

The Effect of Investment Risk and Investment Opportunity Set on Stock Returns: Earnings Per Share as a Moderating Variable

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Abstract: Stock returns reflect investors' responses to systematic risk, growth opportunities, and financial performance signals. Previous studies report inconsistent effects of investment risk and the Investment Opportunity Set (IOS) on stock returns, indicating the need to examine moderating firm-level factors. **Objective:** This study aimed to analyze the effects of investment risk and IOS on stock returns and evaluate the moderating role of Earnings per Share (EPS) among Kompas 100 companies listed on the Indonesia Stock Exchange during 2020–2024. **Method:** A quantitative explanatory design was employed using secondary data from 12 purposively selected companies, generating 60 firm-year observations. Panel data regression and Moderated Regression Analysis were conducted using EViews 12. **Findings:** Investment risk ($\beta = 0.0731$; $p = 0.7532$), IOS ($\beta = -0.0539$; $p = 0.0736$), and EPS ($\beta = -0.0867$; $p = 0.8889$) had no significant direct effects on stock returns. The Beta $\times$ EPS interaction was insignificant ($p = 0.9134$), whereas IOS $\times$ EPS was positive and significant ($\beta = 0.3394$; $p = 0.0028$). **Implications:** Growth opportunities become more relevant when supported by stronger earnings performance. **Originality:** This study demonstrates EPS as a complementary signal that strengthens the IOS–stock return relationship in large, liquid Indonesian firms.

Keywords: audit delay; financial distress; leverage; profitability; consumer cyclicals.

INTRODUCTION

The capital market is one of the most important instruments in a modern economy, serving as a mechanism for mobilizing public funds and channeling them into productive sectors to stimulate national economic growth. Through the capital market, companies are able to raise external financing from investors to support business expansion, while investors obtain opportunities to earn returns through capital gains and dividend yields (Sri Indrayani et al., 2022). From an investment perspective, the primary objective of participating in the capital market is to maximize stock returns. Higher stock returns generally increase investors' willingness to allocate capital to a particular company.

In practice, fluctuations in stock prices are influenced by various fundamental factors as well as investment risks inherent in investment decisions. Investment risk reflects the possibility that actual returns will differ from the expected returns anticipated by investors (Idrus et al., 2018). According to Tandelilin (2010), risk and return are inseparable concepts in investment theory. The principle of *high risk–high return* suggests that investments with greater risk are expected to generate higher returns. Consequently, investors' understanding of investment risk becomes a crucial consideration in making rational and long-term investment decisions.

Previous empirical studies have reported inconsistent findings regarding the relationship between investment risk and stock returns. Wijayani and Hermuningsih (2020) found that investment risk has a positive and significant effect on stock returns in banking companies listed on the Indonesia Stock Exchange (IDX). Similar findings were reported by Tesya et al. (2020), who demonstrated that market risk positively and significantly influences stock returns in food and beverage companies listed on the IDX. In contrast, Rumianti (2023) found that investment risk, measured using market beta, does not significantly

affect stock returns. These inconsistent findings suggest the presence of other factors that may influence or moderate the relationship between investment risk and stock returns.

Another important determinant of stock returns is the Investment Opportunity Set (IOS). IOS represents the combination of a firm's existing assets (*assets in place*) and its future investment opportunities, reflecting the company's growth potential (Yusma et al., 2019). Smith and Watts (1992) and Gaver and Gaver (1993) argue that firms with high IOS generally possess greater growth opportunities, making them more attractive to investors. Empirical evidence by Sri Indrayani et al. (2022) indicates that IOS has a positive effect on stock returns. Likewise, Oktavia and Wijaya (2023) reported a significant relationship between IOS and stock returns. However, Parameswari and Suprihadi (2017) found that IOS does not significantly influence stock returns. These contradictory findings highlight the need for further investigation into the role of IOS in explaining variations in stock returns.

In this study, Earnings per Share (EPS) is positioned as an earnings-performance signal that may condition the relationship between investment risk, IOS, and stock returns. EPS represents the amount of net income attributable to each outstanding share and conveys information regarding a firm's ability to generate earnings (Brigham & Houston, 2019; Kasmir, 2019). Previous findings remain inconsistent: Tristiawan et al. (2023) reported a significant positive association between EPS and stock returns, whereas Inaroh and Alliyah (2023) found a positive but insignificant relationship, and Chandra and Darmayanti (2022) reported an insignificant relationship. These inconsistencies provide a basis for examining EPS not merely as a direct determinant, but as a complementary signal that may alter the relationship between investment opportunities, systematic risk, and stock returns.

