DETERMINANTS OF STOCK RETURN OF PROPERTY AND REAL ESTATE COMPANIES IN THE DEVELOPING MARKET

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How to cite this paper: Endri, E., Amrullah, D. F., Suparmun, H., Mary, H., Sova, M., & Indrasari, A. (2021). Determinants of stock return of property and real estate companies in the developing market [Special issue]. *Corporate Governance and Organizational Behavior Review, 5*(2), 184–193. https://doi.org/10.22495/cgobrv5i2sip6

ISSN Online: 2521-1889
ISSN Print: 2521-1870

Received: 26.07.2021
Accepted: 21.12.2021

JEL Classification: G11, G12, D23, E31
DOI: 10.22495/cgobrv5i2sip6

Abstract

Macroeconomic risk factors can determine the expected return on property and real estate stocks (Khan, Khan, Ahmad, & Bashir, 2021), in addition to other factors: property prices (Das, Füss, Hanle, & Russ, 2020) and financial performance (Medyawati & Yunanto, 2017). This study aims to empirically prove the effect of interest rates (SB), exchange rates (KURS), commercial property price index (IHPK), return on assets (ROA), debt-to-equity ratio (DER), and current ratio (CR) on stock returns estimated using panel data regression model. The sample of this research is 23 companies from 63 companies in the property and real estate industry which are listed on the Indonesia Stock Exchange (IDX) during the 2015–2019 period. The empirical findings of this study prove that the ROA, CR, IHPK, and KURS variables have a negative effect on stock returns, while the SB variable has a positive effect. The level of corporate debt (DER) was not proven to determine stock returns. The exchange rate has the greatest influence on stock returns, and the fact does show that the Indonesian stock market is dominated by foreign investors, so that every time foreign currencies appreciate because they leave the stock exchange, the stock price immediately declines. The results of this study have implications for investors that investment decisions to buy shares of property and real estate companies must understand the changes that occur, especially macroeconomic variables and also the company's financial performance.

Keywords: Stock Return, Financial Performance, Macroeconomic Variable, Property and Real Estate Companies, Indonesia

Authors' individual contribution: Conceptualization — D.F.A. and E.E.; Methodology — D.F.A. and E.E.; Investigation — E.E., M.S., and H.S.; Resources — H.M. and A.I.; Data Curation — D.F.A., M.S., and A.I.; Writing — Original Draft — D.F.A., H.M., and A.I.; Writing — Review & Editing — E.E., M.S., and A.I.; Supervision — E.E. and H.S.; Project Administration — H.M. and M.S.; Funding Acquisition — H.S., H.M., and A.I.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

The capital market is a means for companies or governments that carry out investment activities to obtain funds from investors. The sense of security provided by the capital market in distributing investment funds is the main requirement desired by investors in conducting sale and purchase transactions of securities, one of which is a stock investment. Before investing in stocks in the capital market, an investor needs to pay attention to whether the invested capital can provide the expected return by analyzing the performance of the company concerned (Razak et al., 2020). Many factors affect stock returns, namely company-specific factors and macroeconomic variables (Endri, Rinaldi, Arifian, Saing, & Aminudin, 2021; Al-Rimawi & Kaddumi, 2021). Company-specific factors are internal factors that refer to the achievement of financial performance, while macroeconomic variables are factors that are influenced by external conditions. The phenomenon related to the property and real estate sector is that the current sluggishness in the property industry has not been resolved so that this sector is expected to remain stagnant. According to Deniswara, Uyuun, Lindawati, and Willnaldo (2019), since 2015, the property and real estate sector in Indonesia has experienced a slowdown due to declining economic growth which has an impact on the weakening of people's purchasing power. One of the causes of the slowdown in growth occurred because banks tended to be cautious in extending property loans and led to sluggish purchasing power, as consumers had difficulty accepting credit (Septyanto, Nugraha, & Triandewo, 2020). Growth in the property sector has always been lower than that of the economy. The role of the contribution in this sector to economic growth has always been below 3% for five years.

