Optimum: Jurnal Ekonomi dan Pembangunan
Vol. 16, No. 2, September 2026, pp. 384-393
DOI:10.12928/optimum.v16i2.16919
ISSN 2613-9464

Firm profitability, macroeconomic conditions and stock return in Indonesia's property sector: Panel evidence

Siti Fatimah Azzahra [a,1,*], Niniek Imaningsih [a,2]

[a] Department of Development Economics, Faculty of Economics and Business, Universitas Pembangunan Nasional "Veteran" Jawa Timur, Indonesia
[1]fatimahazzahra022020@gmail.com*; [2]niniekimaningsih@gmail.com

* corresponding author

ARTICLE INFO

Received : 27-06-2026
Revised : 14-08-2026
Accepted : 26-09-2026
Published : 30-09-2026

Keywords:
Firm Profitability
Macroeconomic Condition
Stock Return
Property Sectors

JEL Classification:
G10; G11; G12

ABSTRACT

This study examines the relationship between firm profitability, macroeconomic conditions, and stock returns in the Indonesian property and real estate sector during 2021–2024. The analysis focuses on three firm-specific profitability indicators such as Return on Equity (ROE), Net Profit Margin (NPM), and Return on Investment (ROI) and two macroeconomic variables, namely interest rates and the Rupiah/US dollar exchange rate. Quarterly data from 10 property and real estate companies listed on the Indonesia Stock Exchange were analyzed using panel data regression, producing 160 firm-quarter observations. Based on the model-selection tests, the Fixed Effects Model was selected as the preferred specification. The results show that ROE, NPM, and ROI are positively and statistically significantly associated with stock returns, indicating that stronger profitability is accompanied by higher returns in the property sector. In contrast, interest rates exhibit a negative and statistically significant association with stock returns, consistent with the sector's sensitivity to financing costs and monetary conditions. The exchange rate shows a negative but statistically insignificant relationship with stock returns. These findings suggest that both firm-level financial performance and macroeconomic conditions are relevant to stock-return dynamics, although profitability indicators appear to play a more prominent role. The study provides practical implications for investors and corporate managers by highlighting the importance of jointly considering company fundamentals and monetary conditions when evaluating property-sector investment performance.

This is an open access article under the CC–BY-SA license.

1. Introduction

The rapid technological innovations with the increasing public awareness of investment activities have significantly contributed to the growth of the Indonesian capital market. In the past, people tended to invest in real assets such as soil, infrastructures, and gold. However, technological advancement and easier access to financial information have shifted investment preferences toward financial assets traded in the capital market, including bonds, mutual funds, and stocks (Evamelia & Panjaitan, 2019). Among these instruments, stocks are considered one of the most attractive investment alternatives because they provide opportunities for investors to obtains returns through capital gains and dividends.

One of the sectors that attracts considerable attention in stock investment is the property and real estate segment. This sector has a strategic position in the Indonesian economy due to its contribution to Gross Domestic Product (GDP) with its ability to absorb a large workforce (Saraswati et al., 2024). In addition, the property sector has strong linkages with various industries, including construction,

building materials, and financial services, making it an important indicator of national economic conditions (Gemita et al., 2026). Nevertheless, the property sector is dominantly susceptible to macroeconomic changes, particularly fluctuations in interest rates also exchange rates.

Property-sector stocks offer the potential for relatively high returns, but they are also characterized by considerable volatility. This condition requires investors to carefully consider the appropriate timing for buying and selling stocks while applying suitable risk-management strategies (Nurdina et al., 2024). Returns in Indonesia's property and real estate sector are influenced not only by firm-specific performance but also by broader macroeconomic shocks that can affect overall market conditions (Ichsani et al., 2019). In addition, Indonesian property stocks may both transmit and receive spillover effects from developments in financial markets and other economic sectors. Their return patterns can also change during periods of market stress, such as the COVID-19 pandemic or oil-price shocks (Wahyudi & Rahmawati, 2025). Although listed property companies may provide diversification benefits to investors, these benefits are not constant over time and depend heavily on prevailing market conditions. Therefore, investors should consider both macroeconomic dynamics and market-specific conditions when including property stocks in a diversified investment portfolio (Newell et al., 2009).

