

## Research article

# Stock Prices of Public Real Estate Companies in Indonesia: Are They Impacted by Inflation?

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**ORCID**Heri Widodo: <https://orcid.org/0000-0001-5325-7721>**Abstract.**

As a supporter of investment decisions, a private investor or even a corporate entity should be able to analyze exchange-diversified shares. Several factors, such as fundamental and macroeconomic factors, influence stock returns. The current study used a purposive sampling method with a sample of 21 targeted real estate companies. Data were analyzed using the coefficient of determination (R<sup>2</sup>), multiple regression analysis, paired *t*-test, and last classics assumption test. The results indicated that (i) inflation, (ii) market price, (iii) profitability, and (iv) leveling do not significantly affect the share price.

**Keywords:** inflation, market value, profitability, leverage, stock price

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## 1. Introduction

In the current era of globalization, the business world continues to grow and is increasingly competitive. To face competition, companies must be able to improve performance and implement strategies to avoid bankruptcy and face competition. This business requires a lot of capital, one way to get resources is through the capital market. Investment information in the capital market can be accessed easily, so it is related to public interest in investing in the market. The capital market brings together parties who have excess funds and those who need funds through the sale and purchase of securities. The capital market is a market for various long-term financial instruments (or securities) that can be traded, can be in the form of debt or equity, whether issued by the government, private companies, or public authorities[1]

In various countries, the capital market has spread widely, almost all countries pay high enough attention to the capital market because it is considered to have an important role in the economic defense of a country. The existence of a capital market which is used as a medium for companies to sell their shares to the public to obtain fees so that this condition will help the national economy become more advanced and will

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create overall job opportunities and also contribute to increasing tax revenue for the government.

The hope of investors to invest their money in the form of stock investments in one company is to get a positive return by weighing the risks. Stock investment has risks in the form of (1) Capital Loss caused by an entity experiencing a decrease in share price, (2) liquidation of the company, (3) as well as trading conditions both macro and micro. Return on investment can be as a dividend to shareholders or Capital Gain obtained from the sale of shares as the initial payment price of the shares [2]

There are several factors that influence stock returns, namely fundamental factors and macroeconomic factors. Fundamental factors can be known through financial reports, through the issuer's financial statements, it can be known the level of good financial performance or through advantages in earning profits. Macroeconomic factors stem from broad economic problems, one of which is inflation [3]

High inflation will have the effect of increasing interest rates as well as decreasing people's purchasing power. The company's financial performance (profitability) and interest rates are influenced by the small size of the inflation rate. Too high inflation can result in a decrease in profitability which will later be obtained by the company, this also applies vice versa. The higher the profitability value means that the better the company manages its assets to make a profit. This makes investors interested in buying shares owned by the company and also affects the stock price which continues to rise and will be followed by a high rate of return on stock returns [4].

There are five main financial aspects analyzed in the financial statements, including market value, profitability, leverage or debt or solvency, and assets or activities [5]. In predicting stock returns in the capital market, financial ratios can explain the advantages and disadvantages.

Financial ratios show that the company in the future has good prospects which will make the eyes of investors have added value for the company. Signaling theory shows the role of published financial reports. Signaling theory is based on assumptions if the information obtained by each party is not appropriate. Signaling theory shows that there is an imbalance in the picture between the parties with an interest in information and the company's management. The parties involved need to be shown information via the issuance of financial statements. A company giving signals to users of financial statements is the definition of Signaling theory [6]

According to [7] agency theory is a development of the theory studied contract design in encouraging agents to work or act using the principal's name but there can also be a problem when the agent is not in line with the principal, the principal loads a contract on

the agent party is contracted by the principal to work in accordance with the interests of the principal. Both parties have the same goal, namely maximizing the value of the company, so the agent will act in the interests of the principal. But it will be different if the agent makes decisions for his own sake rather than the interests of the principal, then there is an agency conflict. This is because managers tend to have personal interests, so principals (shareholders) increase agency costs for the company to monitor the behavior of managers in order to reduce conflicts of interest. The mechanism that can be done so that the manager's activities are in line with the shareholders is the stock buyback action. The existence of share buybacks can reduce agent conflicts that occur in principals and agents, because funds can be distributed for the benefit of the company.