Expected returns from stocks are strongly influenced by systematic risk factors, especially macroeconomic variables. The volatility of macroeconomic variables has caused property and real estate stock prices to fluctuate from time to time (Chong, Li, & Zou, 2017). Akinsomi, Mkhabela, and Taderera (2018) revealed that the most dominant and significant factors that explain total returns across all property types and provinces in South Africa are GDP, unemployment rate, and interest rates which are macroeconomic indicators. Mahardityа, Layyinaturrobaniyah, and Anwar (2018) prove the negative influence of interest rates, exchange rates, and inflation on stock returns in the property and real estate sectors. Chong et al. (2017) also prove that each change in interest rates causes stock prices to also vary. Ali and Zaman (2017) found a negative relationship between house and stock prices in five countries: Austria, Germany, Spain, Belgium, and Luxembourg, but there was a positive relationship between house prices and stock prices in 15 countries: Lithuania, Bulgaria, Cyprus, Poland, Croatia, Estonia, Denmark, Sweden, Malta, Greece, Latvia, Slovakia, Slovenia, Hungary, and the UK. Medyawati and Yunanto (2017) find that leverage affects stock returns of property, real estate, and building construction companies listed on the Indonesia Stock Exchange (IDX) for the period 2011–2014. Aldiena and Hakim (2019) prove that return on assets (ROA), and debt-to-equity ratio (DER) affect stock returns. Chandra et al. (2019) found that only profitability determines stock returns, while capital structure, firm size, growth opportunity, tangibility, and liquidity have no effect. Bustami and Heikal (2019) revealed that ROA, liquidity, solvency, total asset turnover (TATO), and exchange rates affect stock returns, while interest rates have no effect. Based on the literature review and research gap, three groups of risk factors can be identified that can determine the expected stock returns, namely macroeconomic variables, industry specifics, and financial performance. Therefore, this study aims to empirically prove the effect of interest rates and exchange rates as macroeconomic variables, the property price index as a proxy for industry-specific factors, and financial performance represented by ROA, DER, and CR on stock returns of property and real estate companies in Indonesia.

The remainder of the paper is structured as follows. Section 2 provides a literature review and hypotheses formation. Section 3 presents the research methodology. Section 4 analyzes the research results based on the panel data regression model. Section 5 discusses the findings. Finally, Section 6 includes conclusions that are complemented by the implications and limitations of the study.

2. LITERATURE REVIEW

2.1. Effect of interest rates on stock returns

The interest rate is a money market indicator that is determined through monetary policy by the Central Bank which aims to regulate the money supply so that the inflation rate is by the target set and people's purchasing power can be maintained. Through meetings held by members of the board of governors every month, the value of interest rates is determined by analyzing economic developments both at home and abroad. Interest rates determine changes in the stock market, and the study of the relationship between interest rates and stock prices is important to disclose. Changes in interest rates that are experiencing an increase will increase the company's interest expense. The increase in interest rates has an impact on companies with a high level of leverage because they bear large costs and have an impact on profitability so than stock prices. Gu, Zhu, and Wang (2021) prove that changes in interest rates have a negative impact on stock price returns. Musawa and Mwaanga (2017) conclude that interest rates have a long-term impact on stocks. However, if there is a sharp decline in interest rates, it will be positive for the stock market, as it causes investors to shift their funds from bonds to equities. Several previous studies have proven that interest rates affect stock returns, including those conducted by: Endri, Abidin, Simanjuntak, and Nurhayati (2020a), Khan (2019), and Khan, Khan, Ahmad, and Bashir (2021). Based on theoretical and empirical studies, the first research hypothesis is:

H1: Interest rates have a negative effect on stock returns.