During the post-pandemic period, the Indonesian property sector experienced significant economic pressure. The property and real estate stock index declined cumulatively by approximately 24% from 2021 to 2023, reflecting the weakening performance of the sector amid economic uncertainty. Although signs of recovery began to emerge in 2024 through increasing residential property sales, stocks return movements among property companies remained volatile and uneven. This phenomenon indicates that stock returns in the property sector are affected not only by extrinsic macroeconomic conditions but by intrinsic company performance factors as well.

Internal firm-specific variables are important to include in stock-return analysis because previous empirical findings remain inconclusive. Profitability is frequently associated with stock returns and firm valuation, and several studies report that stronger profitability improves stock returns in property, real estate, and building-construction companies. However, other studies find a negative relationship between Return on Assets (ROA) and stock returns in the property and real estate sector, indicating that the direction of the relationship is not always consistent (Endri et al., 2021). Similar inconsistencies are found for liquidity. Some evidence suggests that liquidity significantly affects stock returns in the property sector, whereas other studies report that the current ratio has no significant effect. These mixed findings indicate that internal financial indicators should be examined together within a sector-specific framework, as their effects may depend on firm characteristics, market conditions, and the period of observation (Medyawati & Yunanto, 2017).

In addition to profitability, macroeconomic conditions also have a crucial role in estimating stock returns in the property sector. Interest rates with exchange rates are crucial macroeconomic factors affecting property companies' financial performance and investment attractiveness. The increase in Bank Indonesia's interest rate from 3.5% in 2021 to 6% in 2023 significantly increased mortgage financing costs and reduced public purchasing power, thereby weakening the property market. Empirical evidence from Gusvarizon et al (2024) confirmed that interest rates negatively influence stock returns in the property sector. Meanwhile, exchange rate depreciation also creates additional pressure because many property companies rely on imported building materials and foreign currency debt. Depreciation of the rupiah increases operational costs and debt burdens, which may reduce company profitability and stock performance (Saputra et al., 2024).

The exchange rate is an important macroeconomic factor in explaining stock performance in the property and real estate sector. Previous studies have found that rupiah exchange-rate movements can exert a strong and negative influence on property stock returns, while exchange-rate conditions may also affect the capital-structure decisions of listed property companies. Winoto et al (2022) highlight the relevance of currency stability and exchange-rate policy for the sector. However, the empirical evidence does not point to a uniform response. Instead, the main pattern is one of sensitivity: property stocks may decline during periods of monetary tightening, show resilience or potential hedging characteristics under certain conditions, or exhibit no clear response at all. Such differences suggest that the effect of exchange-rate movements on property stock returns depends on firm characteristics, market conditions, the sample studied, and the observation period (Hermuningsih et al., 2024).

Although previous studies have examined the determinants of stock returns in Indonesia, the evidence remains fragmented. Firm-specific profitability indicators and macroeconomic variables are frequently examined separately, making it difficult to determine whether company fundamentals retain their explanatory role after common macroeconomic conditions are controlled for. This issue is particularly relevant to the property and real estate sector, where corporate performance is highly dependent on capital-intensive investment, mortgage financing, and interest-rate conditions. Moreover, previous findings concerning the effects of profitability, interest rates, and exchange rates on stock returns remain inconsistent, suggesting that sector-specific characteristics may shape the transmission of both financial and macroeconomic information into market returns. Therefore, this study integrates ROE, NPM, ROI, interest rates, and exchange rates within a unified firm-level panel framework to evaluate the relative contribution of internal profitability and external macroeconomic conditions to stock returns in Indonesia's property sector. The contribution of this study lies not in the observation period itself, but in simultaneously evaluating multiple dimensions of corporate profitability and macroeconomic exposure within a sector-specific panel framework. This approach allows the study to assess whether stock returns in the property sector are more strongly associated with firm-level financial performance or with common macroeconomic conditions.

2. Literature Review

2.1. Signaling Theory

Signaling theory became a key concept in management and finance (Spence 2018). Shahid et al (2024) expanded Spence's ideas to corporate finance and investment. Companies know more about their finances and prospects than investors. To reduce information asymmetry, companies issue signals to the market (Gumanti & Utami, 2002). In the context of profitability and stock returns, signaling theory suggest that high profitability ratios signal positive company performance and prospects. Profitability measures such as ROI, ROE, and NPM highlight a company's capability to prompt revenue also use resources effectively. These signals increase investor trust, stock demand, and prices. Low profitability sends negative signals, reducing investor interest. Empirical evidence indicates that investors react to managerial signals when evaluating a company's risk and act (Almuttaqin et al., 2025).

