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Determinants of Stock Return: Financial, Behavioral, Macroeconomic, and ESG Factors with DER as Moderator

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Abstract: This study investigates the determinants of stock returns using a panel dataset of 88 companies listed in the Kompas100 Index over the 2018–2022 period. Employing a Random Effects Model, the research incorporates financial variables, macroeconomic indicators, behavioral factors, ESG performance, and the moderating effect of the Debt-to-Equity Ratio (DER). The findings reveal that WACC, overconfidence, overreaction, ESG disclosure, and Price Sales ratio (PSR) significantly affect stock returns at the 10% level. Specifically, WACC and PSR exhibit a positive influence, while overconfidence, overreaction, and ESG disclosure have negative effects. In addition, the interaction term of DER with PSR positively influences stock returns, while its interaction with PBV shows a negative effect. Other variables such as ROA, ROE, PER, PBV, exchange rate, and interest rate were found to be statistically insignificant. The study demonstrates the importance of integrating behavioral and ESG factors along with capital structure considerations to better understand stock performance in the Indonesian capital market.

Keywords: Stock Return, Financial Ratios, Behavioral Bias, ESG Disclosure, Panel Data Regression.

INTRODUCTION

In the dynamic and volatile environment of the capital market, the movement of stock returns has always been a key area of interest for investors, analysts, and researchers. Stock return is influenced by a variety of factors ranging from internal company fundamentals, external macroeconomic variables, to environmental, social, and governance (ESG) considerations. For investors aiming to optimize portfolios, understanding the determinants of stock returns becomes essential, particularly in emerging markets like Indonesia. The Kompas100 index, representing the top 100 most liquid and high-performing companies on the Indonesia Stock Exchange (IDX), serves as an ideal proxy for this study due to its diversified composition and relevance for institutional and retail investors alike (Hafidzi et al., 2023).

Traditional asset pricing models, such as the Capital Asset Pricing Model (CAPM) and its extensions, have primarily emphasized financial indicators, including profitability ratios

(ROA, ROE), valuation multiples (PER, PBV, PSR), and cost of capital (WACC). However, these models often fall short in capturing the nuances of investor sentiment and irrational behavior, especially during periods of market stress. Behavioral finance offers a complementary perspective by introducing psychological and emotional factors into the analysis. Overconfidence and overreaction are two well-established behavioral biases that significantly impact investor decision-making and, consequently, asset prices. Despite the growing body of literature on behavioral biases, their empirical measurement often relies on perception-based questionnaires, which are prone to subjectivity and response bias (Hwang et al., 2022; Handyansyah and Sukarno, 2023).

This study addresses this limitation by constructing objective, market-based proxies for both overconfidence and overreaction. Overconfidence is estimated using a Z-score derived from market-based ratios, while overreaction is captured through a 3-standard deviation threshold of abnormal trading volume. These calculated proxies are then transformed into dummy variables to indicate the presence or absence of behavioral bias. This novel approach ensures better robustness and data reliability compared to the widely used survey method. Moreover, the use of dummy variables facilitates integration into panel regression models without distorting scale-based results (Tjen, 2025).

In addition to financial and behavioral factors, macroeconomic variables such as interest rates and exchange rates play a crucial role in shaping investor expectations and stock valuations, particularly in emerging economies that are sensitive to global capital flows. Furthermore, the rising importance of ESG factors in investment decision-making cannot be ignored. Firms with strong ESG practices are believed to have better long-term prospects and lower risk exposure. However, the impact of ESG on stock returns remains inconclusive in Indonesia, providing further motivation for this research (Dawood et al.,2021; Zhang et al., 2021).

Another unique dimension of this study is the incorporation of Debt-to-Equity Ratio (DER) as a moderating variable. While several studies have independently examined the effects of profitability, valuation, and ESG on returns, few have considered the interactive effect of leverage in these relationships. DER represents a company's capital structure and risk profile, which may strengthen or weaken the influence of other variables on stock performance. The moderation analysis offers deeper insight into how financial leverage alters the sensitivity of return to fundamental, macro, and ESG factors. However, DER moderation is not applied to behavioral variables due to their binary nature (Renaldo and Putri, 2023; Sari and Mahardika, 2023).

