0404, less than 0.05. because the significant value is less than 0.05 ($0.0404 < 0.05$) then H10 is accepted. This means that inflation partially has a negative effect on the stock price index.
- b. Test hypothesis 2, the SBI variable (X2) has a coefficient value of 80.74645 and a significant value of 0.0021 is smaller than 0.05. because the significant value is less than 0.05 ($0.0021 < 0.05$) then H10 is accepted. This means that SBI partially has a positive influence on the stock price index.
- c. Test hypothesis 3, the Exchange Rate variable (X3) has a coefficient value of -0.094727 and a significant value of 0.0022 is smaller than 0.05. because the significant value is less than 0.05 ($0.0022 < 0.05$) then H10 is accepted. This means that the Exchange Rate partially has a negative influence on the stock price index.
- d. Hypothesis test 4, the GDP variable (X4) has a coefficient value of 41.98528 and a significant value of 0.0026 is smaller than 0.05. because the significant value is less than 0.05 ($0.0026 < 0.05$) then H10 is accepted. This means that GDP partially has a positive influence on the stock price index.

F Test (Simultaneous)

F test results (simultaneous) in the following table:

R-squared	0.590245
Adjusted R-squared	0.560445
SE of regression	8859909
Sum squared residue	4.32E+09
Likelihood logs	-627.8835
F-statistics	19.80666
Prob(F-statistic)	0.000000

Source: Processing Results Author

Based on the results above, it can be seen that the significance of the test is 0.000000, which means it is smaller than 0.05. From the results of this F test it means that H0 is rejected and thus inflation, SBI, exchange rates and GDP, together have a significant effect on the Property and Real Estate price index.

Determination Coefficient Test (R2)

The results of the test for the coefficient of determination are shown in the following table:

R-squared	0.590245
Adjusted R-squared	0.560445
SE of regression	8859909

Sum squared residue	4.32E+09
Likelihood logs	-627.8835
F-statistics	19.80666
Prob(F-statistic)	0.000000

Source: Processing Results Author

From the table of R test results, the R-Square value is 0.560445. It can be concluded that the R-Square value is close to 1. This shows that the dependent variable of the Stock Price Index can be explained by the independent variables consisting of inflation, interest rates, exchange rates, and GDP of 56.04%. While the remaining 43.96% is influenced by other factors outside the regression model.

IV. CONCLUSION

Conclusions regarding the Effects of Inflation, Interest Rates, Exchange Rates, and GDP Growth on the Stock Price Index of Property and Real Estate Companies Listed on the Indonesia Stock Exchange (IDX) for the 2017-2021 period can be drawn from the research and discussion presented in the previous chapter. The result is as follows:

1. Inflation, SBI, currency exchange rates, and GDP growth have a considerable influence on the Property & Real Estate price index, as shown by the results of the joint (simultaneous) test.
2. Inflation has a negative effect on the stock price index, interest rates have a positive effect on the stock price index, the exchange rate has a negative effect on the stock price index, and gross domestic product has a positive effect on the stock price index, according to the results of the study's partial T test.

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