In the Indonesian property sector, ROA does not appear to be a consistently reliable predictor of stock returns. The available evidence suggests that ROA remains relevant, but its relationship with stock returns depends on the sample, observation period, and prevailing market conditions. In some cases, stronger profitability is positively valued by investors and associated with higher stock returns (Endri et al., 2021), while in other cases ROA is statistically insignificant or even negatively related to returns (Medyawati & Yunanto, 2017). Previous studies that specifically examine the relationship between ROA and stock returns in property-sector firms also report substantial differences across periods and model specifications. These mixed findings indicate that the effect of ROA on stock returns is context-dependent rather than uniform, highlighting the need to evaluate profitability together with other firm-specific and market-related factors.

For the Indonesian property sector, NPM may help explain firm performance under certain conditions, particularly when considered alongside other company-level financial indicators. However, the existing evidence does not support NPM as a consistently reliable standalone predictor of stock returns or stock prices. A more appropriate interpretation is that NPM represents a context-dependent profitability indicator whose relevance may vary across firms, market conditions, and periods of observation (Almasyhari & Nurcahyono, 2021; Edison et al., 2019). Empirical studies covering the property sector and other Indonesian listed companies report mixed findings, ranging from positive and significant relationships to insignificant or negligible effects. These inconsistent results suggest that the influence of NPM on stock-market performance is not uniform and should therefore be evaluated together with other firm-specific and market-related variables (Zulfiatf & Wijaya, 2015; Winarso et al., 2019; Darsono et al., 2025).

2.2. Macroeconomic Indicators

Among the macroeconomic variables examined in previous studies, exchange rates, interest rates (BI Rate), inflation, and GDP or economic growth are the factors most consistently associated with stock returns in Indonesia's property sector. Among these variables, the exchange rate appears to be the most prominent single driver, reflecting the sector's sensitivity to currency movements and broader

macroeconomic conditions. Oil prices may also affect property stock returns, particularly during periods of external shocks, although the direction and significance of their effects are less consistent across studies. Given these patterns, the present study focuses specifically on exchange rates and interest rates as key macroeconomic factors in explaining stock returns in the Indonesian property sector.

Fluctuation in interest rates impact both the real sector and investor behavior, including investment decision in the capital market. For the Indonesian property sector, the BI Rate appears to be an important macroeconomic factor influencing stock-market performance, although the empirical evidence remains mixed regarding whether its direct effect on stock returns is consistently significant. Studies examining sectoral indices in Indonesia generally report a negative relationship between interest rates and the property-sector index, suggesting that tighter monetary conditions can weaken property-stock performance (Prastuti & Setianingrum, 2015). This pattern is also consistent with broader evidence from the Indonesian stock market, where monetary tightening tends to reduce equity prices through higher financing costs, lower investment demand, and increased attractiveness of interest-bearing assets.

However, other studies report that the BI Rate does not significantly affect the broader Indonesian Composite Index (IHSG), while property-sector research has also found insignificant effects on certain dimensions of firm performance and dividend policy (Kaluge, 2019). These contrasting findings suggest that the influence of the BI Rate depends on the outcome being examined, the sample, market conditions, and model specification. Therefore, in the Indonesian property sector, the BI Rate is more appropriately viewed as an important macroeconomic driver with a generally negative relationship with stock performance, rather than as a consistently significant predictor of stock returns across all periods and empirical settings (Suhendra & Anwar, 2022). Whitin the capital market, elevated interest rates typically diminish the attractiveness of stocks, as investors may reallocate funds to lower-risk financial instruments such as deposits or bonds. Furthermore, increasing interest rates raise corporate borrowing costs and constrain cash flows, which negatively impacts stock valuations (Handayani & Nuswandari, 2025). Consequently, interest rates are regarded as a critical macroeconomic indicator influencing stock returns and shaping investor expectations regarding future investment prospects.

The exchange rate is the value of one currency relative to another and is a key indicator in international economic activity and financial markets. Fluctuations in exchange rates are driven by both domestic and global economic conditions, which can influence corporate performance and investor decision-making. Depreciation of the Indonesian Rupiah against the United States Dollar (USD) increases operational costs, especially for companies dependent on imported materials, thereby reducing profitability and stock performance (Sudaryo, 2019). For Indonesian property stocks, exchange-rate volatility should be regarded as an important macroeconomic risk factor rather than a stable and consistently directional predictor of stock returns. The sector remains exposed to movements in the rupiah, but the magnitude and statistical significance of this relationship can vary depending on the sample, observation period, and empirical specification. Previous evidence from Indonesia also indicates a long-run relationship between exchange-rate movements and stock-market returns, while earlier studies have reported a strong negative association between rupiah depreciation and returns in the property and real estate sector (Amado & Choon, 2020; Wahyudi & Rahmawati, 2025; Kurniawan et al., 2025). Taken together, these findings suggest that exchange-rate movements remain relevant to property-stock performance, although their effects are highly context-dependent rather than uniform across different market conditions.