The existing literature provides fragmented insights into stock return determinants in Indonesia. Most studies are either focused on one category of variable (e.g., only financial ratios or macroeconomic indicators) or rely on simplistic models that do not capture interdependencies. Moreover, very few studies employ Kompas100 index data, which represents high-quality firms with the most active trading, and thus, better reflects market reality. This research fills that gap by providing a comprehensive and integrative model using panel data of Kompas100 constituents from 2018 to 2022, a period marked by both economic growth and pandemic-induced uncertainty (Abbas el al., 2022).

This study aims to examine the combined effect of financial fundamentals, behavioral biases, macroeconomic indicators, and ESG performance on stock returns, while also investigating the moderating role of DER. The novelty lies in the objective construction of behavioral variables, the integration of multiple factor categories, and the exclusive use of Kompas100 panel data, which ensures both depth and relevance. The findings are expected to contribute to theory development in financial economics and behavioral finance, as well as provide practical implications for investors, regulators, and corporate managers in Indonesia's capital market.

METHODS

This study employs a quantitative research approach with an explanatory design, aiming to test the relationship between multiple independent variables including financial ratios, behavioral biases, macroeconomic indicators, and ESG performance on stock returns, moderated by a firm's capital structure as measured by the Debt-to-Equity Ratio (DER). The object of the study is the companies listed in the Kompas100 index, which are considered to represent the most liquid and fundamentally sound stocks on the Indonesia Stock Exchange.

Data and Sample Selection

The data used in this research consist of secondary data, collected through a combination of financial statements, Bloomberg terminals, IDX official data, and ESG reports. The initial sample frame consists of all companies included in the Kompas100 index between August 2023 and January 2024. However, to ensure data consistency and model robustness, the following sample selection criteria were applied:

1. Companies must have conducted an IPO before or in 2018 to ensure a full observation window.
2. Companies must have complete audited financial reports for the period 2017–2022.
3. Companies listed in Kompas100 at August 2023 untuk January 2024 Period.

After applying these criteria, the final sample includes 88 companies, yielding a balanced panel dataset across five years (2018–2022), or 440 firm-year observations.

Method of Analysis

The study utilizes a panel data regression model, which combines cross-sectional and time-series data, allowing better control of unobserved heterogeneity and improving the efficiency of the estimates. The panel regression is conducted using the Random Effects Model (REM), selected based on the results of the Hausman Test and Breusch–Pagan Lagrange Multiplier Test, which will be explained in the results section. Moderation analysis is performed through the interaction term between DER and the continuous independent variables.

Dummy variables are created for overconfidence and overreaction, based on custom calculations that capture behavioral phenomena objectively, replacing the traditionally subjective questionnaire-based methods. Given that these two behavioral variables are binary, they are excluded from the moderation analysis involving DER.

Research Framework

The research framework visually illustrates the theoretical structure of the study and the hypothesized relationships among the variables. It includes the influence of financial fundamentals (ROA, ROE, PER, PBV, PSR, WACC), behavioral biases (overconfidence and overreaction), macroeconomic variables (interest rate and exchange rate), and ESG on stock return, with DER acting as a moderating variable in all non-dummy variable relationships. The framework guides the formulation of hypotheses and the structure of the data analysis.