2.2. The effect of exchange rates on stock returns

Two theories explain the effect of the exchange rate on stock prices, namely the flow-oriented and stock-oriented models (Long, Zhang, Li, & Wu, 2021). According to the flow-oriented model, the movement of a country's currency will change the actual output and stock prices through global competitiveness and trade balance. Depreciation of the domestic currency can lead to an increase in output and exports, with stock valuation using the dividend discount model, the stock price increases which reflects investors' optimistic expectations of the company's profitability. The stock-oriented model states that exchange rates affect stock prices through capital mobility. With the appreciation of the domestic currency, it is attractive for investors to invest in the domestic stock market so that it has an impact on the goodness of stock prices. The exchange rate is a macroeconomic variable that often affects changes in stock prices. Changes in exchange rates, either depreciation or appreciation, create uncertainty about the company's future and financial performance, especially those related to profits, cash flows, assets, and liabilities. In the stock market where foreign investors dominate, such as Indonesia, changes in exchange rates are a risk that must be considered because it can cause greater losses which can have an impact on the value of the company and its share price. Many previous studies have shown that changes in exchange rates cause stock prices to fluctuate. Zarei, Ariff, and Bhatti (2019) empirically prove the significant effect of exchange rates on stock index returns in seven selected countries that practice a free-floating exchange rate regime. Ding (2021) proves that stock prices in the US are associated with the appreciation (depreciation) of the dollar exchange rate. Several other studies have also proven the negative effect of the exchange rate on stock returns, among others by Khan (2019), Sausan, Korawijayanti, and Ciptaningtias (2020), and Endri et al. (2020a). Based on theoretical and empirical studies, the second research hypothesis is:

H2: Exchange rate has a negative effect on stock returns.

2.3. The effect of the commercial property price index on stock returns

The commercial property price index (IHPK) is one of the economic indicators that provides information on price developments in the commercial property sector. Commercial property development is a quarterly property analysis that aims to identify the direction and pressure of commercial property prices early, which is used as an indicator of the development of asset price inflation. A high IHPK value reflects that the property unit price tends to increase more and more than the property unit price that has decreased. If the unit price of the property being offered tends to be high, consumers are reluctant to buy a unit of property or real estate which results in a decline in sales and not achieving sales targets. This is a negative signal for investors because investors will not be interested in investing in the property and sector real estate and choose to invest in other industries or switch to investing in gold, bonds, deposits, and so on. Decreasing company profits and reduced demand for shares will lower stock prices which in turn reduce returns to stock. Based on the literature review, previous research investigating the effect of the IHPK on stock returns in Indonesia has not been found, unless using other proxies, including property prices and residential property price index. Rahman, Bhatti, Khan, and Aidoo (2020) examine the interdependence between house prices and stock prices in seven countries, namely: Indonesia, Malaysia, Philippines, Singapore, Thailand (ASEAN-5), Korea, and Hong Kong. Empirical findings prove the positive effect of house prices on stock prices except for Korea, showing a negative relationship. Subsequent research results also reveal that the stock market is integrated with the real estate market in all selected economies except Korea. Furthermore, the positive effect of house prices on stock prices supports the wealth effect hypothesis, which indicates that house prices have a positive contribution to stock price increases. Abul (2019) found a long- and short-term relationship between Kuwaiti stock prices and multi-apartment building prices only, while no evidence of such a relationship was found for residential real estate (land and house) prices. The research of Gokmenoglu and Hesami (2020) found a long-term relationship between real estate prices and stock prices and the implication is that there is no diversification benefit from allocating stock and real estate assets in a portfolio. Based on theoretical and empirical studies, the third research hypothesis is:

H3: Commercial property price index has a negative effect on stock returns.

2.4. The effect of return on assets on stock returns

Profitability is one of the company's fundamental factors that can be used to predict the expected stock. The profitability ratio is an indicator to determine the management of a company efficiently to provide maximum profit. ROA is an indicator of the profitability ratio obtained by dividing net income by average assets (Fathony, Khaq, & Endri, 2020). The higher the ROA value indicates that a company is more efficient in utilizing its assets to earn a profit, investors will see this signal as an opportunity to buy shares of the company (Endri, Lisdawati, Susanti, Hakim, & Sugianto, 2020b). The high volume of stock trading will affect the increase in stock prices so that the stock returns that investors get will also increase (Endri, Dermawan, Abidin, & Riyanto, 2019). According to valuation theory, the profitability generated by the company tends to have a positive effect on stock returns (Yin, Wei, & Han, 2020). Many previous studies have proven the positive effect of ROA on stock returns, including Berggrun, Cardona, and Lizarzaburu (2020), Fathony et al. (2020), Endri et al. (2019), Chandra et al. (2019), Zulkifli, Doktoralina, Marsyaf, and Nurhasanah (2018), and Santosa (2019). Based on theoretical and empirical studies, the fourth research hypothesis is:

H4: Return on assets has a positive effect on stock returns.