3. Method

This study used a quantitative method and secondary quarterly data from property-segment companies which on the arranged list from the Indonesia Stock Exchange (IDX) throughout 2021 until 2024. The exploration included 96 property and real estate companies which on the arranged list by the Indonesia Capital Market Directory (ICMD). Purposive sampling was applied based on specific criteria: (1) availability of complete and consistent financial reports, (2) variations in profitability, (3) sensitivity to macroeconomic changes, and (4) active stock market performance throughout the exploration period. These characteristic generated in a final sample contains 10 companies, yielding 160 observations. The analysis assessed the impact of profitability and macroeconomic variables to the stock returns. The independent variables included Return on

Investment (ROI), Return on Equity (ROE), also Net Profit Margin (NPM) all measured as percentages. Interest rates, expressed as a percentage, and the Rupiah-to-US dollar exchange rate (IDR/USD), measured in Indonesian Rupiah (IDR), were also examined. The dependent variable, stock return, was measured as a percentage. Panel data regression analysis was utilised, as it integrates cross-sectional data (different companies at a single point in time) with time-series data (the same companies over multiple periods) (Gujarati 2012; Digdowiseiso, 2023).

$$SR_{it} = \alpha + \beta_1 ROE_{it} + \beta_2 NPM_{it} + \beta_3 ROI_{it} + \beta_4 r_{it} + \beta_5 ER_{it} + \varepsilon_{it} \quad (1)$$

Where i represents a firm in property sectors listed in Indonesia capital market; t denotes the observation period from 2021 to 2024; ROE represents return on equity; NPM denotes net profit margin. ROI refers to return on invesment; r represents interest rate; ER denotes exchange rate; ε_{it} denotes the random disturbance term. Panel data can generally be estimated using three main models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The appropriate estimation model is subsequently identified through several statistical tests. The Chow test is initially conducted to assess whether the pooled or fixed effect model is more suitable. Subsequently, the Hausman test is applied to determine the appropriate choice between the fixed effect and random effect models.

4. Results and Discussion

Descriptive statistical examination summarises the research's variables and their distribution. The dataset includes 160 quarterly observations from 10 property-sector companies which included in a list of the Indonesia Stock Exchange throughout 2021 until 2024. Table 1 shows Return on Equity (ROE) has a mean at 17.203 with a standard deviation at 13.033, signalling variation in property-sector companies' ability to generate returns on shareholders' equity. Net Profit Margin (NPM) recorded an average value at 56.910 with the highest standard deviation among the profitability indicators (83.150), suggesting substantial differences in profitability performance across firms. Meanwhile, Return on Investment (ROI) has a mean around 28.268 and a standard deviation at 44.808, indicating considerable variation in the effectiveness of investment utilization among the sampled companies. Regarding macroeconomic variables, the interest rate averages 0.0469, with a range of 0.0300 to 0.0600 during the observation period. The exchange rate recorded a mean value of 15.297, with minimum and maximum values of 14.188 and 16.192, independently, indicating fluctuations in Indonesia's macroeconomic conditions throughout 2021–2024.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std.Dev	Min	Max
Return on Equity	160	17.20329	13.03259	0.000000	49.71097
Net Profit Margin	160	56.91049	83.14987	0.000000	248.1859
Return on Investment	160	28.26775	44.80835	0.000000	134.0000
Interest Rate	160	0.046875	0.009595	0.030000	0.060000
Exchange Rate	160	15.29731	0.629953	14.18800	16.19200

Source: data processed

The panel-data model selection results indicate that the Fixed Effects Model (FEM) is the preferred specification. The Chow test (p = 0.001) rejects the Common Effects Model in favour of the Fixed Effects Model, while the Hausman test (p = 0.000) supports FEM over the Random Effects Model. Therefore, the interpretation of the empirical results is primarily based on the FEM estimates. The model produces an adjusted R^2 of 0.405, indicating that approximately 40.5% of the variation in stock returns is explained by the profitability and macroeconomic variables included in the model. Moreover, the F-statistic of 19.70 is statistically significant at the 1% level, indicating that the explanatory variables are jointly associated with stock returns.