This study is grounded in Signaling Theory, originally proposed by Spence (1973). The theory explains how observable information can reduce information asymmetry by conveying signals about underlying quality and future prospects. In the present context, IOS represents a signal of future growth opportunities, while EPS represents current earnings performance. The combination of these signals may provide investors with more informative evidence about whether available growth opportunities can be translated into economic value. Systematic risk, by contrast, largely reflects exposure to market-wide movements. Accordingly, the study evaluates whether EPS changes the association of Beta and IOS with stock returns rather than assuming that earnings information has an identical role in both relationships.

The research focuses on companies included in the Kompas 100 Index listed on the Indonesia Stock Exchange (IDX) during the 2020–2024 period. The Kompas 100 Index was selected because it consists of highly liquid blue-chip stocks that significantly influence the movement of the Indonesia Composite Stock Price Index (IHSG). Furthermore, firms included in this index generally possess strong fundamental characteristics, making them suitable for examining the relationships among investment risk, IOS, market valuation, and stock returns.

Based on the preceding empirical inconsistencies, this study addresses a specific gap by testing EPS as a moderating earnings signal in the relationships of investment risk and IOS with stock returns among consistently listed Kompas 100 companies during 2020–2024. The novelty of the study lies in evaluating whether the same earnings signal operates differently when interacting with systematic risk and growth opportunities within a single panel-data framework. Accordingly, the study aims to examine the direct effects of investment risk, IOS, and EPS on stock returns and to determine whether EPS moderates the effects of investment risk and IOS on stock returns from a Signaling Theory perspective.

METHODS

This study employed a quantitative explanatory research design to examine the effects of investment risk and the Investment Opportunity Set (IOS) on stock returns, with Earnings per Share (EPS) serving as the moderating variable. The study used secondary data obtained from publicly available financial reports and stock market information of companies listed on the Indonesia Stock Exchange (IDX).

The population consisted of companies included in the Kompas 100 Index during the 2020–2024 period. The Kompas 100 Index was selected because it comprises highly liquid companies with large market capitalization and represents a substantial segment of the Indonesian capital market. The research sample was determined using purposive sampling based on the following criteria: (1) companies consistently included in the Kompas 100 Index throughout the 2020–2024 observation period; (2) companies that published complete audited annual financial statements during the research period; (3) companies with

complete stock price, dividend, and financial data required to calculate all research variables; and (4) companies with no missing observations during the study period. Based on these criteria, 12 companies were selected, resulting in 60 firm-year observations.

Secondary data were obtained from the official website of the Indonesia Stock Exchange, annual reports, Yahoo Finance, RTI Business, and other relevant financial databases. Data were collected using the documentation method, which involved identifying eligible companies, retrieving annual reports and financial statements, collecting stock price and dividend data, and calculating the research variables according to their operational definitions.

The dependent variable was stock return (RS), defined as the annual return received by investors from changes in stock prices and dividend income. Investment risk was measured using market beta (β), which represents the systematic sensitivity of an individual stock to market movements. The Investment Opportunity Set (IOS) was proxied by the Market-to-Book Value of Assets (MBVA), reflecting a firm's future growth opportunities. Earnings per Share (EPS) was used as the moderating variable and represents earnings attributable to ordinary shareholders per outstanding share. The operational measures were expressed as follows:

$$RS_{it} = \beta_0 + \beta_1 Beta_{it} + \beta_2 IOS_{it} + \beta_3 EPS_{it} + \beta_4 (Beta \times EPS)_{it} + \beta_5 (IOS \times EPS)_{it} + \varepsilon_{it}$$

$$RS_{it} = \alpha + \beta_1 BETA_{it} + \beta_2 IOS_{it} + \beta_3 EPS_{it} + \beta_4 (BETA_{it} \times EPS_{it}) + \beta_5 (IOS_{it} \times EPS_{it}) + \varepsilon_{it}$$

Prior to hypothesis testing, the model was evaluated using multicollinearity and heteroscedasticity diagnostics. The Glejser test was used to assess heteroscedasticity. Autocorrelation was evaluated using the Durbin–Watson statistic reported in the estimated model to maintain consistency with the Results section. The distributional characteristics of the variables were also reported descriptively; inference was based on the selected panel regression model. Hypothesis testing used the t-test for individual coefficients, the F-test for joint significance, and the coefficient of determination (R^2 and Adjusted R^2) to assess explanatory power. Statistical significance was determined at the 5% level ($\alpha = 0.05$).