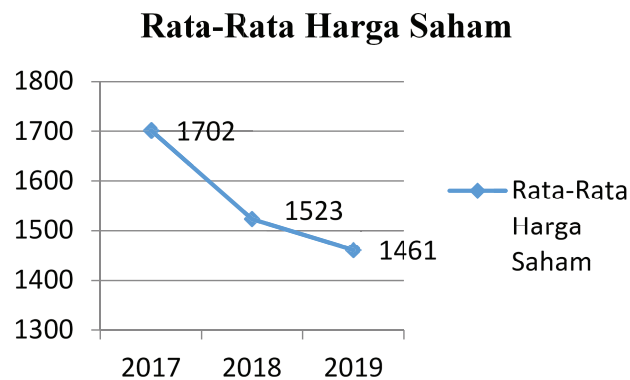
The main focus for investors in buying shares is the value of the company where the value of the company has a very important role. The increase in the prosperity of the shareholders of course occurs if the value of the company has a high value. If the stock price is high, then the value of the company will also increase. An increase in company value can occur if the company's management or management has the ability to establish good cooperation with other parties, especially in determining financial policies. Shareholder and stakeholder are what other parties mean in this case. If the actions that have been taken by the manager with other parties can go side by side, then the two parties will never experience conflict.

The stock price of a company is determined by the high demand for shares and offerings in the capital market. If the demand for a share increases, the company's share price will indirectly increase, and vice versa if the demand for a share decreases, the share price will decrease. The following is a chart of share prices in the property and real estate sectors for the 2017-2019 period.

Based on Figure 1.1, it can be seen that the value of share price growth in the property and real estate sub-sector in 2018 decreased by -10.52% and in 2019 again decreased by -4.07%. So it can be concluded that the property and real estate sub-sector experienced a decline in the value of share price growth.

Property prices which are found to have decreased continuously are a factor that strengthens the choice of property and real estate companies that go public. Property prices that continue to fall every year will be a hope for profit for investors who invest in the property business, there will be a shortage of enthusiasts. However, the reality is that the value of shares in the property industry tends to fluctuate (Denny, 2018:11).

The research gap from this study refers to research that has been done by Sudjarni (2016) which reveals that inflation has no effect on stock prices. stock price. Fidya (2018)



**Figure 1:** Average share price of property and real estate companies for the period 2017-2019. Source : data diolah (2021).

reveals that stock returns have no effect on Earning Per Share. (Agustami & Syahida, 2019) stated that stock prices have an influence on Market Value (EPS). That way, if the stock price increases, the market value represented by Earning Per Share (EPS) will also experience, and vice versa. Denny Arif (2019) and Ratna Purnasari (2020) stated that leverage was not proven to have a significant effect on stock prices. Different statements are obtained from research that has been done by Mariani and Roy (200) stating that leverage has a positive effect on stock returns. In this study, the authors will re-evaluate the effect of macroeconomic variables (Inflation), market value (EPS) and leverage (DER) on the stock prices of property and real estate companies that go public on the Indonesia Stock Exchange using a more recent time period, namely 2017- 2019.

Based on the description of the background problem, the researcher then obtained the formulation of the problem formulation, namely (1) Does Inflation affect the stock prices of Property and Real Estate Companies that Go Public on the Indonesia Stock Exchange (IDX) for the 2017-2019 period?, (2) What is the Market Value (EPS) affects the stock price of Property and Real Estate Companies that Go Public on the Indonesia Stock Exchange (IDX) for the period 2017-2019?, (3) Does Profitability (ROA) affect the stock prices of Property and Real Estate Companies that Go Public on the Stock Exchange Indonesia (IDX) for the 2017-2019 period?, (4) Does Leverage (DER) affect the stock prices of Property and Real Estate Companies that Go Public on the Indonesia Stock Exchange (IDX) for the 2017-2019 period?

This study aims to determine whether there is an influence between inflation, market value, profitability, and leverage on the stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period.

The hypotheses in this study are:

1. H01 = Inflation does not have a significant impact on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
2. Ha1 = Inflation has a significant effect on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
3. H02 = Market Value does not have a significant impact on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
4. Ha2 = Market Value has a significant effect on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
5. H03 = Profitability does not have a significant impact on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
6. Ha3 = Profitability has a significant impact on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
7. H04 = Leverage does not have a significant impact on the stock price of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period
8. Ha4 = Leverage has a significant effect on stock prices of property and real estate companies that go public on the Indonesia Stock Exchange for the 2017-2019 period

## 2. Research Methods

The type of research used in this study is a causal comparative. This type is used to determine the effect of independent variables such as market value, profitability, and leverage on the dependent variable, namely stock prices. The research sample uses 21 property and real estate companies that go public on the IDX and later the data will be managed for 3 observation periods (2017-2019).