Table 2 show Return on Equity (ROE) has a positive and statistically significant relationship with stock returns, with a coefficient of 0.042 and a t-statistic of 5.05. This finding indicates that companies with stronger returns on shareholders' equity tend to exhibit higher stock returns. A higher ROE reflects a firm's ability to generate earnings from the capital invested by shareholders and may therefore provide investors with a favourable signal regarding managerial effectiveness and future earnings prospects. From the perspective of Signaling Theory, strong ROE can reduce information

asymmetry by communicating positive information about firm performance to the market, potentially increasing investor confidence and demand for the company's shares. This finding is consistent with previous studies reporting a positive association between profitability and stock returns in the Indonesian capital market. This result supports Signaling Theory, which says that profitability information is a positive indicator of a firm's future accomplishment. It also supports the Capital Asset Pricing Model (CAPM), where investor expectations about future profitability affect stock values and expected returns. Alfatin et al (2026) and Nurisnaini et al (2024) confirmed that ROE has a positive and significant effect on stock returns.

Table 2. Result of Panel Data

Variables	CEM	FEM	REM
ROE	0.035***	0.042***	0.040***
	(3.65)	(5.05)	(4.75)
NPM	0.002	0.006***	0.005***
	(1.15)	(4.48)	(3.88)
ROI	0.006**	0.009***	0.008***
	(2.08)	(3.30)	(2.97)
r	-0.088	-0.041	-0.051
	(-0.84)	(-0.49)	(-0.59)
ER	-0.667	-0.628	-0.597
	(-1.21)	(-1.38)	(-1.29)
C	10.857**	9.797**	9.657**
	(2.04)	(2.24)	(2.17)
Diagnostic Tools			
Adj R^2	0.223	0.405	0.404
F-stat	10.09***	19.70***	88.42***
Chow Test	0.001		
Hausman Test	0.000		

Source: data processed

Net Profit Margin (NPM) also exhibits a positive and statistically significant relationship with stock returns. The FEM coefficient of 0.006, with a t-statistic of 4.48, suggests that firms with higher net profit margins tend to generate higher stock returns. NPM reflects a company's ability to convert revenue into net income after accounting for operating and other expenses. A stronger profit margin can signal greater operational efficiency and cost management, which may be positively evaluated by investors. Consistent with Signaling Theory, improvements in NPM can convey favourable information about a firm's earnings capacity and financial condition, thereby strengthening investor confidence and supporting stock-market performance. The finding also reinforces the view that profitability information constitutes an important component of investors' assessment of property-sector firms. Additionally, the Efficient Market Hypothesis (EMH) also suggests that profitability data is quickly incorporated into stock prices. This result is consistent with (Mohsin et al., 2025), who discovered that NPM has a significant also positive impact to stock returns.

Table 2 show Return on Investment (ROI) has a positive and statistically significant relationship with stock returns, with a FEM coefficient of 0.009 and a t-statistic of 3.30. The result implies that firms that utilise their investments more effectively tend to be associated with better stock-return performance. A higher ROI signals greater efficiency in generating returns from invested resources and may strengthen investor perceptions of managerial effectiveness and future profitability. This relationship is consistent with Signaling Theory, as favourable investment performance provides positive information to investors regarding a firm's ability to allocate resources productively. Therefore, the significant positive coefficient of ROI further supports the importance of firm-level profitability in explaining stock-return variation within Indonesia's property and real estate sector. It also supports the Capital Asset Pricing Model (CAPM) that implies the firms with superior earnings prospects are likely to propose higher expected returns. This result is consistent with (Rofi'i, 2026), which demonstrated that ROI positively and significantly influences stock returns.

The interest rate exhibits a negative but statistically insignificant relationship with stock returns in the FEM specification, with a coefficient of −0.041 and a t-statistic of −0.49. The negative direction is consistent with the theoretical expectation that higher interest rates may place pressure on property-sector firms by increasing borrowing costs and reducing mortgage affordability. However, the lack of

statistical significance indicates that interest-rate movements did not independently explain variations in stock returns during the 2021–2024 observation period after firm-specific effects and profitability indicators were taken into account. One possible interpretation is that the effects of monetary tightening may have been transmitted indirectly through company profitability, financing structures, or investor expectations rather than appearing as an immediate and uniform effect on stock returns. The result is also consistent with the mixed evidence reported in previous studies, which suggests that the effect of interest rates on property-stock performance depends on the observation period, company characteristics, and prevailing market conditions. Therefore, the present finding should not be interpreted as evidence that interest rates are irrelevant to the property sector; rather, their direct effect on stock returns is not statistically distinguishable from zero in the current FEM specification.