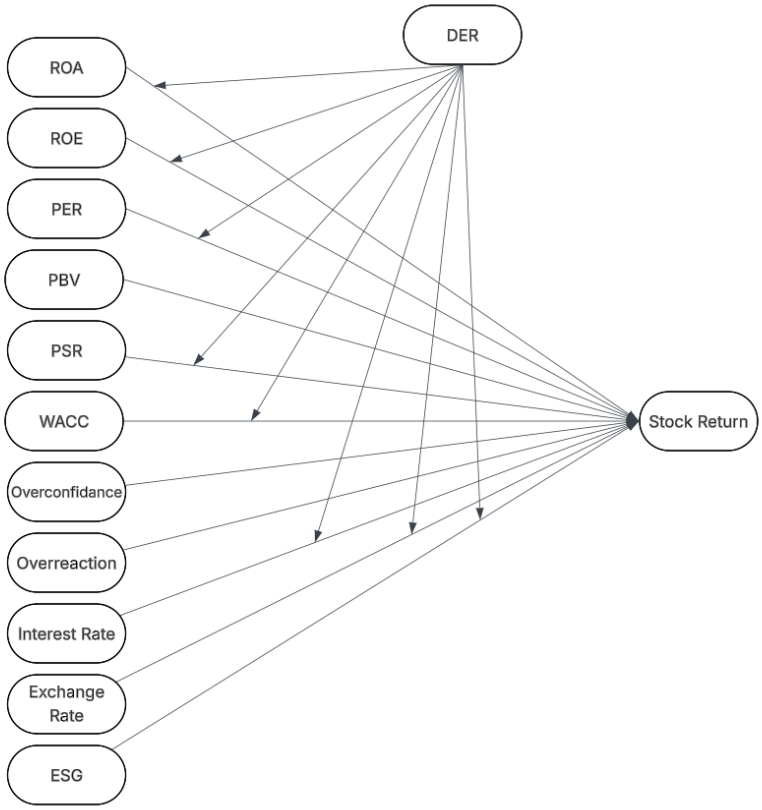


Figure 1. Research Framework

Operationalization of Variables

To ensure clarity in variable measurement, each construct used in this study is operationalized using specific formulas, sources, and data classifications. The detailed definitions and calculations are presented in the following table 1.

Table 1. Research Variable

No	Variable	Factor	Formula
1	Stock Return	Dependent	$\frac{Stock\ Closed\ Price\ n}{Stock\ Closed\ Price\ n-1} - 1$
2	Debt to Equity Ratio	Moderating	$\frac{Total\ Debt\ n}{Total\ Equity\ n}$
3	Interest Rate	Independent (Macro)	$\frac{Tatal\ 12\ Month\ Bi\ Rate}{12}$
4	Exchange Rate	Independent (Makro)	$\frac{Close\ Price\ \frac{USD}{IDR}\ n}{Close\ Price\ \frac{USD}{IDR}\ n-1} - 1$
5	Return on Asset	Independent (Profitability)	$\frac{Net\ Income\ n}{Total\ Asset\ n}$
6	Return on Equity	Independent (Profitabilitas)	$\frac{Net\ Income\ n}{Total\ Equity\ n}$

7	Price to Earnings	Independent (Valuation)	$\frac{Stock\ Price\ \ n}{Net\ Income\ n/\ Share\ Outstanding}$
8	Price to Book Value	Independent (Valuation)	$\frac{Stock\ Price\ n}{Total\ Equity\ n/Share\ Outstanding}$
9	Price to Sales	Independent (Valuation)	$\frac{Stock\ Price\ n}{Total\ Sales\ n/\ Share\ Outstanding}$
10	WACC	Independent (Cost of Fund)	$WACC = (WD * KD) + (WE * KE)$
11	Overconfidance	Independent (Behavior)	$\begin{cases} 1\ If\ Z_{PER_t}/Z_{PBV_t}/Z_{PSR_t} > 1.65 \\ 0\ Others \end{cases}$
12	Overreaction	Independent (Behavior)	$\begin{cases} 1\ If\ P_{True} > 2.5\% \\ 0\ Others \end{cases}$
13	ESG	Independent (ESG)	$\begin{cases} Min\left(ESG_{i,t}\right) - \sigma_t, If\ ESG_{i,t} = 0 \\ ESG_{i,t}, \quad If\ ESG_{i,t} > 0 \end{cases}$

RESULTS AND DISCUSSION

Descriptive Statistics

Descriptive statistics provide an overview of the data characteristics and allow for an initial interpretation of the distribution and variability of the research variables. Based on 440 firm-year observations from 88 Kompas100 companies during the 2018–2022 period, the average stock return (RS) is 23.84%, with a median of -0.72%, indicating a high degree of variability and the presence of extreme outliers. The standard deviation of stock returns is 119.78%, with a minimum of -77.68% and a maximum of 1,584.78%, suggesting the existence of abnormal return events, possibly driven by market shocks, IPO anomalies, or exceptional firm-specific events (see Table 2).