In this study, the type of data used is a secondary quantitative method. The data obtained by the author through the Indonesian Stock Exchange Investment Gallery at the University of Muhammadiyah Sidoarjo.

The properties of the variables in this study are:

### 1. Dependent Variable

Dependent or independent variables in this study include:

#### Inflation

The researcher uses the inflation variable because according to [6] the price index that is always used to measure inflation is commonly known as the consumer price index (CPI), namely the commodity price index that is always used by consumers. The CPI inflation rate can be calculated as follows:

$$\text{Rate Of Inflation} = \frac{\text{Tingkat Harga} - 1}{\text{Tingkat Harga } t} \times 100\%$$

#### Market Value (EPS)

Researchers use Earning Per Share (EPS) as a ratio measuring market value because EPS is a ratio that reveals the amount of profit (return) that will be obtained by an investor or shareholder. The information generated by EPS is considered by investors to buy shares in order to get a return. If the earnings per share are low, then the company's chances of providing returns are also low. So it can be concluded that investors tend to like stocks that have a lot of EPS because it is one of the standards for success in companies. EPS can be calculated by the following formula:  $EPS = \frac{\text{After Tax Profits}}{\text{Total Shares}}$

#### Profitability (ROA)

Researchers use Return On Assets (ROA) as the rate of return, because ROA shows the efficiency of capital invested in all its assets to generate profits. ROA shares information about the effectiveness of a business in running a business. The number you get shows what you can do with what your business has. The higher the ROA, the greater the company's capacity to generate profits. The higher the profit generated by the company will make investors persuaded to invest in company shares. ROA can be calculated by the following formula:

$$ROA = \frac{\text{Earning After Tax}}{\text{Total Assets}}$$

#### Leverage (DER)

Researchers use DER as leverage because the independent variable in this study in this study. DER explains how the owner's capital can control the burden from outsiders. DER can be calculated by the formula (Dinata, 2003):

$$DER = \frac{\text{Total Liabilities}}{\text{Total Shareholder's Equity}}$$

#### 1. Independent or dependent variable

In this study, the dependent variable is the stock price of property and real estate companies that go public on the Indonesia Stock Exchange (IDX).

The data analysis techniques used are normality test, multiple regression test, termination coefficient test (R<sup>2</sup>), paired t-test using the SPSS 18 application.

### 3. Results and Discussion

This study uses statistical analysis and regression tests in order to determine the effect of Market Value (EPS), Profitability (ROA), and Leverage (DER) on the stock prices of Property and Real Estate companies listed on the Indonesia Stock Exchange (IDX) in 2017-2019. This analysis is carried out and analyzed so that it can be calculated to determine the impact quantitatively between a modification that will be carried out through statistical test equipment in order to achieve the relevant results.

#### Normality test

The table above shows that the Normal P-P graph of Regression Standardized Residual describes the spread of data around the diagonal line and its distribution follows the direction of the diagonal line of the graph, so the regression mode used in this study meets the assumption of Normality.

#### 3.1. Multiple Regression Analysis

Analysis of Table 4.1 can be said in the form of multiple linear regression equations as follows:

$$Y(t+1) = \beta_0 + \beta_1 x_{t1} + \beta_2 x_{t2} + \beta_3 x_{t3} + \beta_4 x_{t4} + e$$

$$Y(t+1) = -2429.537 + 1064.271 \text{ Inflasi} + 15.911 \text{ EPS} + 54.420 \text{ ROA} + (-6.346) \text{ DER} + e$$

Formulation of Regression  $Y = -2429,537 + 1064,271 \text{ Inflation} + 15,911 \text{ EPS} + 54,420 \text{ ROA} + (-6.346) \text{ DER} + e$ , illustrates that the independent variables are Inflation (X1), Market Value (X2), Profitability (X3), Leverage (X4) is zero, then the share price (Y) is -2429,537.