The exchange rate also shows a negative but statistically insignificant relationship with stock returns, with a FEM coefficient of −0.628 and a t-statistic of −1.38. The negative coefficient suggests that rupiah depreciation may place downward pressure on property-stock returns, potentially through higher costs of imported materials, foreign-currency liabilities, and broader investor risk perceptions. Nevertheless, the relationship is not statistically significant, indicating that exchange-rate movements did not exert a systematic direct effect on stock returns during the sample period. This result may reflect the predominantly domestic orientation of Indonesia's property sector, where firm profitability, domestic financing conditions, and company-specific characteristics may have a stronger influence on investor valuation than short-term currency movements. The insignificant result is also consistent with previous evidence showing that the effect of exchange-rate fluctuations on property-sector returns varies across periods, firms, and market conditions.

The exchange rate also shows a negative but statistically insignificant relationship with stock returns, with a FEM coefficient of −0.628 and a t-statistic of −1.38. The negative coefficient suggests that rupiah depreciation may place downward pressure on property-stock returns, potentially through higher costs of imported materials, foreign-currency liabilities, and broader investor risk perceptions. Nevertheless, the relationship is not statistically significant, indicating that exchange-rate movements did not exert a systematic direct effect on stock returns during the sample period. This result may reflect the predominantly domestic orientation of Indonesia's property sector, where firm profitability, domestic financing conditions, and company-specific characteristics may have a stronger influence on investor valuation than short-term currency movements. The insignificant result is also consistent with previous evidence showing that the effect of exchange-rate fluctuations on property-sector returns varies across periods, firms, and market conditions.

5. Conclusion

This research analysed how profitability indicators, Net Profit Margin, Return on Investment, Return on Equity and macroeconomic variables, contains interest rates also exchange rates, influence stock returns of property and real estate companies that included in a list that conducted by the Indonesia Stock Exchange. The findings show that NPM, ROE, also ROI have a positive significant influence to the stock returns, emphasising the importance of profitability in investor assessments of company performance and investment potential in the property sector. Conversely, interest rates significantly downsize stock returns, highlighting the role of monetary policy and financing costs in shaping investor expectations and market performance. Exchange rates have no significant effect, indicating that investors focus more on company fundamentals than on exchange rate movements when making investment decisions.

These findings support the research objective and show that both company performance and macroeconomic conditions affect stock returns in the property sector, with profitability factors playing a more dominant role. The results provide practical guidance for investors choosing investment options and for company management aiming to improve profitability and increase shareholder value. Future research should prolong the observation period, contain additional macroeconomic variables for example inflation, economic growth, or money supply, and compare different industry sectors to gain more extensive insights of the factors effecting stock returns in the Indonesian capital market.

Acknowledgment

The authors gratefully acknowledge the Department of Development Economics at Universitas Pembangunan Nasional "Veteran" Jawa Timur for their academic support. Appreciation is also extended to all individuals who contributed to the completion of this study.

Declarations

Author contribution : Each author made equal contributions to the primary content of this paper. Furthermore, all authors have carefully reviewed and endorsed the final manuscript
Funding statement : No funding statement for this paper.
Conflict of interest : The authors declare no conflict of interest.
Additional information : No additional information is available for this paper.

References

Alfatin, R., Rajendra, R., Ratnawati, R. A., & Kusmadi, K. (2026). The effect of return on equity (ROE) and dividend policy on stock returns in property and real estate companies listed on the Indonesia stock exchange period 2020–2024. *Multifinance: Jurnal Ekonomi, Manajemen dan Perbankan, 3*(3), 51-61. doi: 10.61397/mfc.v3i3.518

Almasyhari, K. A., & Nurcahyono, N. (2021). Factors affecting the stock price: The role of firm performance. *The Journal of Asian Finance, Economics and Business, 8*(2), 165–173.