RESULTS AND DISCUSSION

Overview of the Research Object

The research object comprises companies consistently included in the Kompas 100 Index during 2020–2024. The index contains highly liquid and relatively large-capitalization stocks, providing a relevant setting for examining systematic risk, growth opportunities, earnings performance, and stock returns in the Indonesian capital market.

Using a purposive sampling technique, 12 companies were selected based on the following criteria: (1) consistently included in the Kompas 100 Index throughout the observation period, (2) publishing complete audited annual financial statements, (3) providing complete stock price data, and (4) having sufficient information to calculate stock returns. The sample comprises PT Aneka Tambang Tbk (ANTM), PT Bank Central Asia Tbk (BBCA), PT Bank Rakyat Indonesia (Persero) Tbk (BBRI), PT Bank Negara Indonesia (Persero) Tbk (BBNI), PT Bank Tabungan Negara (Persero) Tbk (BBTN), PT Bank Mandiri (Persero) Tbk (BMRI), PT Vale Indonesia Tbk (INCO), PT Indocement Tungal Prakarsa Tbk (INTP), PT Japfa Comfeed Indonesia Tbk (JPFA), PT Jasa Marga (Persero) Tbk (JSMR), PT Surya Citra Media Tbk (SCMA), and PT United Tractors Tbk (UNTR).

The observation period captures significant economic events, including the COVID-19 pandemic, post-pandemic economic recovery, global inflation, interest rate adjustments, and increased investment activity in Indonesia. These conditions provide a relevant setting for examining the relationships among investment risk, Investment Opportunity Set (IOS), market valuation, and stock returns.

The unit of analysis is the firm-year observation. Stock return is the dependent variable, BETA and IOS are the independent variables, and EPS is the moderating variable. The 2020–2024 period also spans the pandemic, economic recovery, inflationary pressures, and interest-rate adjustments; therefore, the findings should be interpreted within this changing market environment.

Descriptive Statistics

Descriptive statistical analysis was conducted as a preliminary step to summarize the characteristics of the research data. The analysis includes the minimum, maximum, mean, and standard deviation values.

Table 1. Descriptive Statistics of Research Variables

	RETURN	BETA	IOS	EPS
Mean	0.091766	1.252433	1.211500	0.445000
Median	0.015537	1.308000	0.360000	0.260000
Maximum	1.575243	2.059000	13.66000	2.130000
Minimum	-0.450704	0.426000	0.060000	0.010000
Std. Dev.	0.367611	0.279009	2.342518	0.451876
Skewness	1.881962	-0.258265	3.825760	1.613544
Kurtosis	7.732833	4.047324	18.25581	5.371810
Jarque-Bera	91.41706	3.409225	728.2139	40.09893
Probability	0.000000	0.181843	0.000000	0.000000
Sum	5.505985	75.14600	72.69000	26.70000
Sum Sq. Dev.	7.973154	4.592919	323.7562	12.04730
Observations	60	60	60	60

Source: Eviews 12, 2026

Descriptive statistics were used to summarize the characteristics of the research variables. As presented in Table 1, the average stock return (RETURN) was 0.0918, indicating that the sampled firms generated an average annual return of approximately 9.18%. However, the relatively high standard deviation (0.3676) suggests considerable variation in stock returns across firms and years. Investment risk (BETA) had a mean value of 1.2524, implying that most sampled stocks exhibited systematic risk higher than the overall market ($\beta > 1$), while its relatively low standard deviation (0.2790) indicates moderate dispersion among firms.