2.5. Effect of debt to equity ratio on stock returns

The debt to equity ratio is one of the leverage ratios used to measure the level of use of corporate assets financed by debt. This means how much long-term liabilities are imposed by the company on its assets. According to Harahap, Septiani, and Endri (2020), in their research on DER on stock returns, the ratio between total company debt and total company equity is used as a source of business funding. The greater the DER in utilizing long-term debt as a source of funds, the higher the level of risk that must be borne by investors. Chong and Kim (2019) reveal that stock returns from companies with high capital structure volatility that are members of different size groups move together over time. Furthermore, the cross-sectional relationship between capital structure volatility and stock returns is also negative. The overall results show that capital structure volatility can explain changes in stock prices. The three-factor model has been developed by many empirical studies to estimate the expected return model (Nurhayati & Endri, 2020). Nenu, Vintilă, and Gherghina (2018) found that leverage is positively correlated with stock price volatility. Several other studies also prove that leverage affects stock returns, including Zulkifli et al. (2018), Santosa (2019), Aldiena and Hakim (2019), and Suciati (2018). Based on theoretical and empirical studies, the fifth research hypothesis is:

H5: The debt-to-equity ratio has a negative effect on return stock.

2.6. Effect of current ratio on stock returns

Liquidity determines the company's short-term financial performance, especially the company's ability to be able to meet immediate obligations that must be paid. The current ratio (CR) is one of the indicators used to evaluate liquidity performance. CR is the ratio between total current assets and current liabilities. Companies with high CR show the company's ability to meet short-term obligations that will soon mature using available current assets (Shahnia, Purnamasari, Hakim, & Endri, 2020). Investors assess that with a smooth liquidity, especially the fulfillment of obligations to lenders, the risk faced by shareholders will be reduced and the motivation to buy shares will increase and share prices will increase. Yuliarti and Diyani (2018) found that an increase in the CR causes stock returns to fall, while the researches of Razak et al. (2020) and Endri et al. (2019) prove otherwise, that CR does not affect stock returns. The studies from Suryana and Anggadini (2020) and Öztürk and Karabulut (2018) revealed the positive effect of CR on stock returns. Based on theoretical and empirical studies, the sixth research hypothesis is:

H6: Current ratio has a positive effect on stock return.

3. RESEARCH METHODOLOGY

3.1. Research design

This research is a quantitative study using a causality approach with panel data. The research data is secondary data on the annual financial statements of companies in the property and real estate sector industry listed on the Indonesia Stock Exchange (IDX) from 2015 to 2019.

3.2. Population and sampling techniques

The study population used 63 companies from the property and real estate sectors listed on the IDX until December 2019. The technique for determining the research sample used is non-purposive probability. Based on the sample criteria, which consist of 1) companies that have conducted initial public offerings (IPOs) in 2014; 2) companies that have not conducted mergers and acquisitions; 3) companies have not received sanctions from the stock exchange management so that their share trading is stopped, and 4) companies that have complete data. Based on the purposive sample selection criteria, 23 companies were selected as the unit of analysis.

3.3. Data analysis method

This research uses a quantitative data analysis method with ratio scale measurement and the research sample data is analyzed by inferential analysis through panel data regression test using EViews 10.

Dependent variable: Stock return

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t}} \quad (1)$$

Independent variables

Interest rate (BI rate): Interest rate data is data from the Central Statistics Agency (BPS) or Bank Indonesia (BI) with research data used for the period 2015–2019.

Exchange rate (KURS): The exchange rate used is the quarterly middle exchange rate of the rupiah against the dollar published by BI. Sikhosana and Aye (2018) use exchange rates to analyze the asymmetric volatility spillovers of stock returns in South Africa.