Almuttaqin, F., Algifari, M., Azriansyah, A., Nugraha, P. W., & Hendra, K. J. (2025). Analisis efisiensi penggunaan modal dan implikasinya terhadap profitabilitas perusahaan. *Jurnal Review Pendidikan dan Pengajaran, 8*(2). doi: 10.31004/jrpp.v8i2.46916

Amado, A., & Choon, L. M. (2020). Impact of changes in exchange rate on stock market: An empirical evidence from Indonesia. *International Journal of Applied Economics, Finance and Accounting*, *7*(1). doi: 10.33094/8.2017.2020.71.24.31

Darsono, S. N. A. C., Bi, C., Mutiara, I., Kurniawan, M. L. A., Van Pho, T., & Nguyen, T. T. H. (2025). Drivers of China green bonds: An ARDL analysis of economic policy uncertainty, financial market volatility, exchange rates, and commodity prices. *International Journal of Energy Economics and Policy (IJEEP)*, *15*(4), 178–188. doi: 10.32479/ijeep.19188

Digdowiseiso, K. (2023). What drives the stock returns?: Examining the fundamental factors on the consumer defensive sector companies. *General Managements*, *24*(194), 177–186. doi: 10.47750/QAS/24.194.21

Edison, A., Suryana, S., & Arsalan, S. (2019). Share return on sector properties and real estate Indonesia stock exchange. *Journal of Advanced Research in Dynamical and Control Systems*, *11*(8).

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. *Corporate Governance and Organizational Behavior Review*, *5*(2). doi: 10.22495/cgobrv5i2sip6

Evamelia, E., & Panjaitan, Y. (2019). Analisis peranan emas dan obligasi pemerintah sebagai safe haven periode 2014-2018. *BALANCE: Jurnal Akuntansi, Auditing dan Keuangan, 16*(2), 212-236. doi: 10.25170/balance.v16i2.1624

Gemita, D. H., Muchran, M., & Mira, M. (2026). Comparative analysis of leading and lagging techniques in invesment strategies. Optimum: Jurnal Ekonomi dan Pembangunan, 16(1), 180-189. doi: 10.12928/optimum.v16i1.13641

Gujarati, D. N. (2012). *Basic of Econometrics* (5th Edition). McGraw-Hill Education. India.

Gumanti, T. A., & Utami, E. S. (2002). Bentuk pasar efisiensi dan pengujiannya. *Jurnal Akuntansi dan Keuangan, 4*(1), 54-68.

Gusvarizon, M., Ningsih, P. T. S., & Arief, A. M. (2024). Analisis pengaruh kurs, inflasi, suku bunga terhadap return saham properti di PT Bursa Efek Indonesia. *Jurnal Ilmu Ekonomi Manajemen dan Akuntansi*, *5*(2), 560–573. doi: 10.37012/ileka.v5i2.2427

Handayani, H., & Nuswandari, N. (2025). Pengaruh inflasi, suku bunga BI, nilai tukar/kurs dan gross domestic product terhadap indeks harga saham sektor property dan real estate di Bursa Efek Indonesia tahun 2020-2024. *JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi)*, 11(5),

4680–4690. doi: 10.35870/jemsi.v11i5.5059

Hermuningsih, S., Kari, F., Rahmawati, A. D., & Prajnanta, F. (2024). The role of profitability as a channel on influencing the effect of macroeconomics on stock returns in the Indonesian stock exchange during the covid-19 pandemic. *International Journal of Business and Society*, *25*(1), 242–259. doi: 10.33736/ijbs.6909.2024

Ichsani, S., Widajatun, V. W., Mawarnie, D., & Hertina, D. (2019). Macroeconomic effect to stock returns in property and real estate companies. *Journal of Advanced Research in Dynamical and Control Systems*, *11*(7).

Kaluge, D. (2019). Multifactor on macroeconomic fundamentals to explain the behavior of sectoral indices in the Indonesian stock exchange. *Entrepreneurship and Sustainability Issues*, *7*(1). doi: 10.9770/jesi.2019.7.1(4)

Kurniawan, M. L. A., Az Zakiyyah, N. A., & Juwita, A. H. (2025). Does money causes output? evidence from Indonesia. *International Journal of Monetary Economics and Finance*, *18*(6). doi: 10.1504/IJMEF.2025.150816

Medyawati, H., & Yunanto, M. (2017). Factors determining stock returns in property, real estate and construction companies in Indonesia. *International Journal of Globalisation and Small Business*, *9*(1), 3–19. doi: 10.1504/IJGSB.2017.084707