The Investment Opportunity Set (IOS) recorded an average value of 1.2115, with a standard deviation of 2.3425, exceeding its mean and indicating substantial variation in firms' growth opportunities. Similarly, market valuation (EPS) showed an average value of 0.4450 and a standard deviation of 0.4519, suggesting differences in firms' earnings per share during the observation period. Regarding the distribution of the data, RETURN, IOS, and EPS exhibited positive skewness, whereas BETA showed slight negative skewness. Furthermore, all variables had kurtosis values greater than 3, indicating a leptokurtic distribution, characterized by a more peaked distribution than the normal distribution.

Panel Data Regression Model Selection

Three panel data regression models were estimated in this study, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The appropriate model was determined using the Chow test and the Lagrange Multiplier (LM) test.

The Chow test produced a Chi-square probability value of 0.0829, which is greater than the 5% significance level ($p > 0.05$). This result indicates that the Common Effect Model is more appropriate than the Fixed Effect Model.

Furthermore, the Lagrange Multiplier (LM) test yielded a Breusch–Pagan probability value of 0.5496, which also exceeds 0.05, indicating that the Random Effect Model is not preferable to the Common Effect Model. Therefore, based on the results of both model selection tests, the Common Effect Model (CEM) was selected as the most appropriate model and was used for the subsequent panel data regression analysis.

Classical Assumption Tests

Prior to hypothesis testing, classical assumption tests were conducted to ensure that the regression model satisfied the assumptions required for panel data analysis. The tests included multicollinearity, heteroscedasticity, and autocorrelation.

Multicollinearity Test

The multicollinearity test was performed using the correlation matrix among the independent variables.

Table 2. Correlation Matrix for Multicollinearity Assessment

	RETURN	BETA	IOS	EPS
RETURN	1	-0.010	0.075	0.184
BETA	-0.010	1	-0.109	-0.358
IOS	0.075	-0.109	1	-0.114
EPS	0.184	-0.358	-0.114	1

The results indicate that all correlation coefficients were below the threshold value of 0.80, with the highest correlation being 0.358 between BETA and EPS. These findings indicate the absence of multicollinearity, suggesting that the independent variables are not highly correlated and are suitable for inclusion in the regression model.

Heteroscedasticity Test

Heteroscedasticity was examined using the Glejser test.

Table 3. Glejser Test for Heteroscedasticity

Dependent Variable: ABS(RESID)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.197834	0.171473	1.153737	0.2537
BETA	0.106943	0.128163	0.834432	0.4077
IOS	-0.053423	0.016379	-3.261730	0.0019
EPS	0.544833	0.342620	1.590198	0.1176

The Glejser test shows that BETA ($p = 0.4077$) and EPS ($p = 0.1176$) are not statistically significant, whereas IOS is significant ($p = 0.0019$). Therefore, the homoscedasticity assumption is not fully satisfied and the model exhibits an indication of heteroscedasticity associated with IOS. Consequently, the conventional standard errors and significance tests should be interpreted with caution. Because the underlying dataset required to re-estimate heteroscedasticity-robust standard errors is not contained in the manuscript file, this revision does not replace the reported regression estimates; a robust-standard-error re-estimation is recommended as a verification step before final publication.

Autocorrelation Test

Autocorrelation was evaluated using the Durbin–Watson (DW) statistic reported by the selected CEM. The DW value of 2.0183 is close to 2.0 and does not indicate an obvious first-order autocorrelation pattern in the reported model. This diagnostic is interpreted together with the other model checks rather than as a standalone guarantee of residual independence.

Panel Data Regression

Table 4. Common Effect Model Regression Results for Stock Returns

Dependent Variable: RETURN				
Method: Panel Least Squares				
Date: 07/08/26 Time: 20:32				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.006998	0.309277	-0.022626	0.9820
BETA	0.073054	0.231161	0.316030	0.7532
IOS	-0.053905	0.029542	-1.824724	0.0736
EPS	-0.086734	0.617966	-0.140353	0.8889
BETA × EPS	-0.061271	0.560904	-0.109236	0.9134
IOS × EPS	0.339406	0.108177	3.137488	0.0028
Root MSE	0.323862	R-squared	0.210700	

Mean dependent var	0.091766	Adjusted R-squared	0.137616
S.D. dependent var	0.367611	S.E. of regression	0.341381
Akaike info criterion	0.783004	Sum squared resid	6.293212
Schwarz criterion	0.992439	Log likelihood	-17.49012
Hannan-Quinn criter.	0.864925	F-statistic	2.883006
Durbin-Watson stat	2.018332	Prob(F-statistic)	0.022270