Commercial property price index (IHPK): Commercial property price index data is data from the BPS or BI with research data used for the period 2015–2019. West and Worthington (2006) use the consumer price index (CPI) as a risk factor in the return of shares in the property sector in Australia.

Return on asset (ROA): Chandra et al. (2019) use ROA as a factor that determines the stock returns of companies listed on IDX.

$$ROA = \frac{Earning\ After\ Tax}{Total\ Asset} \quad (2)$$

Debt-to-equity ratio (DER): Chandra et al. (2019) use DER as a factor that determines the stock returns of companies listed on IDX.

$$DER = \frac{Total\ Liabilities}{Total\ Equity} \quad (3)$$

Chandra et al. (2019) use CR as a factor that determines the stock returns of companies listed on the IDX.

Current ratio (CR):

$$CR = \frac{Current\ Asset}{Current\ Liability} \quad (4)$$

3.4. Research model

The panel data regression model in this study can be formulated as follows:

Model 1

$$RS_{it} = \alpha + \beta_1 SB_{it} + \beta_2 KURS_{it} + \beta_3 IHPK_{it} + \beta_4 ROA_{it} + \beta_5 DER_{it} + \beta_6 CR_{it} + \varepsilon_{it} \quad (5)$$

where:
RS: Return stock (Y);
α: Constant;
i: Unit cross section (issuer);
t: Unit time series (year);
SB: Interest rate (X1);
KURS: Exchange rate (X2);
IHPK: Commercial property price index (X3);
ROA: Return on assets (X4);
DER: Debt-to-equity ratio (X5);
CR: Current ratio (X6);
β_1–β_4: Regression coefficients;
ε: Error.

There are three approaches in the panel data model, namely common effect, fixed effect, and random effect. In the common effect model, it is a combination of data between time series and cross-section and then estimated using the method model ordinary least squares (OLS). The fixed-effect model uses dummy variables to capture differences *intercept* in estimating panel data. The random-effect model takes into account that the error may be correlated across *time series* and *cross-sections.*

4. RESULTS

4.1. Descriptive analysis

Table 1 shows a statistical description of all research variables based on several measurements. The minimum *interest rate* variable is 0.045625 and the maximum value is 0.075208, which means that an increase in interest rates will have an impact on decreasing people's purchasing power for property units and making loan interest rates weaker because loan interest rates will also increase. On the other hand, if interest rates fall, people's purchasing power of property units will increase, and loan interest rates will strengthen because loan interest rates will also fall. The maximum and minimum exchange rates of 9.564262 and 9.496074 indicate that fluctuations in the exchange rate of the rupiah against the US dollar are quite wide. The rupiah depreciated against the US dollar caused an increase in production costs because some components of building materials were imported from other countries. The increase in production costs causes the selling price of the property and real estate to be more expensive which has an impact on the decline in company sales. In addition, the exchange rate also has a direct impact on changes in the share price of property and real estate companies through the dominance of foreign investors in IDX. The minimum *IHPK* variable value is 4.624777 and the maximum value is 5.160204, meaning that IHPK growth has increased which indicates that the property industry at that time had good unit sales so that it was feasible for investors to invest their funds in the property and industrial real estate. On the other hand, if the IHPK growth declines, this indicates that the property industry is experiencing sluggish sales, so investors prefer to invest their funds in deposits, bonds or choose other industries that have a good market.

Table 1. Descriptive statistics

	RS	*SB*	*KURS*	*IHPK*	*ROA*	*DER*	*CR*
Mean	6.452889	0.057625	9.524356	5.047651	0.068929	0.723602	2.768915
Median	6.298725	0.056250	9.502411	5.150803	0.045472	0.573841	2.076094
Maximum	10.22632	0.075208	9.564262	5.160204	0.890606	3.700960	11.39856
Minimum	3.912023	0.045625	9.496074	4.624777	0.000307	0.065768	0.617644
Std. Dev.	1.481235	0.010084	0.030000	0.212394	0.097759	0.609159	2.054408
Observations	115	115	115	115	115	115	115

Note: Sample: 2015–2019.
Source: Data processed by EViews 10, 2021.