Table 2. Result of Descriptive Analysis

	Mean	Median	Std Dev	Min	Max	Count
RS	23.84%	-0.72%	119.78%	-77.68%	1584.78%	440
DER	1.87	1.03	2.28	0.07	16.08	440
ROA	4.59%	4.25%	0.85%	3.52%	5.63%	440
ROE	3.00%	3.28%	5.03%	-4.36%	9.35%	440
PER	0.07	0.05	0.09	-0.35	0.59	440
PBV	0.13	0.1	0.25	-1.5	2.38	440
PSR	53.24	11.94	395.03	-158.56	7,440.00	440
WACC	6.18%	5.90%	1.87%	1.34%	1.34%	440
Interest	4.59%	4.25%	0.85%	16.22%	16.22%	440
Exchange	6.18%	5.90%	1.87%	1.34%	16.22%	440
OC	12.27%					440
OR	14.55%					440
ESG	32.22	33.79	17.94	5.13	73.87	440

The financial ratio variables also display varied characteristics. The average Debt to Equity Ratio (DER) is 1.87, but with a relatively high standard deviation of 2.28, ranging from 0.07 to 16.08, indicating substantial differences in capital structure among firms. ROA and ROE are modest on average (4.59% and 3.00% respectively), with ROE showing a wider distribution, including negative values, which reflect underperforming or loss-generating firms. Valuation metrics such as PER, PBV, and PSR exhibit considerable variation. Notably, the Price-to-Sales Ratio (PSR) has a very high mean of 53.24 and a standard deviation of 395.03, with extreme outliers (up to 7,440).

For non-financial factors, the Weighted Average Cost of Capital (WACC) has a stable distribution, with a mean of 6.18%. Interest rates and exchange rates are relatively constant due to their macroeconomic nature but still included to test their explanatory power on stock returns. The behavioral dummy variables indicate that 12.27% of firm-year observations exhibit signs of overconfidence, while 14.55% exhibit overreaction based on objective market-based thresholds. Lastly, ESG scores range from 5.13 to 73.87, with a mean of 32.22, suggesting that ESG maturity varies considerably among Kompas100 companies, and may influence investor decisions differently across firms.

Model Selection Test Results

To determine the most appropriate panel data model for this study, a series of specification tests were conducted, including the Chow Test, Hausman Test, and Breusch–Pagan Lagrange Multiplier (LM) Test. The results are summarized in Table 3. Based on these tests, the Random Effect Model (REM) was selected as the most suitable approach, particularly the two-way REM model, which accounts for both individual and time effects.

Table 3. Summary of Model Selection Tests

No.	Test Type	Model Comparison	Null Hypothesis (H_0)	p-value	Decision	Best Model
1	Chow Test	CEM vs FEM	No individual effects (CEM is better)	0.9487	H_0 not rejected	CEM better than FEM
2	Hausman Test	FEM vs REM	No correlation between effects and regressors	0.3104	H_0 not rejected	REM better than FEM
3	LM Test (Individual)	CEM vs REM	No individual effects	0.0069	H_0 rejected	REM better than CEM
4	LM Test (Time)	CEM vs REM	No time effects	0.6531	H_0 not rejected	Time effects not significant
5	LM Test (Two-Way)	CEM vs REM	No individual and time effects	0.0235	H_0 rejected	Two-Way REM is best

These findings confirm that the two-way Random Effects Model is statistically superior for analyzing the dataset, as it effectively captures both cross-sectional and temporal variations.

Classical Assumption Test

Prior to conducting the regression analysis, several classical assumption tests were carried out to ensure the reliability and robustness of the panel data regression model. The tests included normality, multicollinearity, heteroscedasticity, and autocorrelation diagnostics. Table 4 summarizes the results of these classical assumption tests.