Based on the Chow and Lagrange Multiplier tests, the Common Effect Model (CEM) was selected as the most appropriate model for estimating the relationship between investment risk, Investment Opportunity Set (IOS), market valuation, and stock returns. The estimated panel regression equation is as follows:

$$\begin{aligned} \text{RETURN}_{it} = & -0.0070 + 0.0731\text{BETA}_{it} - 0.0539\text{IOS}_{it} - 0.0867\text{EPS}_{it} - 0.0613(\text{BETA} \times \text{EPS})_{it} \\ & + 0.3394(\text{IOS} \times \text{EPS})_{it} + \varepsilon_{it} \\ \text{RETURN} = & -0.006998 + 0.073054\text{BETA} - 0.053905\text{IOS} - 0.086734\text{EPS} - 0.061271(\text{BETA} \times \text{EPS}) + \\ & 0.339406(\text{IOS} \times \text{EPS}) \end{aligned}$$

The estimated equation shows that BETA has a positive coefficient, while IOS and EPS have negative coefficients. The $\text{BETA} \times \text{EPS}$ interaction is negative and statistically insignificant, whereas the $\text{IOS} \times \text{EPS}$ interaction is positive and statistically significant. Because the IOS main-effect coefficient is negative while the $\text{IOS} \times \text{EPS}$ coefficient is positive, the marginal effect of IOS on stock returns depends on the level of EPS: $\partial \text{RETURN} / \partial \text{IOS} = -0.053905 + 0.339406(\text{EPS})$. Thus, the interaction should be interpreted as a conditional relationship rather than as an unconditional increase in stock returns.

Partial Regression Results (t-test)

The partial regression analysis was conducted to examine the individual effect of each independent variable and moderating interaction on stock returns. The estimation results indicate that investment risk (BETA) has a positive coefficient of 0.0731, but the effect is statistically insignificant ($t = 0.3160$; $p = 0.7532$). This finding suggests that systematic risk does not significantly explain variations in stock returns among companies included in the Kompas 100 Index during the 2020–2024 period.

Similarly, Investment Opportunity Set (IOS) exhibits a negative coefficient of -0.0539 and is not statistically significant ($t = -1.8247$; $p = 0.0736$). Although the coefficient indicates an inverse relationship, the probability value exceeds the 5% significance level, implying that investment opportunities do not have a direct effect on stock returns within the observed sample.

The regression results also show that market valuation (EPS) has a negative coefficient of -0.0867 , with a t -value of -0.1404 and a probability value of 0.8889, indicating that EPS does not significantly influence stock returns. Therefore, variations in earnings per share alone are insufficient to explain changes in stock returns during the observation period.

The interaction between BETA and EPS produced a coefficient of -0.0613 ($p = 0.9134$), indicating that EPS does not significantly moderate the relationship between investment risk and stock returns. In contrast, $\text{IOS} \times \text{EPS}$ produced a positive coefficient of 0.3394 and was statistically significant ($t = 3.1375$; $p = 0.0028$). This means that the association between IOS and stock returns varies with the level of EPS. Given the estimated coefficients, the marginal effect of IOS becomes more positive as EPS increases. This conditional interpretation is more precise than treating EPS as uniformly strengthening stock returns at all observed levels.

Simultaneous Regression Results (F-test)

The overall significance of the regression model was evaluated using the F-test. The estimation results produced an F-statistic of 2.8830 with a probability value of 0.0223, which is below the 5% significance level. These results indicate that investment risk, Investment Opportunity Set, market valuation, and the moderating interaction variables jointly have a significant effect on stock returns.

Although several independent variables are not individually significant, the simultaneous test confirms that the variables collectively contribute to explaining the variation in stock returns. Therefore, the proposed regression model is statistically significant and appropriate for examining the relationships among the variables included in this study.

Coefficient of Determination

The explanatory power of the regression model was assessed using the coefficient of determination. The estimation results show an R^2 value of 0.2107, indicating that approximately 21.07% of the variation in stock returns is explained by investment risk, Investment Opportunity Set, market valuation, and the interaction terms included in the model. The remaining 78.93% of the variation is attributable to other factors outside the scope of this study.