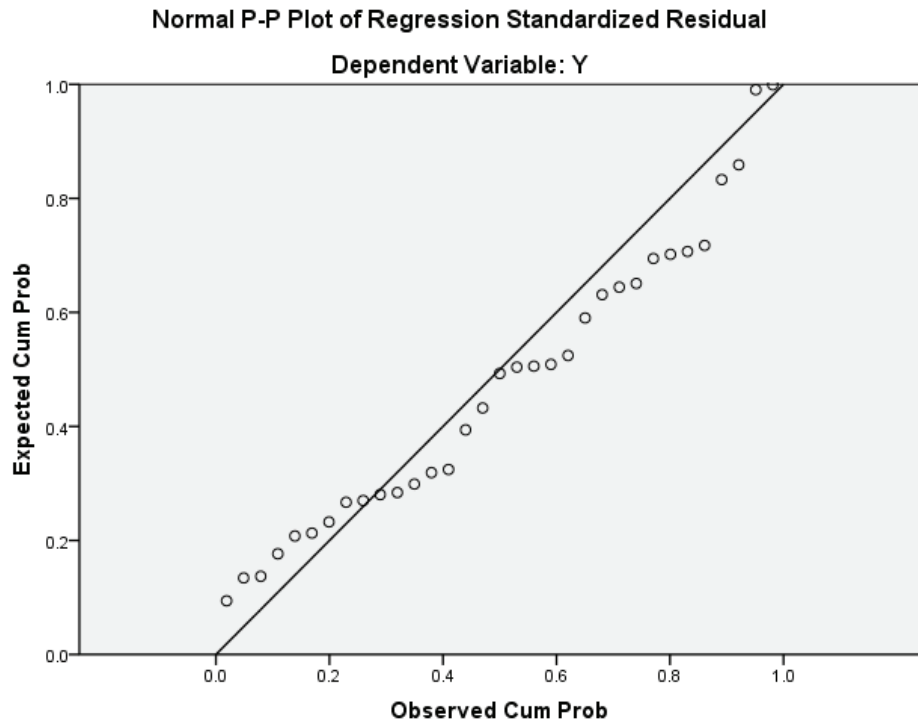


Figure 2: Normality test. Source : Output SPSS18.

TABLE 1: Regresi Linier Berganda.

		Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error				Beta	Tolerance
1	(Constant)	-2429.537	6603.333		-.368	.714		
	Inflasi (X1)	1064.271	2040.547	.064	.522	.604	.996	1.004
	Nilai Pasar (X2)	15.911	4.984	.391	3.193	.002	.991	1.009
	Profitabilitas (X3)	54.420	72.141	.106	.754	.454	.748	1.338
	Leverage (X4)	-6.346	19.386	-.046	-.327	.745	.740	1.351

a. Dependent Variable: Harga Saham (Y)

Source : Output SPSS18

### 3.2. Coefficient of Determination

Based on the table, it can be seen that the resulting R2 is 0.167 or 16.7%. This figure explains that share prices in property and real estate companies listed on the Indonesia Stock Exchange for the 2017-2019 period are influenced by inflation (X1), market value



TABLE 2: R2.

Model Summary <sup>b</sup>						
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
dimension0 1	.409 <sup>a</sup>	.167	.108		5739.472	1.864
a. Predictors: (Constant), Leverage (X4), Inflasi(X1), Nilai Pasar X2, Profitabilitas X3						
b. Dependent Variable: Harga saham (Y)						

Source : Output SPSS18

(X2), profitability (X3), and leverage (X4) as much as 16.7%, while the remaining 83.3% is influenced by other factors or variables not examined in this study.

### 3.3. Paired t-Test

TABLE 3: Paired t-test

Coefficients <sup>a</sup>							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
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Profitabilitas (X3)	54.420	72.141	.106	.754	.454	.748	1.338
Leverage (X4)	-6.346	19.386	-.046	-.327	.745	.740	1.351
a. Dependent Variable: Harga Saham (Y)							