Table 4. Results of Classical Assumption Tests

No.	Type of Test	Purpose of Test	Test Result	Conclusion
1	Normality Test (Jarque-Bera)	To examine whether the residuals are normally distributed	p-value < 0.05	Residuals are not normally distributed, but this is acceptable under REM (GLS)

2	Multicollinearity Test (VIF)	To examine whether there is strong correlation among independent variables	All VIF < 5	No significant multicollinearity present
3	Heteroscedasticity Test (Breusch-Pagan LM)	To test whether the variance of residuals is constant	p-value < 0.05	Heteroscedasticity detected, but REM (GLS) corrects for it

The presence of heteroscedasticity and autocorrelation in the residuals was addressed by applying the Generalized Least Squares (GLS) approach through the Random Effects Model (REM), which is robust against these violations. Additionally, the absence of significant multicollinearity confirms that the independent variables can be reliably interpreted in the regression model.

Regression Analysis Result

The regression analysis using the Random Effects Model shows that approximately 25.34% of the variation in stock returns among the Kompas100 firms between 2018–2022 can be explained by the selected variables. The model's adjusted R-squared is 0.2196, indicating a moderately strong fit considering the behavioral and macroeconomic complexities of stock returns.

Table 5. Regression Result

Variable	Coefficient	Std. Error	z-value	p-value	
(Intercept)	0.8564	0.4646	1.8434	0.0653	*
Interest Rate	-9.6507	7.2282	-1.3351	0.1818	
Exchange Rate	0.5859	1.3854	0.4229	0.6723	
ROA	-0.3088	1.5928	-0.1939	0.8463	
ROE	0.8755	0.9138	0.9581	0.338	
PER	-0.0005	0.0003	-1.7779	0.0754	*
PBV	0.0157	0.0174	0.9021	0.367	
PSR	-0.0031	0.0038	-0.8346	0.404	
WACC	10.3266	3.4454	2.9973	0.0027	**
Overconfidence	-0.3992	0.1639	-2.4352	0.0149	**
Overreaction	-0.4138	0.1475	-2.805	0.005	**
ESG	-0.0079	0.0037	-2.1277	0.0334	**
M(DER)*Interest Rate	0.6278	1.6522	0.38	0.704	
M(DER)*Exchange Rate	-0.4831	0.479	-1.0086	0.3132	
M(DER)*ROE	-0.0165	0.1028	-0.1607	0.8724	
M(DER)*PER	0.0003	0.0002	1.4117	0.158	
M(DER)*PBV	-0.0123	0.0075	-1.6469	0.0996	*
M(DER)*PSR	0.0221	0.0047	4.6592	0	***
M(DER)*WACC	-2.0406	1.4368	-1.4203	0.1555	
M(DER)*ESG	0.0017	0.0013	1.3204	0.1867	
R-squared				0.2534	
Adj. R-squared				0.2196	
N (Obs)				440	

Several variables have statistically significant effects on stock returns. WACC has a strong positive and significant impact ($p < 0.01$), suggesting that firms with higher cost of capital tend to generate higher stock returns, potentially due to higher risk premiums. Behavioral biases also play a notable role, overconfidence and overreaction, both treated as dummy variables, are negatively and significantly associated with stock returns, supporting the behavioral finance theory that investor bias can distort market performance. Additionally, ESG disclosure shows a significant negative effect ($p < 0.05$), which may imply that investors in this sample prioritize short-term returns over sustainability considerations. The variable PER is marginally significant ($p \approx 0.075$), indicating a weak negative influence on returns, while PBV moderated by DER (MPBV) and the interaction between PSR and DER (MPS) also show significance, suggesting that leverage can enhance or dampen the influence of valuation metrics.

Several key financial variables such as ROA, ROE, PBV, PSR, and macroeconomic indicators like interest rate and exchange rate do not show significant direct effects. Likewise, the moderating role of DER is not significant in most macroeconomic and financial ratios, except for the interaction with PSR. These non-significant results may indicate that the market already prices in these fundamentals or that the short-term behavior of stock returns is more influenced by sentiment and structural factors rather than traditional financial indicators.