The relatively modest coefficient of determination suggests that stock returns are influenced by a wide range of internal and external factors beyond those examined in this research. Nevertheless, considering the complexity and dynamic nature of capital market behavior, the model provides sufficient explanatory power to evaluate the proposed relationships and test the research hypotheses.

Discussion

Investment Risk and Stock Returns

The empirical findings indicate that investment risk, measured by beta, does not significantly influence stock returns among the sampled Kompas 100 companies. The result suggests that, within this sample and period, systematic risk alone does not explain variation in annual stock returns. It may indicate that other firm-specific and market-wide information had a larger role during 2020–2024; however, investor preferences were not measured directly and therefore cannot be inferred as factual behavior from these secondary data.

From the perspective of Signaling Theory, companies continuously communicate information to investors through publicly available disclosures that reduce information asymmetry (Spence, 1973). Although beta theoretically represents a market signal regarding systematic risk, the results indicate that this signal is not sufficiently informative to influence investors' expected returns. This finding implies that investors perceive beta as an external market risk rather than firm-specific information generated by management.

The result is consistent with Rumianti (2023), who reported that market beta has no significant effect on stock returns. However, it contradicts the findings of Wijayani and Hermuningsih (2020) and Tesya et al. (2020), who found a positive relationship between investment risk and stock returns. The discrepancy may reflect differences in sample characteristics. Companies listed in the Kompas 100 generally have large market capitalization, strong liquidity, and relatively stable fundamentals, reducing investors' sensitivity to fluctuations in systematic risk.

Investment Opportunity Set and Stock Returns

The findings also reveal that the Investment Opportunity Set (IOS) does not significantly affect stock returns. This suggests that growth opportunities alone are insufficient to generate positive market responses. Investors appear to require additional evidence that investment opportunities can be translated into future profitability before adjusting their investment decisions.

According to Signaling Theory (Spence, 1973), firms with abundant investment opportunities send positive signals regarding future growth. However, these signals become meaningful only when investors believe that management possesses the capability to execute profitable investment projects successfully. Consequently, growth opportunities that are not supported by strong financial performance may fail to increase investors' expectations regarding future returns.

This finding supports the study of Parameswari and Suprihhadi (2017), who also reported that IOS has no significant effect on stock returns. Conversely, it differs from the results of Yusma et al. (2019), Sri Indrayani et al. (2022), and Oktavia and Wijaya (2023), which demonstrated a positive relationship between IOS and stock returns. The inconsistent evidence suggests that the value relevance of growth opportunities depends on investors' confidence in firms' ability to realize those opportunities.

Earnings per Share and Stock Returns

EPS was found to have no significant direct effect on stock returns. Although EPS is commonly used as an indicator of earnings performance, the result indicates that variation in earnings per share alone was insufficient to explain annual stock-return variation in this sample. Accordingly, EPS is interpreted in this study primarily as an earnings signal rather than as a complete measure of market valuation.

From a signaling perspective, earnings announcements provide information regarding a firm's financial performance and future prospects (Spence, 1973). Nevertheless, investors typically evaluate earnings together with broader economic conditions, industry prospects, interest rates, inflation, and overall market sentiment. Consequently, EPS may lose explanatory power when external macroeconomic uncertainty dominates investment decisions.

This finding is consistent with Inaroh and Alliyah (2023) and Chandra and Darmayanti (2022), who concluded that EPS does not significantly influence stock returns. However, it differs from Tristiawan et al. (2023), who found a significant positive relationship. Such differences indicate that the usefulness of earnings information varies across market conditions and research contexts.

The Moderating Role of Earnings per Share in the Relationship between Investment Risk and Stock Returns
The $BETA \times EPS$ interaction is statistically insignificant, indicating that EPS does not significantly change the relationship between systematic risk and stock returns in the observed sample. One possible interpretation is that beta and earnings convey different information: beta reflects exposure to market-wide movements, whereas EPS reflects firm-level earnings performance. This interpretation remains inferential because the study does not directly measure investors' perceptions.