Source : Ouput SPSS18

Based on the table In the inflation variable (X1), as shown above, the value of t is at the level of  $0.522 < t \text{ Table } 2.04523 < 0.604 > 0.05$ . It can be concluded that H01 is accepted and Ha1 is rejected, which means that inflation (X1) has no significant effect on stock prices (Y). For the Market Value variable (X2) EPS, the t-count value is  $3.193 > t \text{ table } 2.04523$  with a significance level of  $0.002 < 0.05$ . It can be concluded that H02 is rejected and Ha2 is accepted, which means that the Market Value (X2) EPS partially has a significant effect on Share price (Y). For the Profitability variable (X3) ROA, the t value is  $0.754 < t \text{ table } 2.04523$  with a significance level of  $0.454 > 0.05$ . It can be concluded that H03 is accepted and Ha3 is rejected, which means that the Profitability Value (X3) ROA partially has no significant effect on Share price (Y). For the Leverage variable (X4) DER, the t value is  $-0.327 < t \text{ table } 2.04523$  with a significance level of

0.745 > 0.05. It can be concluded that H04 is accepted and Ha4 is rejected, which means that the Leverage value (X4) DER partially has a negative effect on Share price (Y)

Based on the research that has been done, this is also supported by previous research conducted by [8] Sudjarni (2016) which states that inflation has no effect on stock prices. Different statements are obtained from Oshaibat (2016) and Lindayani & Dewi (2015) suggesting that inflation provide a significant influence on stock prices. research conducted (Agustami & Syahida, 2019) suggests that stock prices have an influence on Market Value (EPS). That way, if the stock price increases, the market value represented by Earning Per Share (EPS) will also experience, and vice versa. A different statement obtained from Fidya (2018) reveals that stock returns have no effect on Earning Per Share [9]. Oroh et al (2019) and Lantari and Widnyana (2018) who concluded that the profitability variable had no significant effect on stock performance (stock price/stock return), but the results of this study contradicted the views of Sutendi (2018) and the research of Ratna Novita Sari (2017) shows that profitability can affect stock returns because high profitability indicates that a company is able to generate profits for shareholders [10]. Denny Arif (2019) and Ratna Purnasari (2020) stated that leverage was not proven to have a significant effect on stock returns [11]. While research that has been done by [12] states that leverage has a positive effect on stock returns.

## 4. Conclusion

This study aims to find the impact of profitability, inflation, leverage, and market value on the stock prices of property and real estate companies listed on the Indonesia Stock Exchange in 2017 to 2019. The results of the research carried out concluded in several ways.

1. (a) The survey results show that inflation does not have a significant impact on stock prices which can be seen in the sig. (2-tailed) of 0.604. In other words (0.604 > 0.05 or 5%) which shows that H0 is accepted and Ha is rejected.  
(b) The survey results show that the market value has a significant impact on the share price which is known through the sig. (2-tailed) with a value of 0.002. In other words, it shows (0.002 < 0.05 or 5%) the conclusion is H0 is rejected and Ha is accepted  
(c) The survey results show that profitability does not have a significant impact on stock prices which is known through sig. (2-tailed) with a value of 0.454.

In other words, showing ( $0.454 < 0.05$  or 5%) means that  $H_0$  is accepted and  $H_a$  is rejected.

(d) The results of the survey show that Leverage has no effect on stock prices which can be identified through the sig value. (2-tailed) amounted to 0.745. In other words ( $0.745 < 0.05$  or 5%) which means that  $H_0$  is accepted and  $H_a$  is rejected.

#### Research Limitations

#### 4.1. In this study, the researcher has several limitations, namely:

1. The variable indicators in this survey are limited to inflation, market value, profitability, and leverage
2. This survey covers 3 assessment periods, which allows for events outside of this assessment and does not use controls that affect the results of the assessment.
3. The sample used in this survey is only property and real estate companies.

### 5. Suggestion

Based on the results of the discussion and the conclusions described above, the reviewer suggests several things that can be conveyed, namely:

#### 1. For Companies

Expect the company to pay attention to debt management properly so that it can make a profit within the expected repayment period

#### 1. For Investors

Regarding stock investment, an investor should obtain information that can affect conditions in the capital market. An event does not necessarily contain information, so investors are expected not to rush in making decisions in carrying out stock trading activities in the capital market.

#### 1. For Further Researchers

2. It is expected to add a longer range of observation periods so that the results obtained can be maximized.

3. For future research writers who use similar research topics, it is recommended that they expand the form of the study by using broader research materials as well as adding the latest theory in order to obtain the maximum possible study.
4. Should add other factors such as different financial ratios, rupee exchange rate and interest rates as independent variables. It is unlikely that financial ratios and other economic factors will have a significant impact on stock prices..

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