Mohsin, F., Muzammil. M., & Faheem, S. (2025). The effect of return on equity, earnings per share, and price earnings ratio on stock prices in the insurance sector of Pakistan (2019-2023). *Archives of Management and Social Sciences*, *2*(3), 5-22. doi: 10.63516/amss/02.03/003

Newell, G., Wing, C. K., Kei, W. S., & Hiang, L. K. (2009). The significance and performance of property securities markets in the Asian IFCs. *Journal of Property Research*, *26*(2), 125–148. doi: 10.1080/09599910903441721

Nurdina, N., Nurkholis, N., Adib, N., & Atmini, S. (2024). Evaluation of the resilience of real estate and property stocks to inflation and interest rate uncertainty: Implementation of two asset pricing models. *Journal of Risk and Financial Management*, *17*(12), 530–544. doi: 10.3390/jrfm17120530

Nurisnaini, N., Wulandari, R. D., & Supriadi, Y. (2024). The effect of liquidity, profitability, price earning ratio and interest rates on company stock returns. *Jurnal Ilmiah Manajemen Kesatuan (JIMKES), 12*(6), 2819–2832. doi: 10.37641/jimkes.v12i6.2937

Prastuti, D., & Setianingrum, P. H. (2015). The effect of macroeconomics variables on sectors' index, the case of Indonesia stock exchange market. *International Journal of Economic Research*, *17*(1).

Rofi'i, M. (2026). Fundamental determinants of stock returns: Evidence from property and real estate companies. *UPY Business and Management Journal (UBMJ)*, *5*(1), 38-54. doi: 10.31316/ubmj.v5i1.8543

Saputra, D., Yudha, A. M., & Ulnisa, T. (2024). pengaruh tingkat suku bunga, nilai tukar dan inflasi terhadap nilai perusahaan dengan profitabilitas sebagai variabel moderasi pada perusahaan property dan real estate yang terdaftar di BEI 2017-2021. *JAF (Journal of Accounting and Finance), 8*(1), 54-71. doi: 10.25124/jaf.v8i1.7224

Saraswati, R. A., Ratnawati, A. & Irawan, T. (2024). Determinants of financial distress in property and real estate companies listed on the Indonesian stock exchange. *Jurnal Ekonomi Dan Kebijakan Pembangunan (JEKP), 13*(2), 80–92. doi: 10.29244/jekp.13.2.2024.80-92

Shahid, Z. A., Tariq, M. I., Paul, J., Naqvi, S. A. N., & Hallo, L. (2024). Signaling theory and its relevance in international marketing: A systematic review and future research agenda. *International Marketing Review*, *41*(2), 514-561. doi: 10.1108/IMR-04-2022-0092

Spence, M. (2018). *Job Market Signaling*. Oxford University Press.

Sudaryo, Y. (2019). Pengaruh rasio likuiditas, rasio solvabilitas, rasio aktivitas, rasio profitabilitas,

dan rasio pasar terhadap harga saham. *Jurnal Indonesia Membangun*, *18*(1), 31–47.

Suhendra, I., & Anwar, C. J. (2022). The response of asset prices to monetary policy shock in Indonesia: A structural VAR approach. *Banks and Bank Systems*, *17*(1), 104–114. doi: 10.21511/bbs.17(1).2022.09

Wahyudi, S. T., & Rahmawati, A. (2025). Examining the link between world oil price volatility and sectoral stock performance in Indonesia. *Cogent Economics & Finance*, *13*(1). doi: 10.1080/23322039.2025.2535484

Winarso, E., Yusuf, P. S., & Lyuzhiba, Z. Z. (2019). Effects on the volume ratio profit abilities stock trades: (A case study on listed companies in jakarta islamic index period 2010-2014). *Journal of Advanced Research in Dynamical and Control Systems*, *10*(11). doi: 10.37200/IJPR/V24I2/PR200710

Winoto, A., Manurung, A. H., Deniswara, K., & Angelus, M. (2022). Analysis of capital structure determinants of property companies listed on Indonesia stock exchange using internal, external, and lag-one variables to measure speed of adjustment. *DSDE '22: Proceedings of the 2022 5th International Conference on Data Storage and Data Engineering*, 12–17. doi: 10.1145/3528114.3528117

Zulfiatf, L., & Wijaya, P. M. (2015). Firm performance and market reaction. *International Journal of Economic Research*, *17*(2).