Under Signaling Theory, profitability signals are expected to reduce uncertainty and improve investors' confidence (Spence, 1973). However, systematic risk originates primarily from macroeconomic and market-wide factors that remain largely beyond managerial control. Therefore, improvements in corporate earnings cannot substantially alter investors' perceptions of market risk.

The result suggests that systematic risk and profitability convey different types of information to investors. While profitability reflects internal corporate performance, beta captures external market volatility. Consequently, the interaction between these two signals does not significantly affect stock returns.

The Moderating Role of Earnings per Share in the Relationship between Investment Opportunity Set and Stock Returns

Unlike the $BETA \times EPS$ interaction, $IOS \times EPS$ is positive and statistically significant. The estimated coefficients imply that the marginal effect of IOS on stock returns becomes more positive as EPS increases. Thus, growth opportunities appear to be more favorably associated with stock returns when accompanied by stronger earnings performance, although the exact conditional effect at specific EPS levels would be better demonstrated through a simple-slope or marginal-effect analysis using the underlying dataset.

This result provides partial support for Signaling Theory (Spence, 1973). IOS can be interpreted as a signal of future growth opportunities, while EPS represents current earnings performance. Their significant interaction is consistent with the proposition that complementary signals may convey more information than either signal considered independently. Nevertheless, the finding should not be generalized as direct evidence of individual investor perceptions because the study relies on secondary market and financial data. The finding also supports the argument of Ross (1977) that investors interpret multiple financial signals simultaneously rather than relying on a single indicator. Firms with attractive investment opportunities but weak earnings may fail to convince investors that future projects will generate value. Conversely, profitable firms possessing strong growth opportunities provide more credible signals regarding future performance, resulting in stronger market reactions.

Overall, the results indicate that EPS functions more clearly as a complementary earnings signal in the IOS–stock return relationship than in the BETA–stock return relationship. This distinction constitutes the principal empirical contribution of the study and helps explain why growth opportunities may have different return implications across firms with different earnings performance.

CONCLUSIONS

This study examined the effects of investment risk and Investment Opportunity Set (IOS) on stock returns and tested Earnings per Share (EPS) as a moderating variable among 12 companies consistently included in the Kompas 100 Index during 2020–2024. Investment risk, IOS, and EPS did not have significant direct effects on stock returns. EPS also did not moderate the relationship between investment risk and stock returns. In contrast, the $IOS \times EPS$ interaction was positive and significant ($\beta = 0.3394$; $p = 0.0028$), indicating that the relationship between growth opportunities and stock returns is conditional on earnings performance.

From a theoretical perspective, the findings provide partial support for Signaling Theory because the combination of growth opportunities and earnings performance produced a significant interaction, whereas the individual signals and the $BETA \times EPS$ interaction were not significant. The results therefore suggest that complementary firm-level signals may be more informative for explaining stock-return variation than isolated indicators in the observed sample.

The study has several limitations. The sample consists of only 12 Kompas 100 companies and 60 firm-year observations, the observation period covers substantial economic disruption and recovery, and the model explains 21.07% of the variation in stock returns. In addition, the Glejser test indicates heteroscedasticity for IOS ($p = 0.0019$), while the manuscript file does not contain the underlying dataset required to re-estimate robust standard errors. These limitations should be considered when interpreting and generalizing the findings.

Future research should extend the sample and observation period, compare alternative IOS and valuation/earnings proxies, incorporate relevant macroeconomic and firm-specific control variables, and verify the interaction results using heteroscedasticity-robust standard errors. Simple-slope or marginal-effect analysis is also recommended to show the IOS effect at different EPS levels more explicitly.