The minimum value of the minimum *ROA* variable is 0.000307 and the maximum is 0.890606, which means that the minimum ROA value indicates that the company has not been able to manage its assets to increase company profits, on the contrary, the maximum ROA value indicates that the company is trying to manage its assets in optimizing revenue. The minimum value of the *DER* variable is 0.065768 and the maximum is 3.700960, which means that the minimum DER value indicates that the company is not too dependent on debt in managing its company's equity, while the maximum DER value indicates that the company relies on debt on the cost of debt in equity so it is feared that companies like this will not be able to pay off their long-term obligations in the future. The minimum value of the *CR* variable is 0.617644 and the maximum is 11.39856, which means that the minimum CR value indicates that the company is feared that it will not be able to pay its short-term debt and at the same time shows that the company is very capable of covering all its short-term debts at maturity has been determined.

4.2. Mechanical testing regression model panel

Based on test results in pairs using the Chow test, the Hausman test, and the Breusch-Pagan (BP) Lagrange multiplier (LM) test and the three methods of panel data regression can conclude that the random-effects model has to know the determinant factors of internal and macroeconomic factors that affect *returns stock* property and companies' *real estate* listed on the IDX in 2015–2019.

Table 2. Conclusion panel data regression model testing

No.	*Method*	*Test*	*Prob.*	*Result*
1	Chow test	Common effect vs Fixed effect	0.0000	Fixed effect
2	Hausman test	Random effect vs Fixed effect	1.0000	Random effect
3	Breusch-Pagan L-M test	Common effect vs Random effect	0.0000	Random effect

Source: Data processed by EViews 10, 2021.

4.3. Test results of the significance of independent variables on stock returns (T-test)

From Table 3 below, it is obtained the results of the interpretation of the hypotheses that have been examined in this study on the independent variables which will be explained as follows:

Interest rates: The t-test results for *H1* show that the *SB* probability value is 0.0000, so the t-test probability is lower than the 0.05 value, namely 0.0000 < 0.05 and the coefficient value of 1.629938 which indicates that interest rates have a positive and significant effect on stock returns in property and companies *real estate* listed on the IDX for the period 2015–2019.

Exchange value: The results of the t-test for *H2* show that the probability value of the *exchange rate* is 0.0000 so that the probability t-test is lower than the value of 0.05, namely 0.0000 < 0.05 and the coefficient value of -1.675593 so that *H2* is accepted. This indicates that the exchange rate has a negative and significant effect on stock returns in property and companies' *real estate* listed on the IDX for the 2015–2019 period.

Commercial property price index (IHPK): The results of the t-test for *H3* show that the *CPI* probability value is 0.0112 so that the t-test probability is lower than the 0.05 value, namely 0.0112 < 0.05 and the coefficient value of -0.029063 so that *H3* is accepted. This indicates that the CPI value has a negative and significant effect on stock returns in property and companies' *real estate* listed on the IDX for the 2015–2019 period.

Return on assets (ROA): The results of the t-test for *H4* show that the probability of *ROA* value is 0.0000, so the t-test probability is lower than the value of 0.05, namely 0.0000 < 0.05 and the coefficient value of -1.063252, which indicates that the ROA value has a negative and significant effect on stock returns in property and companies' *real estate* listed on the IDX for the 2015–2019 period.

Debt-to-equity ratio (DER): The results of the t-test for *H5* show that the *DER* probability value is 0.9657 so that the probability t-test is greater than the value 0.05, namely 0.9657 > 0.05 and the coefficient value is 0.002127, which indicates that the value of DER does not affect stock returns in property and companies' *real estate* listed on the IDX for the 2015–2019 period.

Current ratio (CR): The t-test results for *H6* show that the probability *CR* value is 0.0175, so the t-test probability is lower than the 0.05 value, namely 0.0175 < 0.05 and the coefficient value is -0.030353, which indicates that the value CR has a negative and significant effect on stock returns in property and companies' *real estate* listed on the IDX for the 2015–2019 period.