Discussion

This section discusses the findings of the regression analysis by comparing them with previous studies related to the determinants of stock return. The discussion includes the consistency or contradiction of the research results with the existing literature, covering four main categories: financial ratios, behavioral biases, macroeconomic indicators, and ESG factors. The role of the Debt-to-Equity Ratio (DER) as a moderating variable is also examined. Each finding is critically interpreted in the context of theory and empirical evidence.

The relationship between interest rates and stock returns in this study is negative but not statistically significant. This finding aligns with Andes and Prakoso (2017), who argue that while higher interest rates theoretically raise capital costs and reduce firm profitability thereby depressing stock returnsthe practical impact may be muted in certain sectors. In the case of Indonesian listed firms, the effect may be buffered by financial strategies like maintaining high equity ratios or implementing effective interest rate hedging.

Exchange rate fluctuations display a positive yet insignificant association with stock returns. This is consistent with Setyaningrum and Muljono (2016), who explain that short-term currency movements may not align with the longer investment horizons of equity investors. Additionally, internal factors such as firm-level hedging practices or diversified revenue streams could dilute the exchange rate's impact on return variability.

Return on Assets (ROA) exhibits a negative and insignificant effect on stock returns. This mirrors the findings of Daniswara and Daryanto (2019), suggesting that despite its role in measuring profitability, ROA is not a key determinant of return in the eyes of investors. Market participants may focus more on external conditions, industry dynamics, or non-financial indicators rather than asset utilization efficiency.

Return on Equity (ROE) has a positive but statistically insignificant relationship with stock returns. While ROE is a core indicator of shareholder profitability, its influence may be overshadowed by other risk factors or macroeconomic uncertainty. As Nadyayani and Suarjaya (2021) note, investors might not respond strongly to ROE unless accompanied by growth signals or strategic initiatives.

The Price to Earnings Ratio (PER) shows a negative and significant effect on stock returns. This supports the conclusion of Emamgholipour et al. (2013), who state that high PER values often signal overvaluation, which reduces the attractiveness of the stock. Investors may

expect lower future returns from overvalued stocks, causing the market to adjust and returns to decline accordingly.

The relationship between Price to Book Value (PBV) and stock return is positive but not statistically significant. Although a high PBV typically reflects investor optimism about future performance, this optimism may not always translate into realized gains. According to Harlan and Wijaya (2022), external economic policy or shifts in market sentiment may diminish PBV's predictive power.

Price to Sales Ratio (PSR) demonstrates a negative and insignificant impact on return. This result is similar to Ardana et al. (2024), who found PSR less useful as a predictive tool, particularly in capital-intensive or financial sectors. The weak signal may be due to revenue-based metrics being less informative than earnings- or asset-based indicators in certain industries.

Weighted Average Cost of Capital (WACC) has a significant positive relationship with stock returns, diverging from conventional theory but supported by Tirta and Ismiyanti (2019). A high WACC could reflect increased investor expectations, encouraging firms to generate higher returns to compensate for capital costs. This may signal firm strength, especially when return generation exceeds financing expenses.

Investor overconfidence significantly and negatively affects stock returns. Overconfident investors tend to misprice risk, resulting in initial overvaluation followed by price corrections. This aligns with Chen et al. (2024), who found that such behavioral biases lead to lower return consistency due to frequent misalignment with fundamentals.

Overreaction shows a strong negative effect on stock returns, consistent with the findings of Kwon and Tang (2020). Investors who overreact to news or short-term shocks often create volatility and deviation from intrinsic values. After the correction phase, stock prices tend to normalize, reducing average returns over the long term.

The ESG variable has a negative and statistically significant relationship with stock returns. This result reflects the so-called "ESG premium," where companies with high ESG scores may deliver lower financial returns as investors accept lower yields for ethical considerations. As Luo (2022) notes, this effect can be stronger in emerging markets where sustainability is still a secondary concern in financial valuation.

The moderation analysis reveals mixed effects of Debt-to-Equity Ratio (DER) on the relationship between various financial and non-financial predictors and stock returns. Among the interactions tested, DER significantly moderates the relationship between Price to Book Value (PBV) and Price to Sales Ratio (PSR) with stock returns, whereas its moderating role in other relationships remains statistically insignificant. These findings underscore the selective influence of capital structure as a moderating factor in equity valuation models.