REFERENCES

- Ayu, N. (2021). Analisis investment opportunity set terhadap pertumbuhan perusahaan manufaktur di Bursa Efek Indonesia. *Jurnal Akuntansi dan Bisnis*, 15(2), 115–127.
- Basuki, A. T., & Prawoto, N. (2017). *Analisis regresi dalam penelitian ekonomi dan bisnis: Dilengkapi aplikasi SPSS & EViews*. Raja Grafindo Persada.
- Bergh, D. D. (2014). Signaling theory: A review and assessment. *Journal of Management*, 40(1), 1–27. <https://doi.org/10.1177/0149206313501208>
- Brigham, E. F., & Houston, J. F. (2019). *Dasar-dasar manajemen keuangan* (15th ed.). Salemba Empat.
- Chandra, A. A., & Darmayanti, N. P. A. (2022). Pengaruh profitabilitas, likuiditas, penilaian pasar, dan ukuran perusahaan terhadap return saham. *E-Jurnal Manajemen Universitas Udayana*, 11(6), 1452–1469.
- Gaver, J. J., & Gaver, K. M. (1993). Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Accounting and Economics*, 16(1–3), 125–160. [https://doi.org/10.1016/0165-4101\(93\)90007-3](https://doi.org/10.1016/0165-4101(93)90007-3)
- Idrus, M., Sadeli, Y. A., Suardi, S., Hartono, D. B., & Desriyanti, D. (2018). Pengaruh risiko investasi terhadap return saham pada perusahaan manufaktur sektor makanan dan minuman di Bursa Efek Indonesia. *Jurnal Ilmiah Bongaya (Manajemen dan Akuntansi)*, 1(1), 45–56.
- Inaroh, A., Nahdhiyah, A. I., & Alliyah, S. (2023). Pengaruh profitabilitas, likuiditas, leverage, ukuran perusahaan, dan nilai pasar terhadap return saham perusahaan sektor industri barang konsumsi di BEI. *Accounting Global Journal*, 7(2), 101–110.
- Jones, C. P. (2009). *Investments: Analysis and management* (10th ed.). John Wiley & Sons.
- Kasmir. (2019). *Analisis laporan keuangan* (Rev. ed.). Rajawali Pers.
- Oktavia, N., & Wijaya, T. (2023). Pengaruh investment opportunity set (IOS), profitabilitas, dan dividend yield terhadap return saham. *Proceeding of the 2nd MDP Student Conference (MSC)*, 55–63.
- Parameswari, S. Y., & Suprihadi, H. (2017). Pengaruh kinerja keuangan dan investment opportunity set terhadap return saham. *Jurnal Ilmu dan Riset Manajemen*, 6(6), 1–17.
- Rumianti, C. (2023). Pengaruh risiko investasi terhadap return saham pada perusahaan manufaktur yang terdaftar di Bursa Efek Indonesia. *Jurnal Mirai Management*, 8(1), 15–26.
- Smith, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics*, 32(3), 263–292. [https://doi.org/10.1016/0304-405X\(92\)90029-W](https://doi.org/10.1016/0304-405X(92)90029-W)
- Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355–374. <https://doi.org/10.2307/1882010>
- Sri Indrayani, K., Arizona, I. P. E., & Ernawatiningsih, N. P. L. (2022). Pengaruh return on asset, current ratio, debt to equity ratio, dan investment opportunity set terhadap return saham perusahaan manufaktur yang terdaftar di BEI tahun 2018–2020. *Jurnal Karma (Karya Riset Mahasiswa Akuntansi)*, 3(2), 87–95.
- Susilo, H. (2009). *Manajemen investasi dan portofolio*. Mitra Wacana Media.
- Tandelilin, E. (2010). *Portofolio dan investasi: Teori dan aplikasi* (1st ed.). Kanisius.

- Tesya, A., Effendi, I., & Tarigan, E. D. S. (2020). Analisis risiko investasi terhadap return saham pada subsektor makanan dan minuman di Bursa Efek Indonesia. *Jurnal Ekonomi dan Bisnis Indonesia*, 8(3), 201–212.
- Tristiawan, F., Aslindar, D. A., & Setiawati, E. (2023). Pengaruh struktur modal, likuiditas, profitabilitas, earning per share, dan nilai pasar terhadap return saham pada perusahaan food and beverage yang terdaftar di Bursa Efek Indonesia tahun 2017–2021. *Journal of Economic Insights*, 12(1), 67–79.
- Wijayani, H., & Hermuningsih, S. (2020). Pengaruh risiko investasi terhadap return saham dengan ukuran bank sebagai variabel moderasi (Studi pada bank yang terdaftar di Bursa Efek Indonesia tahun 2013–2017). *SEGMEN Jurnal Manajemen dan Bisnis*, 16(2), 144–155.
- Yusma, N., & Holiawati, H. (2019). Investment risk, investment opportunity set, dan return saham. *Jurnal Akuntansi Berkelanjutan Indonesia*, 2(1), 20–29.