Table 3. T-test results (Partial test)

Variable	*Coefficient*	*Std. Error*	*T-statistic*	*Prob.*
Constant	22.62040	0.697379	32.43630	0.0000
SB	1.629938	0.182668	8.922957	0.0000
KURS	-1.675593	0.079294	-21.13150	0.0000
IHPK	-0.029063	0.011263	-2.580463	0.0112
ROA	-1.063252	0.167729	-6.339114	0.0000
DER	0.002127	0.049323	0.043125	0.9657
CR	-0.030353	0.012580	-2.412834	0.0175

Source: Data processed by EViews 10, 2021.

Table 4. Testing of the coefficient of determination (R^2) and F-statistical

Measurement	*Coefficient*
R^2	0.179354
Adjusted R^2	0.133763
S.E. of regression	0.233489
F-statistic	3.933945
Prob. (F-statistic)	0.001353
Mean dependent variable	0.530416
S.D. dependent variable	0.250869
Sum of squared residuals	5.887828
Durbin-Watson statistic	0.818573

Source: Data processed by EViews 10, 2021.

In the panel data regression model, the autocorrelation problem does not determine the validity of the estimation results because the method that is not used is not OLS.

4.4. Model testing

From the results in Table 4, the significant value of the coefficient of determination (R^2) can be seen or goodness of fit in the sample for the period 2015–2019 amounted to 0.179354. This means that the contribution of all independent variables in explaining the dependent variable is only 17.93%. The remaining 82.07% is explained by other variables outside the model.

The results of the F-statistical test probability in Table 4 are known to be 0.001353, so that the F-test probability is lower than the value of 0.05,

namely 0.001353 < 0.05 and the statistical F-value of 0.001353, which indicates that interest rate, exchange rate, CPI, ROA, DER, CR variables together (simultaneously) have a significant effect on *returns stock* property and sector companies' *real estate* listed on the IDX during the period 2015–2019.

5. DISCUSSION

Interest rates as a macroeconomic variable have a positive and significant effect on stock returns. By the theory of arbitrage pricing, interest rates are considered as a systematic risk factor that can determine the expected stock return. An interesting finding from this study is that an increase in interest rates makes property and real estate company shares attractive to investors and provides capital gains. This condition can be explained that when interest rates rise, investment in property and real estate decreases due to rising cost of funds and an impact on high selling prices, but on the other hand, demand for property and real estate for consumption needs is increasing in line with improving economic developments. Investors consider this condition to provide good hope in the future so that the demand for their shares continues to increase and the share price increases. Empirical research evidence is supported by the studies of Nofitasari and Kurniasih (2020), and Endri et al. (2021).

Another macroeconomic variable that determines the stock returns of property and real estate companies is the exchange rate with the opposite effect. When the foreign currency exchange rate strengthens against the rupiah, it means that the demand for foreign currencies, especially the US dollar, increases as foreign investors who dominate the Indonesian stock market exit the stock exchange and have an impact on the decline in stock prices. The theory of arbitrage pricing also explains the exchange rate risk factor as a systematic factor influencing the expected return on the stock. On the other hand, the increase in the value of the dollar against the rupiah will lead to an increase in the company's production costs to purchase building materials which will result in a decrease in the company's income. Conversely, if the rupiah strengthens, the production costs will also decrease so that the company will get an increase in revenue, this is because the dollar is used as a reference in purchasing real estate property and building materials so that the company can provide returns to large shareholders. The results of the study are in line with the findings evidenced by research from Khan et al. (2021), Endri et al. (2021), and Sausan et al. (2020).

The IHPK is an industry-specific variable that reflects the average price of the property and real estate in Indonesia. The results of the study found that the IHPK had a negative and significant effect on stock returns. By the theory of arbitrage pricing, the IHPK is considered a systematic risk factor that has an impact on the return of investors' expectations of the company's shares. The high increase in property and real estate prices is feared to reduce consumers' ability to buy the property and real estate so that the share price will decline, especially when economic conditions decline. In addition, the IHPK is relatively new and has not become an important factor for investors to assess whether or not the performance of a property or real estate company is good. In this case, investors' reactions to the declining IHPK conditions do not necessarily affect the decision to invest in the property and real estate sectors. Empirical findings support the research of Tse (2001) and Gokmenoglu and Hesami (2020) that the increase in IHPK has an impact on increasing stock returns.