The positive and statistically significant moderation effect of DER on PSR suggests that higher financial leverage amplifies the influence of revenue-based valuation metrics on stock performance. This result aligns with the findings of Zulkifli (2024) emphasize that under conditions of high leverage, market participants tend to perceive dividend or revenue signals more acutely. In such contexts, financial leverage may act as a stress amplifier, encouraging investors to respond more strongly to stable revenue indicators, thereby strengthening the link between PSR and stock performance.

The significant negative moderation effect of DER on PBV at the 10% level may indicate a dampening role of financial leverage in how equity markets value book-based fundamentals. This finding echoes the observations of Will and Simorangkir (2023), who found that while DER can reinforce liquidity-based indicators like the current ratio, it does not consistently moderate the impact of profitability or book-based metrics such as ROE or EPS. This implies that in certain industries or market conditions, the value relevance of PBV may diminish under high debt burdens due to perceived risks to asset stability and long-term equity returns.

Most of the tested interaction terms, including DER with ROE, PER, WACC, ESG, interest rate, and exchange rate, are statistically insignificant. These results support prior findings by Azizah and Yuliana (2022) as well as Susanti et al. (2012), who report that DER often lacks a significant moderating effect across a variety of corporate financial relationships. According to Modigliani and Miller's capital structure irrelevance theory, unless taxes, bankruptcy costs, or information asymmetries are pronounced, the structure of debt may not meaningfully alter how other financial factors affect firm value. Hence, DER may serve more as an indicator of risk rather than an influential moderator in equity return dynamics.

The multifaceted nature of DER's moderating role is also evident in studies such as Hajawiyah et al. (2020), which highlight that leverage can both strengthen and weaken governance-related mechanisms depending on context. This suggests that while DER has the potential to influence the relationship between certain predictors and outcomes, its effectiveness as a moderating variable is contingent on the specific theoretical framework, sectoral conditions, and investor perceptions at play.

The analysis reveals that not all determinants significantly influence stock returns within the Kompas100 index. Some financial ratios and ESG variables show significant effects, while others do not. Behavioral and macroeconomic variables exhibit mixed results. These variations suggest that the impact of fundamental, behavioral, and macroeconomic factors—as well as sustainability indicators—on stock return is context-dependent. The moderating role of DER also varies across relationships, highlighting the complexity of capital structure in influencing firm value. The findings offer practical insights for investors, financial analysts, and policymakers in understanding the multidimensional drivers of stock performance.

CONCLUSION

This research investigated the effect of financial ratios, behavioral biases, macroeconomic indicators, and ESG factors on stock returns in companies listed in the Kompas100 index during the period 2018 to 2022. The analysis was conducted using panel data regression with the Random Effect Model. The Debt-to-Equity Ratio (DER) was included as a moderating variable to examine whether leverage strengthens or weakens the relationship between the independent variables and stock returns. The results showed that several variables significantly affected stock returns at the 10% level of significance, including the Weighted Average Cost of Capital (WACC), overconfidence, overreaction, ESG score, Price to Earnings Ratio (PER), as well as Price to Book Value (PBV) and Price to Sales Ratio (PS) when moderated by DER.

The findings indicate that behavioral factors, particularly overconfidence and overreaction, had a negative and significant impact on stock returns. This confirms that investor sentiment and psychological biases can distort market valuations, leading to suboptimal investment outcomes. Meanwhile, the positive and significant effect of WACC on stock return suggests that investors may require higher returns as compensation for higher capital costs. The ESG score, on the other hand, had a negative influence, indicating that although ESG initiatives are socially favorable, they may not immediately translate into higher stock performance in the Indonesian market context.

The moderating effect of DER showed that company leverage plays an important role in shaping how financial ratios affect stock return. For example, the interaction between DER and PBV was negatively significant, while the interaction between DER and PS was positively significant. This implies that the impact of valuation ratios on stock return can be either amplified or reduced depending on the firm's capital structure. Overall, this study contributes to both theoretical and practical understanding by integrating financial, behavioral, and sustainability factors in explaining stock returns, with leverage serving as a key moderating factor.

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