The company's fundamental factor in the form of profitability can determine the acquisition of a company's stock return. ROA, as a measure of profitability in the study, proved to have a negative and significant effect on stock returns. This finding can be explained by the pecking order theory that the increase in company profits is used mostly for companies for retained earnings. Moreover, property and real estate companies still need large funds, especially for the purchase of new land. This policy has an impact on paying small dividends for shareholders, so investors who need the cash flow now and certain results feel disappointed so many of them sell their shares, and the price drops. In addition, the management of the company is still not efficient and effective so that investors see the company's performance is not good, causing stock prices and returns to fall. The research results are in line with the empirical research findings of Endri, Sumarno, and Saragi (2020c), Aldiena and Hakim (2019), and Dinova and Herawati (2020).

The level of corporate debt is an important concern for investors in buying shares because it is related to the risk that will be borne as a residual claim party. The research findings prove that the level of debt (DER) does not affect stock returns. Investors who buy the property and real estate company stock do not really consider the company's debt level, because, with guaranteed assets, including accounts receivable through credit sales, other factors are more important. Another explanation when analyzed from the DER of each property and real estate company during the study period is the irregular trend so that investors override the decision to buy their shares. The results of this study follow the research conducted by Aldiena and Hakim (2019), Zulkifli et al. (2018), Santosa (2019), and Suciati (2018).

Liquidity is also important for property and real estate companies, especially the availability of cash flow to meet all short-term obligations. The results of the study prove that liquidity (CR) has a negative and significant effect on stock returns. According to liquidity theory, companies with large cash reserves are not good for company finances because many funds are idle and unproductive. The company must maintain sufficient cash and the company's investment activities continue to increase the company's capacity in the future. In addition, high liquidity reduces operating risk and reduces business expansion, thereby reducing revenue and profit potential. The decline in the company's revenue and profitability, causing dividends to also fall. The results of the study are in line with the findings proven by Yuliarti and Diyani (2018). Liquidity is also important for property and real estate companies, especially the availability of cash flow to meet all short-term obligations. The results of the study prove that liquidity (CR) has a negative and significant effect on stock returns.

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6. CONCLUSION

This study aims to identify the effect of macroeconomic variables, specific industry, and financial performance on stock returns of property and real estate companies listed on the IDX from 2015 to 2019. Empirical findings prove that all macroeconomic variables are proxied by exchange rates and interest rates and industry-specific factors in the form of commercial property prices (IHPK) affect stock returns. This finding proves that according to the asset pricing model theory, external risk factors originating from outside the company which is considered as systematic risk affect stock returns as risky assets. The company's internal factors in the form of return on assets and the current ratio have a negative effect, while the debt-to-equity ratio has no effect. In other words, changes in company profitability and liquidity have the opposite impact on stock returns, while debt levels are independent.

The choice of investment in property companies and real estate stocks depends on the horizon of the investor. Investors whose short-term horizon changes in certain macroeconomic and industry variables greatly determine the decision to buy or sell shares to get capital gains. The company's fundamental factors through the achievement of financial performance determine investment decisions considered by long-term oriented investors who expect stock returns from two sources: dividends and capital gains. For debt policies, property and real estate companies must be more conservative in their financial policies. With strategies such as increasing sales and reducing the cost of using other currencies in payment transactions, it is hoped that the company can optimize the company's profits and be wiser in managing debt by conditioning it according to the company's ability to pay off its long-term debt obligations. So that the company can provide maximum stock returns to its shareholders. This study has limitations, especially regarding the identified factors that are not able to reveal more causes of stock price movements of property and real estate companies on the stock exchange. Therefore, in further research, it is necessary to disclose other factors, especially those related to investor behavior by applying behavioral financial theory.

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